

alternative habitat during high tide episodes. Piping Plovers are highly territorial at beach habitat. Whereas the mean Piping Plover density approached or exceeded 3 birds/km at 6 of my 9 beach sites, none of the beaches supported an average > 3.6 birds/km. During maximum use, plovers were spaced less than 90 m apart at 3 of the 4 ecotone beaches. These sites may already be at or near their carrying capacity due to limitations in beach habitat.

In 1997, Nueces County, in cooperation with the U.S. Fish and Wildlife Service, the Texas Parks and Wildlife Department, and the National Audubon Society designated Newport Pass, one of the 2 washover passes at the Packery Channel site, as a sanctuary to protect an important Piping Plover roost site. Vehicular barriers and interpretive signs will reduce disturbance at the roost site and educate visitors to the beach about the importance of beach and washover pass habitat to Piping Plovers and other coastal species. The Newport Pass Sanctuary was the first area preserved with the goal of protecting secondary habitat for Piping Plovers, but must not be the last if the species is to expand to recovery levels.

Mainland tidal flats, washover passes, and particularly beach habitat must be protected along with barrier island tidal flats, and these habitats must be managed to reduce or mitigate human impacts. The broad tidal flats in the ecotone and lagoon ecosystem must be preserved to support recovering plover populations. The system of washover passes on Matagorda Peninsula, San Jose Island, Mustang Island, Padre Island and Brazos Island must be protected as high water refugia for Piping Plovers and nesting habitat for the Snowy Plover. The effects of the GIWW on mainland tidal flats must be understood and, if necessary, corrected before these crucial alternative winter sites are no longer suitable for Piping Plovers.

However, the transformation of Texas' beaches from free-access lands to pedestrian-only beaches should be the highest priority for the recovery of Piping Plovers on the

wintering grounds. It is true that pedestrian traffic has been shown to reduce plover habitat quality, and the conversion to pedestrian-only beach access might increase pedestrian traffic along some areas of the coast. However, the areas that are likely to suffer the greatest level of pedestrian disturbance following such a conversion already face very high levels of both pedestrian and vehicular disturbance (e.g., Packery Channel, San Luis Pass). Many other beach areas located away from public parking facilities would likely experience a reduction in human disturbance were vehicles prohibited on Texas beaches. Furthermore, if Texas beaches were established as pedestrian-access only, there would be no need to manage the beaches for vehicular access. Vehicular traffic appears to reduce the abundance of important Piping Plover prey species at beach habitat (Vega 1988). A reduction in mechanical scraping and raking would likely reduce the erosion of beach habitat, and allow the beach benthic community to recover from impacts that may be associated with beach grooming practices, potentially increasing the carrying capacity of such beaches for Piping Plovers. Piping Plovers would clearly benefit from these changes.

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From: Paul Anderson <[REDACTED]>
Sent: Monday, November 1, 2021 9:38 AM
To: SpaceXBocaChica
Subject: Starship

Yes

Yes

Sent from my iPhone

From: Estefanía Tizón <[REDACTED]>
Sent: Monday, November 1, 2021 9:29 AM
To: SpaceXBocaChica
Subject: Starship and Super Heavy Projects

Hello, my name is Estefania Tizon and I am concerned with SpaceX and the Starship/Super Heavy Project. Boca Chica is the ancestral and sacred site of the Carrizo Comecrudo Tribe of Texas. As these are their lands, they should be consulted on these projects and their leadership should be followed. These projects and expansion impact the people, the animals, the air, the water, and the land. Please support the Carrizo Comecrudo Tribe of Texas and allies in our demands to stop SpaceX and any further colonization of the earth and space.

From: Steven Massaro <[REDACTED]>
Sent: Monday, November 1, 2021 8:50 PM
To: SpaceXBocaChica
Subject: Starship public hearing

I wish to submit my comments but I am unable to download the file link.
Please advise. I will try again tomorrow.

steve
Steven Massaro
[REDACTED]

"If you will not stand behind our BLUE"
"Feel free, to stand in front of them"

[REDACTED]

From: Logan Davidson <[REDACTED]>
Sent: Monday, November 1, 2021 3:08 PM
To: SpaceXBocaChica
Subject: State Representative Alex Dominguez: SpaceX Starship Super Heavy Project at Boca Chica
Attachments: Starship Support Letter FAA.pdf

Please find attached a letter from Representative Alex Dominguez in support of SpaceX's application to the FAA to conduct Starship-Super Heavy orbital launch operations from its Starbase facility in Cameron County, Texas. Do not hesitate to reach out to me with any questions or concerns.

Thank you,

Logan Davidson
Chief of Staff
Office of State Representative Alex Dominguez
Capitol Extension E1.418
[REDACTED]

(O) [REDACTED]
(F) [REDACTED]
(C) [REDACTED]



ALEX DOMINGUEZ



TEXAS HOUSE OF REPRESENTATIVES

DISTRICT 37

October 29, 2021

Federal Aviation Administration (FAA) c/o ICF

Attn: Ms. Stacey Zee

Environmental Specialist

9300 Lee Highway, Fairfax, VA 22031

Dear Ms. Zee:

As the State Representative serving the people of Cameron County, I am writing in strong support of SpaceX's application to the FAA to conduct Starship-Super Heavy orbital launch operations from its Starbase facility in Cameron County, Texas. I previously represented Cameron County as the Commissioner for Precinct 2 when their operations in South Texas were first beginning and I am as proud to continue my support of their mission as they are to support our state and region.

At its site in Texas, SpaceX is working to advance the state of technology to enable sustainable human exploration of space, including crewed missions to the Moon on behalf of NASA by 2024. The first successful orbital launch with Starship, and the milestones to follow, will represent dramatic achievements for space exploration and a strong display of the United States' competitive leadership in space technology.

By deciding to pursue its mission in Texas, SpaceX is advancing the state's rich history in human spaceflight. Famously, NASA's Johnson Space Center (JSC) has trained every U.S. astronaut to fly to space and provided mission control for every NASA human spaceflight mission since Gemini 4. At Starbase, SpaceX will continue this legacy of human space exploration through launch and operations of a crewed vehicle for missions to the Moon and Mars.

SpaceX has already made a direct positive economic impact in Texas. Since first breaking ground in Cameron County in 2014, SpaceX has considerably expanded economic opportunities for the people of Texas, and Rio Grande Valley in particular. From January 2020 through today, SpaceX has grown its employees at Starbase from 100 people to more than 1,500, and growing, while investing \$1.5B into our Texas facilities, including Starbase infrastructure and operations, and our Texas suppliers statewide. SpaceX's small business suppliers in Texas employ more than 15,900 people.

SpaceX is contributing to the community and its natural environment in other meaningful ways. In one instance, SpaceX helped to facilitate restoration of power to the Military Highway Water Supply Corporation, making potable water available to more than 6,000 people in Los Indios. Starbase employees and volunteers host quarterly cleanups at Boca Chica Beach and State Hwy 4. In 2020, SpaceX contributed to building a state water reef 13 miles north of Boca Chica that is now beginning to flourish.



CAPITOL OFFICE

SpaceX has maintained a six-year partnership with Sea Turtle Inc. (STI), and during the 2021 winter storm, SpaceX carried out a campaign to assist in rescuing more than 850 sea turtles that were cold-stunned on local beaches and provided a large generator to restore STI's rehabilitation center.

FAA approval of SpaceX's application will provide even greater benefits for South Texas. Routine orbital launches with Starship will drive new capital, personnel, community investments, and tourism at Starbase and enable South Texas to become a Gateway to the Moon and Mars.

I ask for your favorable consideration of SpaceX's application. As a member of the Texas House of Representatives, I am committed to finding solutions for issues that can positively impact our community. Please do not hesitate to contact me if I can be of further assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "Alex Dominguez", with a stylized flourish at the end.

Alex Dominguez
State Representative

From: Paul Anderson <[REDACTED]>
Sent: Monday, November 1, 2021 9:38 AM
To: SpaceXBocaChica
Subject: Starship

Yes

Yes

Sent from my iPhone

From: Adam Curtis <[REDACTED]>
Sent: Monday, November 1, 2021 10:45 AM
To: SpaceXBocaChica
Subject: Support for SpaceX Starbase

To whom it may concern,

It is with great enthusiasm that I would like to submit my written support for SpaceX's South Texas launch operations plans.

SpaceX has boldly marched towards numerous major technological advances since it was founded in 2002 and it's planned South Texas Starbase is posed to be the next site of another great culmination of engineering ambition and effort. To understand the impact this could have on the local community, one should look towards other SpaceX sites to witness the plethora of skilled high-paying jobs it brings and focus on growing the immediate community.

Texas sits on the edge of being the next hub for aerospace innovation and the creation of Starbase would firmly establish Boca Chica as the capital for this next generation of dreamers.

Thank you,
Adam Curtis

[REDACTED]

From: Kyle Smith <[REDACTED]>
Sent: Monday, November 1, 2021 7:45 AM
To: SpaceXBocaChica
Subject: Support for Starship

To whom it may concern,

I wanted to voice my support for the Starship Program taking place in Boca Chica/Starbase TX.

I believe this Program is a step towards enabling humanity to become a multiplanetary species and is necessary for the survival and legacy of our race. I have also seen tremendous economic growth in the region and leveraging of resources that have struggled with the decline of the oil and gas industry. This growth, coupled with the mission at hand, encourages me to show my support.

Thank you!



Kyle Smith | Aerospace/Defense Account Manager | NI | (m) [REDACTED]

From: Sam Joseph <[REDACTED]>
Sent: Monday, November 1, 2021 12:29 PM
To: SpaceXBocaChica
Subject: Support of SpaceX Launch site

A few weeks ago, I signed up to attend the session to list my support for SpaceX at the Boca site, however they ran out of time before it was my turn. Please see what would have been my speech in support of SpaceX below:

A few short decades ago, a man came to the great state of Texas// with a visionary mission. /// It was not just a Texas mission,/// but an American mission. //// That man asked us if we chose to go to the moon,/// not because it was easy because it was hard. ///This nation /// committed itself /// to that Bold effort /// and we have benefited from those efforts ever since///... From our cell phones///, to gps, ///to modern medicine,/// to even storm and climate change awareness.

The SPACEX starlink satellites // will allow children/// in impoverished rural nations /// in addition to children indigenous reservations /// and children in rural regions right HERE in America/// to get connected to the internet. // Should we deny an entire generation of children access to the internet/// because of POTENTIAL minor impacts on the environment ? /// This is America, we can always find a way to help bring light to the rest of the world.

Now I will concede the point, /// We must protect our beautiful blue planet, because this is the only one that we have. /// However,/// we must not encumber ourselves with burdens so high that the only direction we will be able to go is down on to our knees,// and into servitude/// to foreign hostile nations.///

Let me not fail to remind the audience here tonight/// that if it were not for spacex ///the only ride into space/// would be upon a Soyuz rocket in a foreign hostile land.

I am a Texan, /// and I am an American// that believes this nation ///needs to once again commit itself /// to bold missions,/// so that we do not find ourselves in the backwash of history. ///

After all why does Rice play Texas? Let SpaceX go to the moon and let them go from Boca Chica, Texas! Yeehaw!

Thanks,
Sam Joseph

From: Justin Kockritz <[REDACTED]>
Sent: Monday, November 1, 2021 2:32 PM
To: SpaceXBocaChica; Zee, Stacey (FAA)
Cc: Hanson, Amy (FAA); Clarkson, Chelsea (FAA); Cushman, Anna (FAA); Cantin, Jacob (FAA); Emily Dylla, PhD; Lydia Woods-Boone; Amy Borgens
Subject: Texas Historical Commission Comments - Draft Programmatic Environmental Assessment, SpaceX Starship/Super Heavy
Attachments: 106_FAA_SpaceX_PEA_2021-11-1.pdf

Ms. Zee,

Attached please find comments from the Texas Historical Commission regarding the Draft Programmatic Environmental Assessment (PEA) for the SpaceX Starship/Super Heavy Launch Vehicle Program at the SpaceX Boca Chica Launch Site in Cameron County, Texas.

If you have any questions regarding our comments, please let us know.

We look forward to further consultation with your office and the other consulting parties to avoid, minimize, or mitigate adverse effects to historic properties.

Thank you



Justin Kockritz

Lead Project Reviewer, Federal Programs
History Programs Division

Phone: + [REDACTED]

Fax: + [REDACTED]

thc.texas.gov



JOIN US FEBRUARY 2-4

REAL PLACES 2022 CONFERENCE
PRESERVING TEXAS HISTORY

November 1, 2021

Stacey Zee
Federal Aviation Administration, Office of Commercial Space Transportation
c/o ICF International Inc.
9300 Lee Highway
Fairfax, Virginia 22031

Re: *Comments on the Draft Programmatic Environmental Assessment for the SpaceX Starship/ Super Heavy Launch Vehicle Program at the Boca Chica Launch Site, Cameron County, Texas (FAA/106, THC #202201186)*

Ms. Zee:

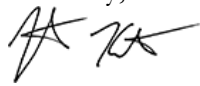
Thank you for the Notice of Availability/Request for Comment on the Draft Programmatic Environmental Assessment (PEA) for the proposed SpaceX Starship/Super Heavy Launch Vehicle Program at the Boca Chica Launch Site in Cameron County, Texas. This letter serves as comment on the Draft PEA from the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC).

In general, the PEA needs to address recent comments that THC provided in response to the Draft Phase I Cultural Resources Survey prepared by SEARCH, Inc., on behalf of the Federal Aviation Administration (FAA). Care should be taken to ensure that both the Cultural Resources Survey and the PEA are consistent, especially regarding the FAA's efforts to identify and evaluate historic properties and to assess the potential effects to historic properties. Updates throughout the PEA may be necessary, but especially in Sections 3.6 Visual Effects, 3.7 Cultural Resources, and 3.8 Department of Transportation Act, Section 4(f).

Attached please find specific comments on the PEA and, for your reference, a copy of our letter of October 22, 2021, in response to the Draft Phase I Cultural Resources Survey.

THC looks forward to further consultation with your office and the other consulting parties to avoid, minimize, or mitigate adverse effects to historic properties. Thank you for your cooperation in this federal review process and for your efforts to preserve the irreplaceable heritage of Texas. For questions concerning our comments on the National Register eligibility of non-archeological resources, please contact Justin Kockritz at [REDACTED] or [REDACTED] for questions concerning our comments on effects to non-archeological historic resources, please contact Lydia Woods-Boone at [REDACTED] or [REDACTED] for questions concerning our comments on terrestrial archeological resources, please contact Emily Dylla at [REDACTED] or [REDACTED] or, for questions concerning our comments on marine archeological resources, please contact Amy Borgens at [REDACTED] or [REDACTED]

Sincerely,



Justin Kockritz, Lead Project Reviewer, Federal Programs
For: Mark Wolfe, State Historic Preservation Officer

cc: Amy Hanson, Chelsea Clarkson, Anna Cushman, & Jacob Cantin, Federal Aviation Administration
Katharine Kerr, Advisory Council on Historic Preservation

General Draft Programmatic Environmental Assessment Comments

Please update the Draft Programmatic Environmental Assessment (PEA) throughout to be consistent with the FAA's determinations of eligibility for listing in the National Register of Historic Places and findings of effects on historic properties, together with any comments from consulting parties, including the Texas Historical Commission's (THC) letter of October 22, 2021, in response to the Draft Phase I Cultural Resources Survey. Sections of the PEA to update include, but are not limited to: Sections 3.6 Visual Effects, 3.7 Cultural Resources, and 3.8 Department of Transportation Act, Section 4(f).

Comments on Historic and Terrestrial Archeological Resources

Section	Page/Location	THC Comments
General		Please remove all references to the pilings site historical marker as 41CF117.3. It should only be referred to by its marker number.
General		"Loma" is repeatedly misspelled as "lama."
3.7.3.2	69, Final Paragraph	Refers to 41CF117.2 as the pilings site and states it is not eligible. What has been called 41CF117.2 is the associated camp site.
3.7.4	Page 73, Paragraph 4	Revise to clarify that the project would have no adverse <i>visual</i> effects on the Queen Isabella Memorial Causeway and the Long Island Swing Bridge. As noted in Table 3-8, FAA has found that the two bridges may potentially be adversely affected by vibration.
3.7.4	74, Paragraph 4	One piling has already been severely damaged due to an anomaly. Please acknowledge. Resolution of this adverse effect including any mitigation will need to be addressed.
3.8.2.2	79	"These sites contain intact structural remains that would not warrant them being considered..." Please correct to "These sites do not contain intact structural remains..."
3.8.2.2	79, Table 3-9	The final sentence of this paragraph states there are 12 historic properties that qualify for protection, but Table 3-9 lists 13. Please update as needed to match the FAA's final determinations of eligibility.
3.8.3.2.1	82, Paragraph 1	<p>The THC Historic Sites Division requests to be included in the Closure Notification Plan. Please include:</p> <p style="text-align: center;">Bill Irwin Director of Historic Sites Operations [REDACTED] [REDACTED]</p> <p>We request a 72-hour advanced notice to allow for THC staff to prepared, should they need to travel to the Palmito Ranch Battlefield and/or Port Isabel Lighthouse State Historic Sites. The Palmito Ranch Battlefield State Historic Site was recently established and is within the Soft Checkpoint.</p>

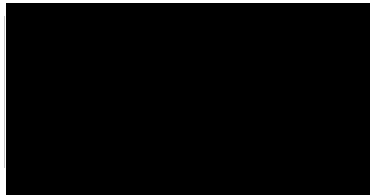
Comments on Underwater Archeological Resources—Beach Shipwreck Survey

In section 3.7.3.2, the results from the shipwreck magnetometer survey are not included. The beach magnetometer survey detected buried magnetic targets that were identified as having the potential to represent buried shipwreck targets. The presentation of results in the draft archeological report makes it

unclear if there are 4, 7, 12, or 17 such targets recommended as significant. The THC has requested clarification in the draft report review and these revised results need to be summarized in the PEA. Though shipwrecks were not verified, the investigation results were inconclusive as the source of the significant magnetic targets identified as having the potential to represent shipwrecks were too deeply buried and were not discovered (see Cleeland et al. 2021:80-87). These targets retain the potential to be submerged shipwreck sites and must be avoided by 50 m, measured from their outer magnetic contours, by any ground-disturbing activities by this and any other future project. If these targets cannot be avoided, then additional archeological investigation is required. For the purpose of the SpaceX assessment, these need to be considered sensitive areas that could contain shipwrecks – these can become exposed during storms.

In addition, the archeological assessment prepared by SEARCH has included inaccuracies resulting largely from misunderstanding shipwreck data presented in the Texas Archeological Sites Atlas (TASA). These errors are also presented in the Draft PEA and need to be revised and/or removed. The THC has submitted comments for the draft cultural resources assessment to ensure these errors are addressed in that document as well:

- 1) THC Shipwreck Nos. 1444, 1435, and 968 are reported shipwrecks and not recorded archeological sites. These are known only from primary and secondary documentary sources. The positions presented in the Atlas “Shipwrecks” layer are conjectural and should not be viewed as accurate locations; their positional accuracies listed in Atlas are 1 mi., 1 mi., and 3 mi., respectively. The content on pages 69-70 needs to be revised to explain there are three shipwrecks in the vicinity of the project area but that these are reported from documentary sources and not confirmed archeological sites.
- 2) All reported, unconfirmed historic shipwrecks in the Marine Archeology Program shipwreck database (presented in Atlas) were listed as SALs during the 1980s, and it was known at the time that these were not validated archeological sites. They will not have an NRHP eligibility assessment as they are not archeological sites. These three shipwrecks need to be removed from Table 3-7 as they are not confirmed cultural resources.
- 3) Currently the discussion mentions only one shipwreck archeological site in the vicinity of the project area when there are two: Boca Chica Shipwreck No. 1 (41CF125) and Boca Chica Shipwreck No. 3 (41CF232).
- 4) SEARCH should re-evaluate the distance of 41CF125 from the APE as the site data in Atlas (the “Archeological Site Centroid” layer) is inaccurate for this wreck as it is not updated from the THC’s 2018 site revisit form. The position for this shipwreck in the Atlas “Shipwreck” layer is the correct location. Based on Figure 2 presented on page 3 of the draft archeological report by SEARCH, 41CF125 is approximately .28 mi. distant from the project area; the distances listed in Table 3-7 and on page 71 in the PEA all appear to be in error.



October 22, 2021

Randy Repcheck
Federal Aviation Administration
Office of Commercial Space Transportation
800 Independence Avenue SW
Washington, DC 20591

Re: *Project Review Under Section 106 of the National Historic Preservation Act, Proposed SpaceX Starship/ Super Heavy Operations at Boca Chica Launch Site, Draft Phase I Cultural Resources Survey, Cameron County (FAA/106, THC #202200054)*

Mr. Repcheck:

Thank you for your letter of August 31, 2021, transmitting the Management Summary of the Draft Phase I Cultural Resources Survey, and subsequent email of September 22, 2021, from Amy Hanson transmitting the full report. Attached please find comments on the report and the Federal Aviation Administration's findings from the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC).

THC looks forward to further consultation with your office and the other consulting parties to avoid, minimize, or mitigate adverse effects to historic properties. Thank you for your cooperation in this federal review process and for your efforts to preserve the irreplaceable heritage of Texas. For questions concerning our comments on the National Register eligibility of non-archeological resources, please contact Justin Kockritz at [REDACTED] or [REDACTED] for questions concerning our comments on effects to non-archeological historic resources, please contact Lydia Woods-Boone at [REDACTED] or [REDACTED] for questions concerning our comments on terrestrial archeological resources, please contact Emily Dylla at [REDACTED] or [REDACTED] or, for questions concerning our comments on marine archeological resources, please contact Amy Borgens at [REDACTED] or [REDACTED]

Sincerely,

Justin Kockritz, Lead Project Reviewer, Federal Programs
For: Mark Wolfe, State Historic Preservation Officer

cc: Stacey Zee, Amy Hanson, Chelsea Clarkson, Anna Cushman, & Jacob Cantin, Federal Aviation Administration
Katharine Kerr, Advisory Council on Historic Preservation
Katy Groom, Kelsey Condell, & Elyse Procopio, SpaceX
Sean Farrell and Julisa Meléndez, SEARCH, Inc.
Eric Brunnemann, Rolando Garza, Amy Pallante, Astrid Liverman, & Karen Skaar, National Park Service
Jerry Androy, U.S. Army Corps of Engineers
Sonny Perez, Dawn Gardiner, Bryan Winton, & Mary Orms, U.S. Fish and Wildlife Service
David Kroskie, Reagan Faught, & Ted Hollingsworth Texas Parks and Wildlife Department
Wilson Bourgeois, Cameron County Historical Commission

National Register Eligibility of Non-Archeological Resources

The THC History Programs Division staff, led by Justin Kockritz, has completed its review of the Draft Cultural Resources Survey Report and offers the following comments concerning the Federal Aviation Administration's (FAA) efforts to identify non-archeological historic properties and the determinations of eligibility for listing in the National Register of Historic Places (NRHP).

For the purposes of compliance with Section 106 of the National Historic Preservation Act (NHPA), THC concurs that the following properties were identified as listed in, or eligible for listing in, the NRHP during consultation for the SpaceX Falcon 9/Falcon Heavy launch operations in 2012–2014 and are located within the Area of Potential Effect (APE) for the proposed Starship/Super Heavy launch operations:

- **Palmito Ranch Battlefield** (41CF93)—listed in the NRHP in 1993 and designated as a National Historic Landmark in 1997; and,
- **Palmetto Pilings 1936 Centennial Historic Marker.**

For the purposes of compliance with Section 106 of the NHPA, THC concurs that the following properties, which are inside the Starship/Super Heavy APE but were outside of the Falcon 9/Falcon Heavy APE, are listed in, or are eligible for listing in, the NRHP under the criteria cited:

- **Point Isabel Lighthouse** (41CF10)—Listed in the NRHP in 1976 under Criterion A for Transportation and designated as a State Antiquities Landmark (SAL) in 1983;
- **Queen Isabel Inn**—Eligible for listing in the NRHP under Criterion A for Tourism and Economic Development and awarded an Official Texas Historic Marker (OTHM (Subject Marker)) in 1991;
- **Alta Vista Apartments**—Eligible for listing in the NRHP under Criterion A for Tourism and Economic Development and Criterion C for its architecture and designated as a Recorded Texas Historic Landmark (RTHL) in 1988;
- **Charles Champion House**—Eligible for listing in the NRHP under Criterion A for Economic Development, Criterion B for its historic association with significant local businessperson Charles Champion, and Criterion C for its architecture, and awarded an OTHM (Subject Marker) in 1996;
- **Port Isabel Cemetery**—Eligible for listing in the NRHP under Criterion A for Ethnic History, Criterion C for its design, and Criterion D for its potential to yield important information about nineteenth-century Tejano and Mexican cultural groups, and meeting Criteria Consideration D for its age and distinctive design features. At this time, without further information on the historic significance of specific persons buried at the Cemetery, we cannot concur that the Cemetery is also eligible under Criterion B for its association with significant persons or that it meets Criteria Consideration C as being the last remaining property associated with a person of outstanding importance. Although Major Samuel Ringgold is noted as a significant early burial at the Port Isabel Cemetery, his remains were reinterred shortly thereafter in Green Mount Cemetery in Baltimore, Maryland. However, we recommend that no further evaluation of the Cemetery's National Register eligibility is required at this time. We also note that Port Isabel Cemetery was awarded an OTHM (Subject Marker) in 1990;
- **Old Point Isabel Lighthouse 1936 Centennial Historic Marker**—Eligible for listing in the NRHP under Criterion A for Social History and meeting Criteria Consideration F for Commemorative Properties, as described in the "Monuments and Buildings of the Texas Centennial" National Register Multiple Property Documentation Form;

- **Queen Isabella Causeway** (BC-AH1, SH 100 over the Laguna Madre)—Eligible for listing in the NRHP under Criterion A for Tourism and Economic Development and Criterion C for Engineering; and,
- **Long Island Swing Bridge** (BC-AH2, South Garcia Street over the Gulf Intracoastal Waterway)—Eligible for listing in the NRHP under Criterion A for Tourism and Economic Development and Criterion C for Engineering. We note that there are at least two other vehicular swing bridges in the state—the Deweyville Swing Bridge in Newton County (SH 12 over the Sabine River on the Louisiana Border), which was listed in the NRHP in 2011, and the East Roundbunch Road Bridge over Cow Bayou in Orange County (1.6 miles downstream of the Cow Bayou Swing Bridge noted in the report)—and several railroad swing bridges remain as well. However, the Long Island Swing Bridge may be the only extant vehicular single-sided cantilever/gate-style swing bridge and the only vehicular pontoon bridge in the state.

The Cultural Resources Survey fails to identify and evaluate several historic-age properties within the APE:

- **Point Isabel Coast Guard Building**, Wallace L. Reed Road, South Padre Island—Constructed in 1923 and used by the U.S. Coast Guard until 1974, this historic-age property should have been evaluated for its potential historic significance to Maritime History and for its architecture. An OTHM (Subject Marker) was placed at the site in 1988. Based on the limited available information, THC recommends that the Coast Guard Building is eligible for listing in the NRHP.
- **Port Isabel Firemen's Hall**, 205 North Longoria Street, Port Isabel—Very little information is readily available on this property, but based on historic aerial photographs, it at least pre-dates 1962, and may possibly date to the 1940s or earlier. THC recommends further research into and evaluation of the Firemen's Hall or treating the property as eligible for listing in the NRHP.
- **Port Isabel Municipal Building**, 305 East Maxan Street, Port Isabel—Although the Municipal Building may not ultimately be eligible for listing in the NRHP, it was constructed in 1968, with W. M. Peterson of Brownsville credited as the architect, and should have been evaluated for its potential historic significance to local government, to Port Isabel's recovery from Hurricane Beulah, and for its architecture.
- **Bahia Mar and Bahia Grande Condominiums**, 6300 Padre Boulevard, South Padre Island—Construction of the first phases began in 1972 and the Bahia Grande Condominium tower—operated initially by a subsidiary of Braniff Airlines and designed by the firm of Swanson, Hiester, Wilson, and Claycomb—opened in 1975. Although the property may not ultimately be eligible for listing in the NRHP, it should have been evaluated for its potential historic significance to Tourism and Economic Development.
- **Former Sea Island Resort Hotel**, 500 Padre Boulevard, South Padre Island—The flanking two-story wings opened circa 1960. Although the property may not ultimately be eligible for listing in the NRHP, it should have been evaluated for its potential historic significance to Tourism and Economic Development.

THC recommends that the determinations for following properties, which were included in the Cultural Resources Survey, be re-considered. Given the importance of tourism to the area, historic-age hotels, motels, and other tourism-based properties should be thoroughly evaluated to determine if they illustrate this area of significance and if they retain sufficient historic integrity to convey that significance. THC recommends that special consideration should be given to properties that pre-date Hurricane Beulah (1967) in Port Isabel and that pre-date the Queen Isabella Causeway on South Padre Island (1974).

- **Former Ship Café**, 419–421 East Maxan Street, Port Isabel—Based on historic photographs and newspaper articles, the Ship Café building likely dates to the 1930s or 1940s. The buildings at 413 and 415–417 East Maxan Street were clearly constructed later, which may account for the Cameron Appraisal District’s construction date of 1956. The former Ship Café building represents a good, if modest, example of Spanish Colonial Revival commercial architecture, and is not a Craftsman Bungalow as described in Appendix I.
- **White Sands Motel**, 418 West Highway 100, Port Isabel—Although the Cameron Appraisal District lists a construction date of 1968, there are newspaper references to the motel in at least the mid-1950s. Was the adjacent restaurant at 416 West Highway 100 historically associated with the White Sands Motel? If so, it should be evaluated as a potential contributing resource to the motel. The historic integrity of the motel, or lack thereof, may ultimately be the deciding factor in evaluating its NRHP eligibility. The White Sands Motel and the adjacent restaurant at 416 West Highway 100, are not Spanish Colonial Revival as described in Appendix I.

Overall, the Cultural Resource Survey Report’s overreliance on data from the Cameron Appraisal District, lack of photographs, lack of business or property name, incomplete addresses, and lack of description beyond a general architectural style category—which, based on spot-checking, is often applied incorrectly or inadequately—make it difficult to review the survey report and to have confidence in the proposed determinations. For instance, the restaurant at 201 North Musina Street is described as a Craftsman Bungalow, the Port Isabel Post Office at 100 Manautou Street is described as Spanish Colonial Revival, the house at 109 East Madison Street is described as Mission Revival, and the property at 407 West Jefferson Street is described as a 1970 Art Moderne building. However, based on extensive desktop research and recent site visits to the area, THC believes that the between the Cultural Resources Survey Report and our comments here, the aboveground historic resources within the APE have been identified, though we welcome any additional information or comments from other consulting parties.

Based on the available information, and barring any additional information to the contrary, THC concurs that the remaining properties evaluated in the Cultural Resources Survey Report are *not* eligible for listing in the National Register.

Assessment of Effects on Non-Archeological Historic Resources

The THC Division of Architecture staff, led by Lydia Woods-Boone concurs with the FAA that the proposed project has the potential to result in adverse effects to the eight (8) historic resources listed in Table 15 from visual and/or auditory/vibratory impacts associated with Starship/Super Heavy operations: Palmito Ranch Battlefield, the Alta Vista Apartments, the Queen Isabel Inn, the Point Isabel Lighthouse and associated Old Point Isabel Lighthouse 1936 Centennial Historic Marker, the Charles Champion Building, the Port Isabel Cemetery, the Queen Isabella Causeway (BC-AH1), and the Long Island Swing Bridge (BC-AH2).

However, as described above, there are additional potential aboveground cultural resources which have not been evaluated for listing in the NRHP. Should any of these additional properties be determined eligible for listing in the NRHP, the potential effects on those historic properties should be assessed.

Finally, we note that under Section 110(f) of the NHPA and 36 CFR §800.10(a), the FAA is required “to the maximum extent possible, undertake such planning and actions as may be necessary to minimize harm to any National Historic Landmark that may be directly and adversely affected by an undertaking.” According to guidance from the Advisory Council on Historic Preservation, in the 2019 case of *National Parks*

Conservation Association v. Semonite, the D.C. Circuit Court concluded “that the meaning of the term ‘directly’ in Section 110(f) refers to the causality, and not the physicality, of the effect.” The FAA should document in the Programmatic Environmental Assessment, or elsewhere as appropriate, the planning undertaken to minimize harm to the Palmito Ranch Battlefield National Historic Landmark, including from visual adverse effects.

Archeology Division Comments

The THC Archeology Division staff, led by Emily Dylla and Amy Borgens, has completed its review of the Draft Cultural Resources Survey Report and offers the following comments.

Archeological Assessment. The THC concurs with the following eligibility determinations:

- 1) 41CF117
 - a) The Palmetto and Cypress Bridge pilings are considered by the THC and the Texas Archeological Research Laboratory (TARL) to be a single trinomial. We concur these components of this site are eligible for listing in the NRHP and as an SAL.
 - b) The military encampment component of this site (referred to as 41CF117.2) appears to no longer be extant and therefore is a non-contributing component of this site.
 - c) The Palmetto Pilings 1936 Centennial Historic Marker is referred to multiple times by a trinomial (41CF117.3). The trinomial system is used for documenting archeological sites. This is not part of an archeological site and therefore should not be referred to as a trinomial.
- 2) 41CF124 appears to have been destroyed and therefore is not eligible for listing under federal or state designation.
- 3) 41CF217 appears to have been destroyed and therefore is not eligible for listing under federal or state designation.
- 4) 41CF238 is not eligible due its recent age, lack of historical or architectural significance, and lack of research potential.

Beach Shipwreck Magnetometer Survey. It is unclear from the results and recommendations if SEARCH has recommended four, seven, or twelve magnetic targets as significant and representative of potential buried shipwreck sites. In the results, seven are listed on page 79 (M001, M003, M026, M088; M030, M057, M106), twelve are described on pages 80–87 (M001, M003, M026, M088; M030, M031, M041, M057, M062, M106, M114, M0123), but only four are labeled as significant in Table 7 (M001, M003, M026, M088). This also affects the Management Summary, Project Summary, the Results and Recommendation for the beach magnetometer shipwreck survey on page 88, and the comprehensive Conclusion and Results on page 148. Until there is clarification on which targets are significant and recommended as potential shipwreck sites, the THC cannot concur with the results or recommendations for this component of the investigation. In addition, the recommendations are incomplete as they do not include the required avoidance margins that are mandated for significant magnetic anomalies identified as having the potential to be shipwreck sites. Regardless of the scope of the project, a 50-meter buffer, commencing from the targets’ outer magnetic contours, is to be avoided by all ground-disturbing activities by all projects, current and subsequent, until the sources of the anomalies are identified. For the purpose of the SpaceX project, until these are demonstrated to not be shipwrecks, these locations should be considered sensitive areas that have the potential to contain shipwrecks. Such deeply buried sites can become exposed after storm conditions, such as nearby site 41CF125. As none of the sources of the targets were discovered, a recommendation for avoidance must be presented in the report per the requirements in the Texas Administrative Code, Title 13, Part 2, Chapter 28, Rules §28.2, §28.6, and §28.9.

Please address the following technical comments and submit a revised draft report for review.

1) Title Page

- a. The permit number on the cover page is incorrect. Please replace with the correct permit number, 30223.
- b. Julisa Meléndez is listed on the title page and in the Management Summary as a Principal Investigator (PI), when she is the Project Manager (PM). Please correct this or clarify her PI duties were limited to the non-permitted portions of the project.

2) Management Summary

- a. The management summary has omitted the “significant magnetic targets” identified as having the potential to be shipwreck sites. These need to be listed by the refined target numbers (M and not PM). For the purpose of protection and preservation, such targets are considered unvalidated archeological sites until discovery and identification of the source confirms or discounts this hypothesis.
- b. In this and the following sections, please modify the eligibility language in this report to reflect the THC’s comments regarding eligibility and remove references to the Palmetto Pilings 1936 Centennial Historic Marker as a trinomial.

3) Project Review Summary

- a. Page 6. Revise to include the quantity of buried magnetic targets that were identified as having the potential to represent shipwrecks sites. None of the sources of the targets examined in the beach geophysical survey were identified as they were deeper than probing and testing depths. These targets therefore retain the potential to be archeological shipwreck sites. They may become uncovered following storms, as has already been observed with site 41CF125 (Borgens 2018). Per requirements presented in the Texas Administrative Code, Title 13, Part 2, Chapter 28, Rules §28.2, §28.6, §28.9, these targets are to be avoided by 50 m, measured from their outer magnetic contours, by any ground-disturbing activities. These need to be treated as sensitive areas if anomaly debris is discovered in their proximity.
- b. Staff roles, page 6. Expand this section for the shipwreck magnetometer survey to specifically include the staff that collected, processed, and interpreted the magnetometer data. If this is the same individual, make sure it is clear this person performed all these tasks. Which staff ground-truthed the beach magnetometer targets?

4) Cultural Context

- a. The Cultural Setting section is insufficient for a region with such long and varied marine and terrestrial significance. The purpose of this section is to demonstrate a PI’s expertise with the unique history and archeology of the area in which the project is occurring. For a long-form report such as this one, please provide a more robust assessment of this area in this section.

5) Previous Investigations for Underwater/Shipwreck Projects

- a. Atlas project area polygon sizes. Descriptions of the size of the project areas should be taken from reports and not by generating the acreage using the downloaded Atlas shapefile data. Many of the terrestrial and underwater project areas in Atlas are inexact and sometimes inaccurate—especially from projects that pre-date the requirement to submit shapefiles. They should not be treated as absolute delineations.
- b. TASA No. 8500000589. Page 25. This project, listed in the report and on Atlas as sponsored by TAS in 1973/1974, was not an offshore underwater archeological survey. “TAS” may apply to the Texas Archeological Society or Turpin and Sons, Inc. and neither group has conducted or sponsored an underwater archeological survey (then or now). It may be easier and more accurate

to describe it as investigation of an unknown type, however not an underwater archeological survey (based on who did the work).

- c. TASA No. 8400001270. Page 25. Make this a new paragraph. TASA No. 8500000589 should not be associated with a project that post-dates it by 4 years without evidence suggesting this. The THC Marine Archeology Program (MAP) has not yet located a report that describes an underwater magnetometer survey in this area at this date. Remove the discussion of 1435 and 1444 from this paragraph as they are reported wrecks, not known sites (see 6b below). In answer to the inquiry posed in this paragraph of the report, underwater projects were also sketched on the early quad maps so these were accidentally carried into the terrestrial project layer when they added to Atlas. The MAP is working to finish migrating these projects to the underwater layer.
- d. TASA No. 8500000477. Page 27. By the authors' admission they had difficulty understanding the scope of the project as they only reviewed the report abstract available in Atlas and did not consult the report. It is the responsibility of the authors to request these THC permitted reports when they are not available as an Atlas download as most are on file at the THC. Incidentally the 1987 EHA report was uploaded to the Atlas in September. Please review this report and revise this content.
- e. TASA No. 8700000282. Page 27.
 - i. The summary of the 1980 Texas Antiquities Committee (TAC) beach wreck assessment is highly inaccurate. The Leshikar report is on file at the THC and should be requested from the THC MAP. It will be added to Atlas.
 - ii. The size of the TAC project area is conjectural and plotted as a placeholder to represent the general area of the investigation. It was a visual beach assessment. Do not treat the Atlas polygon as the literal project area and do not describe its size.
 - iii. The location of the 1980 survey area was based on the previous plot of site 41CF125 from the MAP database (the "Shipwrecks" layer in Atlas), prior to the THC assessment of December 2017. It was inadvertently not replotted after the THC site revisit of 41CF125. It has been revised.
 - iv. The THC performed a site visit of site 41CF125 in December 2017 and this work was not included in Atlas underwater layer, though it is in Atlas as the source of the site revisit form. It has now been added to the underwater layer. The Atlas number has not yet been assigned. It is important that this work be reviewed and added to the previous investigations section and not solely mentioned on page 32 in the discussion of the site.
- f. Attachment 1, Table 1 and Figure 10 (page 20). Archeological Surveys (Assessments) within 1 mile of the APE need to include the THC investigations conducted by the THC in 1980 (Leshikar 1980) and 2017 (Borgens 2018).

6) Previously Recorded Archeological Resources

- a. Pages 27, 29 and Table 3. Please do not use "SW" to indicate shipwreck. Use "THC Shipwreck No." or "THC No." so it directly correlates to Atlas and the THC shipwreck database; "SW" does not indicate the source of the data.
- b. Pages 30, 33. THC Nos. 1444, 1435, and 968 are reported and not recorded shipwrecks. They are not cultural resources and should not be listed in Table 3 (since they are not archeological sites). These are known from primary and secondary sources (newspapers, books, life-saving station records) and are not validated archeological sites. Include the positional accuracy for each of these reported shipwrecks that is shown in Atlas. Page 44 accurately describes these as reported shipwrecks and not archeological sites; please revise to be consistent with page 44.
- c. 41CF125

- i. Location, Table 3. There are two plots for the location of 41CF125: the THC MAP data (shipwreck layer) and TARL site form data (Archeology Site Centroid). Shipwreck archeological sites should occur in both layers and, as a general rule, the MAP data is the correct location and almost without exception more accurate than the TARL locations. The THC 2018 site revisit form for 41CF125, available in Atlas, includes the accurate coordinates. The shapefile has not yet been revised in Atlas and TARL has been notified. There are three wrecks named after Boca Chica Beach—this is known as Boca Chica Shipwreck No. 1.
 - ii. The storm that uncovered the shipwreck was in December 2017 not 2018; this was the time of the THC assessment. It was uncovered again in 2018 though not visited by the THC. Please request the THC annual permit report for No. 2035 for FY 2018 and revise this section so that it is accurate to the THC report and site form. Correct SHL to SAL.
- d. 41CF127. See comment 5(e)(iv) above.
- e. 41CF232. Add this site to the discussion. It is the secondary deposit of 44 shipwreck timbers from an unknown nearshore shipwreck that has not been relocated. They were brought ashore during a storm. These timbers were discovered throughout the beach, from Brazos Santiago Pass and into Mexico. The THC did a cursory assessment of these timbers and another example that later became lodged in the jetties. Request the annual reports for permit No. 2035 for FY 2016 and 2018.
- f. Shipwreck SW-968, SW-1435, SW-1444. Pages 33–34.
 - i. Refer them as “THC No.” and not “SW” (see 6(a) above).
 - ii. Please do not state that there is no additional data for these Atlas shipwreck entries as each shipwreck in the THC Shipwreck Database has a reference card that can be requested from the agency. Atlas only displays 11 fields of data when there are more than 30 possible categories of information for each in the database including the source of the information. As an example, THC No. 968 lists a map from the Naval Museum Madrid as the source of the data. The pre-1766 date indicates the wreck occurred earlier than the map date. Shipwrecks with “pre” in the dates are almost always plotted from maps and navigation charts. Please request information on the shipwrecks when needed.
 - iii. Remove discussion of NRHP eligibility.
 - iv. Do not associate these reported shipwrecks with any of the underwater remote-sensing investigation as they are unrelated.
 - v. Please ensure the distance of the archeological sites and reported shipwrecks from the project areas are redacted from the public version of the report.

7) Methods

- a. Paragraph 1. Please list the positional accuracies for THC Nos. 968, 1435, and 1444. There are many shipwrecks in the database that have positional accuracies of 10 or 20 miles.
- b. Page 44. Provide the date(s) of the beach magnetometer survey.
- c. Magnetometer Data Processing and Interpretation. Pages 45–50.
 - i. Please add discussion of Charles Pearson’s amplitude/duration model—still one of the most widely used interpretative models for the detection of shipwreck sites. Please include how he has refined his model in recent years so that smaller targets are selected.
 - ii. The interpretative model discussion mostly covers how this is applied to submerged shipwrecks in a comparatively deeper underwater survey. How might the results change based on a beach survey, when the sensor is only 5 to 10 feet from the target? Are there other examples of beach magnetic targets that can be introduced, that are continuous

- sites, to better illustrate the adaptation of these models to the beach environment?
Gearhart (2011:99) includes 41CF125 at Boca Chica in Table 4.1.
- d. The methodology used to ground-truth the targets is summarized in three sentences. Please expand this section:
- On page 78, the results mention that there was preliminary data processing in the field that resulted in detection of the PM-labeled magnetometer targets. Those identified as significant magnetic targets were probed. On page 79, the report describes more refined data processing and that this led to additional targets, better positioning of the preliminary anomalies (the PM targets), and more probes/shovel tests (ST). It also resulted in target relabeling (M vs PM). This needs to be described in the methodology section, with the dates for each of the field investigations.
 - Was each probe location geo-referenced? What was the total number of probes at each target, generally? The number of probes per each target needs to be included in the results for each target's discussion.
 - For targets not in the surf zone or under the water table, was more than one shovel test executed as suggested by the table in Appendix C? If all the targets were probed, then this also needs to be mentioned. This section needs more detail and clarification.
- e. Magnetometer Target Selection. Consultation with the THC regarding the selection of significant magnetic targets is supposed to occur prior to ground-truthing. This is typically presented as a letter report submitted for review with a resultant THC concurrence necessary prior to testing the targets. Failure to do so can result in the THC requiring additional fieldwork if the agency disagrees with the preliminary target recommendations. For future beach or underwater magnetometer shipwreck surveys, please coordinate with the THC MAP prior to ground-truthing.

8) Archaeological Survey Results

- General. All shovel tests should have an assigned number and be plotted with their ST number on a map. Please correct this in Figure 15 (you may want to break it into a map series) and in Appendix C, where the tables presented on pages C-6 through C-12 lack ST numbers.
- Previously Recorded Sites in the High-Sensitivity Zone
 - 41CF117. It is unclear why the 1846 pilings recorded as part of this survey were recorded approximately 200 feet from where they were recorded in 2015. Page 62, paragraph 4 addresses only the discrepancy between 2015 and 2021 plotted locations for the 1864–1865 pilings, despite a further offset. Please address.
- Magnetometer Survey Area
 - Because the data was processed twice and target positions were refined and then renumbered (PM vs. M), it appears only 12 targets were investigated, not 17 (page 79), but seven (?) targets were investigated a second time after the target centroids were adjusted. This is confusing and needs clarification.
 - The complicated organization of this section and target renumbering has led to a confusing presentation of the number of targets investigated and related results. This section needs complete reorganization and an improved presentation of results so it can be more clearly understood.
 - According to the investigative summary on pages 80–87 of the draft archeological report, four targets were considered as potentially intact, continuous buried archaeological sites (M001, M003, M026, and M088) and eight targets (M030, M031, M041, M057, M062, M106, M114, M0123) are under consideration as noncontinuous archeological sites. This information differs from the summary list presented on page 79

of the draft archeological report which lists four continuous targets (M001, M003, M026, and M088) and only three discontinuous targets (M030, M057, and M106). Though the magnetic sources were not detected for any of these targets, why are only the non-continuous anomalies in this list eliminated from consideration as potential significant in shipwrecks in Table 7? An explanation is not provided. If the sources were not identified they should not be precluded as potential shipwrecks after being recommended as such by the authors. Table 7 should be revised to list these as potentially significant. This will affect the recommendations.

- iv. Since the original PM targets were refined and reassigned new “M” target numbers, to avoid confusion, Table 7 needs to be reorganized so that the refined “M” renumbering is used as the primary column with a secondary column that shows its original PM number and coordinates. The current organization of this portion of the report makes it difficult to ascertain how many targets are considered significant, since, for example PM001/M001 occurs twice under “Target ID” and is also in the “Refined Location” column. Do not duplicate the same targets twice in the table under different target numbers. As an example:

Final Target ID	Centroid (UTM83 Zone 14N)		Original Preliminary Target ID	Centroid (UTM83 Zone 14N)		Continuous Target	Potentially Significant
	Easting	Northing		Easting	Northing		
M001			PM001			Yes	Yes
M003			N/A			Yes	Yes
M026			PM002			Yes	Yes
M030			PM004			No	?
M031	add from App. F	""	PM005			No	?
M041	add from App. F	""	PM010			No	?
M057			N/A			No	?
M062	add from App. F	""	PM006			No	?
M088			PM003			Yes	Yes
M106			PM007			No	?
M114	add from App. F	""	PM008			No	?
M123	add from App. F	""	PM008			No	?

- v. Figure 15 is missing 41CF125. Remove THC No. 968.
- vi. According to Table 7, all the PMs were reassigned a “M” number, yet only the coordinates for seven “M” numbers are included. Did the refined data recontouring not result in adjusted centroid coordinates for M031, M041, M062, M114, and M123? There are coordinates for these in Appendix F so please add these to Table 7. Make sure this table is redacted from the public copy.
- vii. Pages 80–87. How many probes and/or shovel tests occurred at each target? Make sure this is discussed here and reference that the tabular data is in Appendix F.
- viii. The report is missing a tabular summary of the individual probes, depths of probes, target numbers, etc., which need to be presented, even if these were negative findings. This should be included in Appendix F
- ix. Figures 37–43. As is typical for probing results presented for “shipwreck” magnetic targets in THC-permitted reports, the magnetometer target illustrations should depict the locations of the probes. Each probed target described in this section should have a

figure. Please revise these figures to include the ST/probe locations and the coordinate centroids for both the PM and M centroids.

- x. In the anomaly discussions on pages 80–87, it is not always clear if the maximum probing depth is occurring as additional depth from the bottom of the excavation pit or as the overall maximum depth. For each target, list each of the three items for clarity: maximum ST excavation, additional probing beyond excavation, and maximum depth of testing. This is described clearly for M003 but not often for the other targets.
- xi. Reorganize pages 80–87 so that each target is described by the M number first, with the PM following, so that both analyses are grouped. For example:

“Magnetic Anomaly M001/PM001

Magnetic Anomaly PM001 was identified within the preliminary processed magnetic data. Anomaly PM001 is a dipolar anomaly spanning four transects. The recorded declination was -67 degrees, but contouring parameters placed the positive pole in water and may not have been fully captured; therefore, the magnetic characteristics of Anomaly PM001 cannot be assessed fully due to the limited survey coverage. It shares some characteristics of verified shipwreck magnetic signatures (e.g., spatial extent, general dipolar complexity with the main negative lobe oriented in the northern hemisphere, an amplitude/duration ratio of 1:2.5, and an amplitude gradient similar to iron/steel and/or steam/gasoline-powered vessels [97 gammas/m]). The anomaly centroid is in the surf zone, which precluded shovel testing; therefore, on [DATE], SEARCH, utilized a 1.5 m (5.0 ft.) hand probe. Probing occurred at the anomaly’s centroid and radially in cardinal directions at 1.5 m (5.0 ft) and 3 m (10 ft) intervals for a total of [X] probes. No subsurface features were encountered. During reprocessing of the data, the location of PM001 was refined and assigned a new contact identification, M001 (see Appendix F).

The adjusted position of PM001, Magnetic Anomaly M001, is a dipolar anomaly recorded on one survey transect (Figure 37). Anomaly M001 is located at the northern end of the survey area near the edge of the surf zone and may not have been fully captured; therefore, the magnetic characteristics of Anomaly M001 cannot be assessed fully due to the limited survey coverage. It shares many characteristics with verified shipwreck magnetic signatures (e.g., spatial extent, general dipolar complexity with the main negative lobe oriented in the northern hemisphere, a main pole-to-pole declination of 2.0 degrees from magnetic north, an amplitude/duration ratio of 1:2.5, and an amplitude gradient similar to iron/steel and/or steam/gasoline-powered vessels [57 gammas/m]). On [DATE], SEARCH excavated to a depth of 70.0 cm (27.5 in) bs before water intrusion made the excavation too unstable to continue. The excavated pit was probed [how many] to a maximum depth of 160.0 cm (62.9 in) bs with no cultural material encountered, suggesting that the source of the magnetic anomaly is deeply buried.”

- xii. Include the peak-to-peak amplitude and duration for each the targets discussed on pages 80–87. This should be for the overall target and not for each individual anomaly comprising the target.
- xiii. The magnetometer figures in Appendix F need to be revised to illustrate the avoidance boundaries for the significant magnetic targets per requirements in the Texas Administrative Code, Title 13, Part 2, Chapter 28, §28.9.

9) **Recommendations**

The recommendations on page 88 are in error regarding THC Shipwreck No. 968 and are incomplete and inconclusive regarding the 12 anomalies identified as significant magnetic targets and recommended as potential buried shipwreck sites on pages 80–87. Though the sources of these targets were too deeply buried to be discovered, they have not been discounted as shipwreck sites and the mandatory 50-meter avoidance buffer is required for all ground-disturbing activities for this and future projects. For the purpose of the current SpaceX investigation, these should be considered sensitive areas as storm activity has uncovered 41CF125 on this very beach, which is similarly deeply buried. The authors have not provided an explanation for why eight of the targets described as significant and potential discontinuous wrecks on pages 80–87 are listed in Table 7 as not significant.

10) **Conclusions and Results**

Pages 146–149. Paragraph 1, Page 148. Based on the authors’ descriptions, the 12 significant magnetic targets described on pages 80–87 still retain the potential to be archeological sites as the sources were too deeply buried to be discovered and identified. It is inaccurate and incorrect to say the beach magnetometer did not find archeological sites, rather it identified targets that still have this potential. The summary of the shipwreck beach remote-sensing survey is to be rewritten to list the targets the authors described as potential shipwrecks. Describe the THC’s required 50-meter avoidance boundary (See 9 above). Per requirements in the Texas Administrative Code, Title 13, Part 2, Chapter 28, §28.9(8), the specific “shipwreck” magnetometer targets recommended for avoidance are to be presented in a clearly marked summary table, this is usually presented as part of a non-disclosure appendix. In the table also please include the radius of the avoidance boundary, as measured from the anomaly centroid and out an added 50 meters from the maximum outer magnetic contours.

11) **Appendix C**

- a. Please double-check that all STs were listed on the table in Appendix C, it appears a few were not listed.
- b. All STs should have an assigned number and be plotted with their ST number on a map. Please correct this in Figure 15 (you may want to break it into a map series) and in Appendix C, where the tables presented on pages C-6 through C-12 lack ST numbers.
- c. Please clarify the data field discrepancy between the ST tables presented on pages C-1 through C-5 versus C-6 through C-12 versus C-13 through C-14. Is there a reason for this discrepancy?

C-1 through C-5	C-6 through C-12	C-13 through C-14
UTM N	Coords N	
UTM E	Coords E	
Strat	Stratum	Stratum
	Depth	Depth
Color	Soil color	Soil color
Texture	Soil texture	Soil texture
	Water table	
	Status	Status
Comments	Comments	Comments
Excavators	Excavators	Excavators
Date	Dates	Date
STP ID		
Munsell		

Inclusions		
Positive or negative		
Artifacts		
Artifact type		
Counts		
Depth of artifacts		
Reason for termination		
Vegetation		
		Location

- d. Please clarify what a “negative” shovel test pit means. Negative for historical cultural material or negative for all cultural material?
- e. The “shovel test” results for the beach magnetometer targets should be removed from the shovel test appendix C and added to Appendix F. Please ensure that the tabular data for the shipwreck target assessments are presented together under a single appendix (F) with the magnetometer tables.

From: Emma Guevara (via Google Docs) <[REDACTED]>
Sent: Monday, November 1, 2021 11:45 AM
To: SpaceXBocaChica
Subject: Title VI Complaint Amendment
Attachments: Title VI Complaint Amendment.pdf

[REDACTED] attached a
document

[REDACTED] has attached the following document:

To Whom It May Concern:

Attached is an amendment to an initial Title VI complaint filed by locals in the Brownsville area that will also be filed.

Thanks,

Emma Guevara

 Title VI Complaint Amendment

Google LLC, 1600 Amphitheatre Parkway, Mountain View, CA 94043, USA
You have received this email because [REDACTED] shared a document with you from Google Docs.



November 1, 2021

By email

Federal Aviation Administration
Office of Civil Rights
ARC-1, Room 1030
800 Independence Ave, SW
Washington, DC 20591

U.S. Department of Transportation
Department Office of Civil Rights
1200 New Jersey Ave, S.E.
Washington, DC 20590

CC:
U.S. House of Representative Filemon Vela

Re: Amendment to Complaint Under Title VI of the Civil Rights Act of 1964, US DOT Order 5610.2(a), and FAA Order 1050.1F

Dear Federal Aviation Administration:

Another Gulf Is Possible Collaborative (AGIP), Lone Star Chapter Sierra Club, Voces Unidas, Las Imaginistas, Carrizo/Comecrudo Tribe of Texas, South Texas Environmental Justice Network, Resource Center Matamoros, and Trucha RGV (collectively, "Complainants") submit this complaint amendment against the Federal Aviation Administration ("FAA") for violations of Title VI of the Civil Rights Act of 1964, 42 U.S.C. § 2000d *et seq.*, and the U.S. Department of Transportation's ("US DOT's") implementing regulations, DOT Order 5610.2(a). Since the FAA receives funding from US DOT, the agency's public meeting notice rules and public hearing format apply here. As explained below, the FAA has violated Title VI and US DOT's implementing regulations in its review of permits for the SpaceX project sited in the Rio Grande Valley. In particular, the agency has failed to comply with its obligations to provide Spanish language translations for the largely non-English speaking community directly impacted by the proposed SpaceX project. As such, Complainants request that US DOT and FAA's Offices of Civil Rights investigate the claims set forth herein and take appropriate action to ensure impacted minority communities are provided fair notice and opportunity to participate in the SpaceX permitting processes as prescribed by law.

The FAA has not responded to the initial Title VI complaint that we filed on 10/14/21. The FAA has continued to violate Title VI in its review of permits for the SpaceX project. The FAA required the public to register via Eventbrite to give an oral comment during the two hearings on October 18 and 20, but the EventBrite page was only made available in the English language.

This prevented Spanish speakers from registering to give oral comments. Additionally, the notice of Spanish interpretation and closed captioning was not publicized on their website until October 15th, which was merely three days before the hearings were set to begin. To our knowledge, the notice of interpretation available at hearings were not promoted in Spanish or English news sources. The slides that were shown at the beginning of the public hearing were not translated into Spanish; they were translated five days after the public hearings ended on October 25th; and that is when they were uploaded on the website and emailed to the mailing list.

Along with the failure to translate slides, only a summary of the DPEA was translated into Spanish. The Spanish interpretation that was available was slow and spotty. The poorly timed translations made it very difficult to understand what Spanish speakers were trying to say during the hearings. We have also checked a variety of Tamaulipas news sources, none of which reported on this FAA hearing. It seems evident that the FAA may have failed to reach out to Mexican officials or coordinate any outreach to the Matamoros community even though the FAA mentions Mexico as an impacted community in their presentation: the border and Playa Bagdad beach are less than a mile away from the SpaceX expansion project. This is a direct violation of FAA Order 1050.1F, Paragraph 2-5.2.b., which provides that “the responsible FAA official must, to the extent practicable, make every effort to notify potentially affected minority populations and low-income populations of proposed actions and their impacts.”¹

Additionally, US DOT’s Environmental Justice Order 5610.2(a), Paragraph 5.b.1., states that “procedures shall be established or expanded, as necessary, to provide meaningful opportunities for public involvement by members of minority populations and low-income populations during the planning and development of programs, policies, and activities.”² The FAA’s Community Involvement Policy Statement (April 17, 1995) “affirms the FAA’s commitment to make complete, open, and effective public participation an essential part of its actions, programs, and decisions.”³ ⁴ According to the FAA’s draft programmatic environmental assessment (DPEA) for the SpaceX project, the eastern part of the Rio Grande Valley is listed

¹ FAA, Policies and Procedures for Considering Environmental Impacts, Order 1050.1F, Paragraph 2-5.2.b. (2015), https://www.faa.gov/documentLibrary/media/Order/FAA_Order_1050_1F.pdf

² Department of Transportation, Final DOT Environmental Justice Order, Order 5610.2(a), Paragraph 5.b.1, (2012) <https://www.transportation.gov/transportation-policy/environmental-justice/departement-transportation-order-56102a>

³ FAA, Community Involvement Policy Statement (April 17, 1995), <https://tfmlearning.faa.gov/publications/atpubs/AIR/airapp10.html>

⁴ FAA, Policies and Procedures for Considering Environmental Impacts, Order 1050.1F, Paragraph 2-5.2. (2015), https://www.faa.gov/documentLibrary/media/Order/FAA_Order_1050_1F.pdf

as an area that will be affected by operations.⁵ The Rio Grande Valley is a marginalized region that has both a minority and low-income population identifying them as an environmental justice community. The 2019 US Census Bureau data for Brownsville shows that 29.9% of the population lives in poverty which is higher than the 10.5% national average poverty rate;^{6 7} and 93.8% of the population identifies as Hispanic or Latino.⁸ Moreover, the Rio Grande Valley has a population of 1.4 million and about 80% speaks Spanish.

In light of the above violations, Complainants request that US DOT bring the FAA into compliance by taking the following actions: (1) require FAA to publish notice of public meetings and relevant permitting documents, such as the environmental assessment, in Spanish, and in a manner identical to notices and documents published in English; (2) issue publication of public meeting notices at least 30 days prior to the scheduled meeting date ; and (3) provide professional interpretation services at public meetings where public notice must be provided in alternative languages. Delivery of such notice must be reasonably structured to assure that the person to whom it is directed receives it.

The FAA must take steps to correct the deficiencies in its public notice of the SpaceX permit proceedings. While developing measures for compliance with Title VI and the US DOT Order, the FAA must engage fully with representatives of the Rio Grande Valley community and be guided by the community's needs. To this end, Complainants also request that the agency inform and invite them to any stakeholder meetings and other efforts addressing the Civil Rights violations set forth herein. If the FAA does not come into compliance voluntarily, Complainants request that the US DOT and the FAA restart SpaceX's permitting review process, fully complying with Title VI and agency notice and public participation mandates.

Sincerely,

Neil Carman, PhD
Clean Air Program Director
Lone Star Chapter Sierra Club
[REDACTED]

⁵ FAA, Draft Programmatic Environmental Assessment for the SpaceX Starship/Super Heavy Launch Vehicle Program at the SpaceX Boca Chica Launch Site in Cameron County, Texas, 3,15,2 Study Area, pg. 134 (September 2021), https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

⁶U.S. Census Bureau, Brownsville, TX (2019),
<https://www.census.gov/quickfacts/fact/table/brownsvillecitytexas/POP060210>

⁷ U.S. Census Bureau, Income and Poverty in the United States (2020),
<https://www.census.gov/library/publications/2021/demo/p60-273.html>

⁸ U.S. Census Bureau, Brownsville, TX (2019),
<https://www.census.gov/quickfacts/fact/table/brownsvillecitytexas/POP060210>

Michelle Serrano
Voces Unidas and Las Imaginistas



Juan Mancias
Tribal Chairman



Carrizo/Comecrudo Tribe of Texas

Rebekah Hinojosa
Another Gulf Is Possible Collaborative



Xandra Treviño
Nansi Guevara
Co-founders



956 Radical Library

Josue Ramirez
Trucha RGV



Emma Guevara
South Texas Environmental Justice Network



Gabriela Zavala
Executive Director and founder



Resource Center Matamoros

From: Laura Zebehazy <[REDACTED]>
Sent: Monday, November 1, 2021 3:27 PM
To: SpaceXBocaChica
Cc: [REDACTED] Dee Halliburton
Subject: TPWD Comments per SpaceX Starship/Super Heavy at Boca Chica - Draft PEA
Attachments: RD 170 Stacey Zee Ltr PEA FAA TPWD comment and matrix SpaceX Starship Super Heavy Launch Vehicle Boca Chica 11-1-2021.pdf

Good evening, Ms. Zee,

Texas Parks and Wildlife Department's (TPWD) comments for the SpaceX Starship/Super Heavy draft Programmatic Environmental Assessment are attached to this email. Please let me know if you have any questions.

Sincerely,

Laura Zebehazy, Certified Wildlife Biologist®
Program Leader
Wildlife Division – [Wildlife Habitat Assessment Program](#)
Texas Parks and Wildlife Department
[REDACTED]



November 1, 2021

Life's better outside.™

Commissioners

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Fort Worth

T. Dan Friedkin
Chairman-Emeritus
Houston

Carter P. Smith
Executive Director

Ms. Stacey Zee
SpaceX PEA
c/o ICF
9300 Lee Highway
Fairfax, VA 22031

RE: Review Draft Programmatic Environmental Assessment for SpaceX
Starship/Super Heavy Launch Vehicle at the SpaceX Boca Chica Launch Site,
Cameron County, Texas

Dear Ms. Zee:

This letter is in response to the September 17, 2021 Notice of Availability and Request for Comment on the Draft Programmatic Environmental Assessment (PEA) for the SpaceX Starship/Super Heavy Launch Vehicle at the SpaceX Boca Chica Launch Site in Cameron County, Texas.

The Federal Aviation Administration (FAA) Office of Commercial Space Transportation has prepared a Draft PEA to evaluate the potential environmental impacts of activities associated with issuing an experimental permit and/or a vehicle operator license to SpaceX for Starship/Super Heavy launch operations at the Boca Chica Launch Site.

The proposed action that the FAA would license will require expanding the physical footprint of the Boca Chica Launch Site facilities for testing larger vehicles at a greater frequency than originally proposed for the site. The Texas Parks and Wildlife Department (TPWD) appreciates that the Draft PEA has incorporated many of the comments and revisions TPWD recommended during the review of the Administrative Draft PEA. In addition, it is important to note that TPWD and SpaceX entered into a Memorandum of Agreement in September 2021 to more collaboratively address impacts to State Park lands resulting from anomalies and other activities. Among other things, this agreement is helping to guide strategies for attenuating impacts to sensitive algal flats and loma habitats during retrieval activities, as well as trying to restore those habitats when impacts do occur.

Upon review of the Draft PEA, TPWD has concerns that the document's analysis is insufficient in certain areas in describing and evaluating all the potential impacts associated with the proposed action. As presented, the Draft PEA: continues to contain some information gaps including uncertainty in the scope, scale, and location of anticipated project components; lacks detailed analysis of impacts; and

provides conclusions for which data from investigations, research projects, or best available science supporting those conclusions are not provided. Additionally, the Draft PEA states that the FAA has determined that the project may affect, and is likely to adversely affect, 10 federally listed species. In response to these concerns, TPWD provides and offers specific comments and recommendations on the attached TPWD comment and recommendation matrix.

TPWD appreciates the opportunity to provide input on the Draft PEA for the proposed action. If you have any questions regarding TPWD's review of the Draft PEA, please contact Wildlife Habitat Assessment Program Biologist Mr. Russell Hooten by email at [REDACTED] or by phone at [REDACTED]. Thank you.

Sincerely,



Clayton Wolf
Chief Operating Officer

CW:RH:bdk

Attachment

cc: Mr. Carter Smith
Mr. John Silovsky
Mr. Robin Riechers
Mr. Rodney Franklin
Ms. Colette Barron Bradsby
Ms. Laura Zebehazy
Mr. Russell Hooten

Texas Parks and Wildlife Department's Comment Response Matrix			
Draft Programmatic Environmental Assessment for SpaceX Starship/Super Heavy Launch Vehicle at the SpaceX Boca Chica Launch Site, Cameron County, Texas			
#	Location		Comments and Recommendations
	Page	Section	
1	9	2.1, Table 2-1	Previously, Texas Parks and Wildlife Department (TPWD) provided comments regarding statements in the Administrative Draft Programmatic Environmental Assessment (PEA) which indicated that the additional 300 anomaly-response hours would be used at the discretion of TPWD, the U.S. Fish and Wildlife Service (USFWS), and Cameron County. TPWD commented that it had not agreed to be responsible for restricting access to the Boca Chica area to address issues caused by SpaceX. The text in the Draft PEA has been revised to clarify the role of TPWD in anomaly response closures; however, the text from the earlier Administrative Draft EA has been retained in Table 2-1 (i.e., stating that TPWD would be one of the entities determining when these hours would be used). TPWD recommends Table 2-1 be revised to be consistent with the text of the Draft PEA, clarifying TPWD's role in anomaly response closures.
2	14	2.1.3, Table 2-2	Please clarify why the number of Starship Suborbital Land Landings exceeds the number Starship Suborbital Launches described in Table 2-2.
3	14	2.1.3, Table 2-2	As stated in previous TPWD comments, Table 2-2, Proposed Annual Operations, continues to be unclear. For example, how many minutes, hours or days would the area be closed for 150 seconds of engine testing? TPWD recommends the table be simplified or removed.
4	14	2.1.3	The second paragraph on page 14 states that prior to a nighttime launch activity, bright spotlighting would be required for a "short duration (days)." TPWD recommends that the draft PEA more clearly define the timeframe, or number of days, associated with "short duration."
5	14	2.1.3	The draft PEA indicates that a Sound Detection and Ranging (SODAR) device sending out short sonic pulses would be located within SpaceX property, at least 500 feet from any SpaceX property line. With the property information that TPWD currently has, preliminary measurements indicate that there is no location within SpaceX property that is 500 feet away from all SpaceX boundaries. The proposed location should be shown on a map and the estimated decibels at the property boundary should be clearly noted. The draft PEA should also describe effects, if any, of sonic pulses on wildlife.
6	15	2.1.3.1	It states that tank tests could occur during the day or night. TPWD recommends that tank tests, as well as launches, should be limited to daytime hours only. TPWD property should not be accessed at night for any purposes including examination or clean-up of SpaceX debris from explosions, anomalies, or other activities, unless of an emergency or with approval from TPWD.
7	16	2.1.3.1	During other commenting opportunities, TPWD has expressed concern regarding the number of tank tests per month. TPWD recommended the draft PEA clearly indicate that the Boca Chica area would potentially be closed

Texas Parks and Wildlife Department's Comment Response Matrix			
Draft Programmatic Environmental Assessment for SpaceX Starship/Super Heavy Launch Vehicle at the SpaceX Boca Chica Launch Site, Cameron County, Texas			
#	Location		Comments and Recommendations
	Page	Section	
			to the public for some portion of at least 10 to 12 days per month to accommodate the predicted number of tests and anticipated anomalies and explosions. TPWD reiterates its original comment and recommends that the estimate of the total of number of potential closures and the associated closure time (length of closures, up to 800 hours per year) should be shown in a table in the draft PEA.
8	16	2.1.3.2	Regarding pre-flight operations, TPWD recommends that the draft PEA state how long State Highway (SH) 4 and access to public land would be closed for each static fire test. That is, if testing the Super Heavy is anticipated to be 135 seconds per year and testing the Starship is anticipated to be 150 seconds per year, how many closures and closure hours would be required to accomplish these testing activities?
9	16	2.1.3.2	According to the information provided, if a static fire engine test lasts for 5-15 seconds, then there would be between 9 and 27 tests for the Super Heavy vehicle per year and between 10 and 30 tests for the Starship vehicle per year. If these estimates are correct, the draft PEA should clearly describe how many static fire engine tests are being proposed for each vehicle and provide that information as it relates to closure of the area to public access.
10	17	2.1.3.4	The draft PEA states, "SpaceX is also still considering whether deluge water would discharge on the plume during a launch or test." Because the use of deluge water may result in environmental impacts including steam and/or a vapor cloud potentially causing changes to vegetation on TPWD property, TPWD should be consulted and included in discussions regarding discharging deluge water and any discharge activities should include measures to avoid, minimize, or mitigate harm to vegetation.
11	17	2.1.3.4	This section states, "If treatment or retention of stormwater or wastewater is required, SpaceX would retain the water in retention ponds adjacent to the launch mount." TPWD recommends retention of all stormwater and wastewater because surface discharge of stormwater or wastewater would necessarily be onto State-owned property which surrounds the launch site. Discharge of stormwater and/or wastewater could result in impacts ranging from erosion and loss of vegetation to contamination of soil and water with hazardous materials. In addition, a soil and water contaminants monitoring schedule should be developed and implemented to ensure that if contamination does occur it is detected early, quantified, and cleaned up.
12	19	2.1.3.5	The Federal Aviation Administration's (FAA) definition of operational closure should be revised to fit the circumstances under which closures occur. It should include planned closures which are not implemented by

Texas Parks and Wildlife Department's Comment Response Matrix			
Draft Programmatic Environmental Assessment for SpaceX Starship/Super Heavy Launch Vehicle at the SpaceX Boca Chica Launch Site, Cameron County, Texas			
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			SpaceX. Planned closures that are not implemented still result in restricting beach and public land access for adjacent landowners and managers, researchers, and the general public, as scheduling activities in the area is often based on the public closure notifications. These restrictions result in actual, measurable impacts. Planned closures, whether implemented or not, are a direct result of this proposed action and should be included in this environmental analysis. The FAA may not have a direct role in approving road and beach closures, but the FAA does have a direct role in reviewing and approving this complete action. All of the direct and indirect components of this action should be considered.
13	21	2.1.3.5	"SpaceX estimates the total number of closure hours for tank tests, wet dress rehearsals, static fire engine tests, and launches to be 500 hours per year for nominal operations." TPWD recommends that the total number of hours of closure for clean-up following anomalies should also be included in this section.
14	25	2.1.3.7	The draft PEA states that FAA expects the anomaly debris would be contained within an "FAA-approved hazard area." Because the map in Fig. 2-4 is not appropriately scaled to be used as a reference for the hazard area (i.e., the location of the hazard area is difficult to identify), TPWD recommends the map in Fig. 2-4 be revised, and a label clearly indicating the "FAA-approved hazard area" should be included on the map and a finer scale view of the "FAA-approved hazard area" should be incorporated.
15	25	2.1.3.7	The draft PEA states, "SpaceX estimates up to 300 anomaly-response hours would be needed for addressing impacts specifically from anomalies. These hours would not count towards the nominal operational closure hours" The PEA should make clear in all discussions regarding duration of area closures that SpaceX estimates the total number of closure hours to be 800 hours per year. (Comment #14).
16	26	2.1.4	For clarity, TPWD recommends including a bulleted or numbered list of the additional launch-related construction activities at the beginning of this section.
17	31	2.1.4.6	Stormwater runoff from building sites and parking areas should not discharge into surrounding tidal flats and lomas on TPWD property.
18	32	2.1.4.10	During other commenting opportunities, TPWD recommended that, "The Draft EA should describe the source of natural gas and how it would be brought to the site of the natural gas pretreatment system. Describe if the method of delivering natural gas to the site is or is not a connected action subject to the current environmental

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			<p>review. The Draft EA should also describe to where and how liquefied methane would be transported. Please describe any additional facilities that would be required for transport and storage of liquefied methane and oxygen. Please describe the storage, handling, utilization, and/or disposal of byproducts resulting from the proposed natural gas pretreatment system."</p> <p>The FAA provided the requested information to TPWD but did not include it in the draft PEA. TPWD recommends the provided information be included in the final draft of the PEA.</p>
19	37	3.2	<p>Under the No Action Alternative, the draft PEA states that the intensity of impacts would be less than the impacts discussed in the 2014 EIS because the Starship prototype is a smaller launch vehicle and uses fewer engines than the Falcon Heavy. However, the 2014 EIS does not discuss impacts to public lands resulting from debris and debris removal associated with anomalies or other secondary activities which have developed as a consequence of the authorized activity.</p> <p>The actual impacts of the No Action Alternative are quantifiable and are still being incurred. TPWD recommends that these impacts be detailed for public review because they were not described in the 2014 EIS.</p>
20	41	3.3.4.1	<p>The draft PEA states, "While the 2014 EIS does not directly address or include the elements of the current Proposed Action, the scale of the construction activities (in both square footage and duration) is comparable to the construction activities proposed in 2014."</p> <p>TPWD recommends that this statement be eliminated from the PEA. Based on the following, TPWD believes the new proposed activities are significantly larger in size and will have greater environmental impacts including:</p> <ol style="list-style-type: none"> 1. doubling the footprint of the launch area, 2. expanding the solar farm by 5 to 6 times, 3. adding multiple parking lots, 4. adding a liquid natural gas pretreatment system, 5. a liquefier, 6. a payload processing facility, 7. new utility trenching and pull-offs along SH 4, 8. a redundant launch pad and commodities, 9. adding a redundant landing pad,

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			10. two integration towers, 11. tank structural test stands, 12. a desalination plant, 13. numerous additional support buildings, and 14. a power plant.
21	43	3.3.4.2	This section of the draft PEA states, "Static fire engine tests are also of limited duration; engines are ignited for approximately 15–30 seconds for each test." However, Section 2.1.3.2 states, "During a static fire engine test, the launch vehicle engines are ignited for approximately 5-15 seconds and then shut down." TPWD recommends information regarding the length of the static fire engine tests be accurately and consistently reported in the PEA. This is particularly important as the length of static fire engine tests are used in estimating the duration of other operational activities.
22	48, 49	3.5.1, 3.5.3	Previously, TPWD commented that Section 3.5.1 defines <i>noise</i> as unwanted sound that interferes with normal activities and can cause annoyance. Section 3.5.3 characterizes the sound of the wind and the ocean as "noise." TPWD recommended this be reworded to remove the implication that the natural sounds of the wind and ocean are annoying and somehow commensurate with noise resulting from development and human activities on site. TPWD again recommends the final draft of the PEA be revised.
23	50	3.5.4	Section 3.5.4 of the draft PEA has sub-section 3.5.4.1 followed by sub-section 3.5.4.3; there is no sub-section 3.5.4.2. TPWD recommends numbering sub-sections consecutively to avoid the impression that a section may have been omitted.
24	51	3.5.4.3	The last paragraph of this section states, "As noted in Section 2.3.1, static fire engine tests are not planned to occur at night." However, that statement does not occur in Section 2.3.1 of the draft PEA. In fact, the opposite is stated. Footnote "a" of Table 2-2 and the text of Section 2.1.3 state, "For conservative purposes, the environmental review is assuming 20 percent of annual operations involving engine ignition (i.e., static fire engine tests , suborbital launches, and orbital launches) would occur at night."

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			TPWD recommends the draft PEA be revised to indicate that static fire engine test may occur at night. Additionally, TPWD recommends that the noise impact analysis consider nighttime conditions as well as daytime conditions.
25	52	3.5.4.4	The effects of noise on wildlife throughout TPWD property should also be included.
26	63	3.6.4	TPWD recommends that SpaceX maintain its previous commitment in the 2014 EIS to not launch at night. Potential impacts unique to nighttime launches (including impacts associated with responding to anomalies in sensitive habitats during nighttime) have not been fully evaluated. If launch or pre-launch operations are approved at night, detailed lighting plans for operations as well as emergencies should be included in the PEA and the Facility Design and Lighting Management Plan (FDLMP). The potential impacts of such launches on wildlife and habitat, including the potential impacts of responding to anomalies, must be thoroughly evaluated and potentially mitigated for.
27	63	3.6.4	TPWD reiterates its recommendation that nighttime lighting of the Vertical Launch Area (VLA) be discontinued, significantly limited, or modified to meet accepted standards for nighttime lighting and minimization of impacts to wildlife.
28	63	3.6.4	The draft PEA states, "All of SpaceX's lighting at the VLA would comply with SpaceX's Facility Design and Lighting Management Plan (FDLMP),...[that] is currently being revised. This plan includes measures that are intended to reduce nighttime lighting impacts in the surrounding areas and minimize sky glow." The existing FDLMP, prepared in 2019, has not been fully implemented to-date. Furthermore, the June 2021 Draft FDLMP does not "include measures that are intended to reduce nighttime lighting impacts in the surrounding areas and minimize sky glow." In fact, the FDLMP specifies mostly white LED lights and spotlights at heights of 10 feet to 50 feet from dusk to dawn throughout the launch, landing control area, and the VLA, inconsistent with TPWD recommendations.
29	63	3.6.4	TPWD requests that SpaceX include a Construction Lighting Plan in the FDLMP to minimize impacts from construction lights currently in use throughout the facility. The plan should describe a process for developing acceptable lighting layouts for construction requirements and an inspection and reporting process.
30	64	3.6.5	The mitigative measures described in the draft PEA are inconsistent with those described in the current draft FDLMP. The draft PEA states that low-pressure sodium lights would be used to the extent practical (which is preferred in certain applications involving wildlife) and makes no mention of white LED lights. However, the

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			FDLMP indicates that only white LED lights would be used in every application listed in the plan. TPWD recommends that low pressure sodium lights be preferentially used throughout the current and proposed project area and that white LED lights be used only in rare and isolated instances.
31	74	3.7.5	<p>The 2015 Memorandum of Agreement (MOA) requires specific mitigative measures to be taken. Please provide a timeline for completion of the historic context report, vibration monitoring (also see below comment regarding section 3.8.3.2), replication of missing marker elements, interpretive signage, and the educational website.</p> <p>Additionally, an identifiable impact to an historic resource has occurred; at least one historic piling has already been damaged (i.e., via debris; see also comments regarding Sections 3.8.3.2 and 3.8.3.3). Please provide a plan and a timeline for mitigation of that loss.</p>
32	83	3.8.3.2	TPWD still does not have enough information on how vibrations will affect the historic pilings, as the information received thus far (including the latest vibration monitoring reports received in November of 2019) has been lacking in key information. While FAA acknowledges the potential for damages, the degree of anticipated long-term damages (e.g., no damage vs. partial damage vs. total loss) needs to be analyzed and presented in a clear manner to allow informed decisions on mitigative measures. It is recommended that SpaceX reinitiate vibration monitoring as well as initiate other forms of analyses (if/as needed) with exact methodologies developed in consultation with the appropriate stakeholders.
33	84	3.8.3.3	<p>This section states that the method of debris removal would be assessed on a case-by-case basis and would be coordinated with applicable landowners or public land-managing agencies. This section also states that SpaceX would continue to use an Alaskan freight sled to remove larger pieces on foot and that TPWD has approved this method to minimize impacts to resources.</p> <p>These statements are inaccurate. While TPWD or USFWS may have previously approved the use of an Alaskan freight sled, it should be noted that approvals are subject to change on a case-by-case basis. The September 2021 Memorandum of Agreement (MOA) between TPWD and SpaceX also stipulates the terms of access and retrieval processes to be followed by both parties in the event of an anomaly or other activities impacting TPWD property. This section also states that the FAA is considering whether a temporary presence of debris, debris-removal activities, and extended closure hours may result in a temporary interference with activities on public lands with</p>

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			respect to Condition #3. TPWD requests that the FAA also consider Condition #4 concerning the full restoration of the land being used. TPWD recommends that when evaluating the full restoration of aquatic resources, temporal losses of aquatic resource functions and services should also be considered. For additional context, see comments related to algal flat restoration activities discussed on page 85 of the draft PEA (Comment #40).
34	85	3.8.3.3	<p>The draft PEA states that efforts to restore any impacts to Section 4(f) properties would be conducted as quickly as possible in coordination with applicable landowners. In light of this statement, FAA should consider the restoration timeline of existing impacts to Boca Chica State Park or Brazos Island State Park resulting from activities authorized by FAA to date and secondary activities which have developed as a result of those authorized activities.</p> <p>The draft PEA states that both algal flats and lomas can recover naturally after disturbances, similar to those that would be expected from debris and removal activities associated with any anomalies. It also states that the public has regularly driven on and across Boca Chica State Park and other surrounding areas for decades without causing any permanent adverse impacts. These conclusions are not supported.</p> <p>TPWD has long recognized the adverse effects of vehicular tracks in sensitive loma, coastal prairie, algal/sand/mud flat habitats, which is what prompted an agreement with Space X to install bollard and cable fencing along SH 4. It was also a key underpinning behind the MOA between SpaceX and TPWD.</p> <p>A study at Padre Island National Seashore (Martin et al, 2008) found that off-road vehicle (ORV) tracks in tidal flats on the back side of North Padre Island have persisted for at least 38 years. As referenced in this 2008 study, Belnap (1995) estimated that algal crust recovery following ORV disturbance in desert regions can range from 35–65 years, and recovery from soil compaction can take hundreds of years.</p> <p>There is concern that the impacts resulting from debris and debris removal activities have been substantially understated in this document. Falling debris can create large collision impact craters and unauthorized debris removal activities have resulted in deep, wide, linear trenches excavated perpendicular to SH 4.</p>

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			<p>Because the microtopographical variability of functioning algal flats is measured in centimeters, it is unlikely that algal flats will recover naturally after such disturbances. Due to the larger size of the launch vehicle, larger number of engines, as well as the increased fuel capacity and thrust capacity, impacts from debris and debris removal resulting from a Super Heavy anomaly would likely be of greater scope and magnitude than that of a Starship anomaly.</p> <p>TPWD has no ability to influence the factors which affect the quantity or size of debris or the width and depth of impact craters left by debris that falls on public lands. Once debris lands on public lands, removal impacts cannot be avoided without leaving the debris in place. However, TPWD continues to coordinate with SpaceX and USFWS in an effort to minimize debris removal impacts, and SpaceX recently conducted a test using a low impact hovercraft to traverse over sensitive algal flats. Initial impressions of the test were promising.</p> <p>Unavoidable impacts should be mitigated, but the proposed algal flat restoration measures described in the draft PEA have not been successfully demonstrated in the Boca Chica region. While the grooming of tracks with hand tools, establishing the proper slope within the tidal range, and other conceptual restoration methods proposed by U.S. Department of Interior have merit, the two-year pilot project which aims to restore vehicular impacts at Padre Island National Seashore (as described in Martin et al 2008) has yet to be finalized or initiated.</p> <p>While this pilot project may help inform algal flat restoration efforts in the Laguna Madre System, and we are keenly interested in working with SpaceX and other parties to explore the viability of potential restoration actions, FAA should recognize that the results may or may not be directly relatable to Boca Chica due to site-specific differences in the substrates, hydrological regimes, and other environmental factors, as well as differences in the nature of the impacts (ORV tracks versus debris and debris removal associated with anomalies). Thus, TPWD is still not aware of any algal flat restoration projects with documented success in Texas. Any proposal to restore algal flats at this site would be considered experimental and the probability of success would be unknown.</p> <p>It is important to also note that the MOA between TPWD and SpaceX also includes terms regarding State Park restoration efforts which include an acknowledgement that restoration of the habitat types found on Boca Chica</p>

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			State Park are untested and any restoration plans will need to include monitoring, adaptive management, and subsequent application of restoration methodologies that have been proven to be successful.
35	85	3.8.3.3	FAA states that "the likelihood of debris from an anomaly resulting in direct damage to either of the historic sites [including 41CF117.1] is remote." At least one piling has in fact already been directly damaged by debris. Damages are thus objectively demonstrable and should be considered certainly possible in the future given the nature of past debris fields.
36	92	3.9.4	<p>Construction and operation activities (including anomaly/debris recovery events) have potential to: promote the development of secondary activities or services that would adversely affect the maintenance of natural systems supporting wildlife and fish habitat; reduce the affected wetland's ability to retain floodwaters or storm runoff; and alter hydrology needed to sustain the affected wetland system's values and functions or those of a wetland to which it is connected.</p> <p>Secondary activities which should be evaluated under this section should include anomalies, associated debris, and debris recovery activities as well as increased vehicular and foot traffic from spectators, space enthusiasts, SpaceX staff and contractors, etc.</p> <p>Hydrodynamic analyses or modeling should be conducted to assess drainage patterns and the potential effects of suspended solids and directed stormwater outfalls on sensitive habitats.</p> <p>TPWD requests bullets 2 and 3 on this page be considered by the FAA as a potential significant impact to wetland functions with regard to future SpaceX development plans and cumulative effects from construction and operation activities. Long-term monitoring of water quality, birds, and benthic assemblages should be conducted in the vicinity of the site to assess the direct, secondary, and cumulative effects of the proposed activities as well as secondary activities that develop as a result of authorizing the proposed activities.</p>
37	93	3.9.4.1	Any retention ponds that may receive contaminated water should be lined to prevent percolation of contaminants into the groundwater. Retention ponds should be maintained and monitored when in use to prevent birds from landing in the pond. Additional monitoring should occur during cold-weather events when birds are likely to seek refuge.

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38	94	3.9.4.1	TPWD requests that the FAA re-evaluate the potential impacts to surface water in an area that, until SpaceX, was essentially undeveloped and undisturbed. Direct, secondary, and cumulative effects on sensitive habitat surrounding the project site should be quantified and tracked over time to evaluate changes in ecological function and value.
39	94	3.9.4.1	<p>The draft PEA indicates that intentional and non-intentional landings (launch anomalies) in the Gulf of Mexico and any resulting recovery efforts would have only short-term impacts that would be mitigated by appropriate best or beneficial management practices (BMP).</p> <p>TPWD previously commented that these BMP should be described in the draft PEA and include references that verify that spilled material from vehicle components would result only in short-term water quality impacts. TPWD appreciates that the FAA's response to TPWD's preliminary comments included justifications for the conclusions reached in the draft PEA; however, appropriate BMP were not included. If potential impacts to surface waters are anticipated to be so insignificant in the event of a spill that BMP are not necessary, then the PEA should indicate that. Also, the justifications for the conclusion provided to TPWD should be included in the final draft of the PEA.</p>
40	95	3.9.4.3	<p>The draft PEA states that the U.S. Army Corps of Engineers is evaluating SpaceX's proposal and proposed mitigation to ensure wetland functions of permanently filled wetlands are adequately replaced. The draft PEA does not provide an adequately detailed description of the proposed compensatory mitigation project(s) that may be used to offset impacts to wetlands and special aquatic sites.</p> <p>TPWD recommends that the construction of the parking lot across from the VLA be removed from the proposed project plans as a means to avoid and minimize direct, indirect, and cumulative impacts to aquatic resources. The proposed parking lot would be located northwest of the VLA where prevailing southeast winds occur. Because of this location the parking lot would be a target for debris associated with anomalies, repair and re-construction of the parking lot is foreseeable as are the cumulative effects of parking lot repairs to the surrounding non-wetland and wetland habitats.</p> <p>The draft PEA does not adequately describe alternatives to the proposed parking lot, such as the use of mass transit vehicles to shuttle people or limiting parking spaces to the number which can be accommodated by the available uplands without filling aquatic habitats.</p>

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			TPWD requests that alternative configurations and layouts of the proposed VLA be evaluated to demonstrate that the Proposed Action is avoiding and minimizing adverse impacts to wetlands to the extent practicable.
41	111	3.10.4.1	<p>The draft PEA states that the permanent loss of upland and wetland habitat would be a small fraction of habitat available in the Lower Rio Grande Valley and that adverse cumulative effects are not anticipated. This is misleading.</p> <p>The significance of proposed impacts within the footprint of the Proposed Action should not be assessed by merely comparing proposed impacts to the available habitat in the region. FAA should note that the unique and rare suite of high functioning habitats at the project site (that are limited in geographic scope to the Matamorán Province of the Lower Rio Grande Valley) coincide with a suite of vulnerable species considered rare, threatened, or endangered by state and federal resource agencies. This circumstance has led to extensive conservation efforts by state, federal, and private partners within the region, and especially within the vicinity of the project site.</p> <p>Cumulative impacts pose a threat to existing fish and wildlife habitat where opportunities for development are available, including the pending construction of two liquefied natural gas (LNG) terminals and construction of the Valley Crossing Pipeline. Current site conditions indicate that direct, secondary, and cumulative impacts have already resulted from activities previously authorized by FAA and secondary activities that have developed as a consequence of those authorized activities.</p> <p>Therefore, there is potential for direct, secondary, and cumulative impacts to sensitive habitats within and outside the project site resulting from recurring SpaceX testing/launch activities and secondary activities such as anomalies/debris removal that need to be evaluated, avoided, minimized, and compensated.</p>
42	112	3.10.4.1	<p>The draft PEA states that human presence and vehicular traffic is already prevalent within the project area since Boca Chica Beach is a popular recreational area. While that may be true, this statement does not account for or distinguish between the very different intensity, volume, and kinds of human uses being compared.</p> <p>While TPWD is concerned that Boca Chica Beach may have lost some of its popularity due to unpredictable access, the FAA should consider the actual quantity of vehicular traffic that occurs as a result of the previously authorized</p>

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			projects and the cumulative impacts associated with the traffic resulting from the construction and operation of the SpaceX production facility. It is not clear if the production facility staff and contractors are subject to road closures that are imposed on the general public and area landowners.
43	112	3.10.4.1	<p>The fourth paragraph of this section includes a University of Texas-Rio Grande Valley (UTRGV) 2020 citation used to support a conclusion of non-significant effects on piping plover, red knot, and snowy plover activity from SpaceX construction and operation activities. However, the UTRGV study/report cited is not included in Appendix A. TPWD recommends the reference be included in Appendix A. TPWD also requests to be provided with a copy of this study for review and comment.</p> <p>Also, a recent Coastal Bend Bays and Estuaries Program report (2021) summarizing piping plover abundance at Boca Chica describes a population decline of greater than 50% between 2018 and 2021. The PEA should include this information and consider its data in analyzing project impacts.</p>
44	112	3.10.4.1	The statement that nighttime lighting may harass or cause harm to only sea turtle nests that were missed by patrols/surveys (in-situ nests) on Boca Chica Beach is concerning to TPWD. The Kemp's Ridley sea turtle is a state-listed endangered species and patrol efforts by Sea Turtle Inc. do not justify the use of nighttime lighting during construction and operation activities. To avoid and minimize impacts to sea turtles, nighttime construction and operations should be limited to the period outside the sea turtle nesting season which is typically understood to be April through September.
45	113	3.10.4.1	<p>Past anomalies demonstrate that debris lands on surrounding conservation lands, including sensitive aquatic habitats. Debris collision impacts and debris removal efforts can adversely affect critical elevations that support the maintenance of tidal flat hydrology that prohibits the encroachment of macrophytic vegetation; a process which converts algal flat special aquatic sites to emergent marsh wetlands.</p> <p>Debris and debris removal activities can also adversely affect ecologically important algal mats through algal mat compaction (caused by collision impacts as well as vehicular and foot traffic) and physical removal of algal mats (caused by collision impacts and removal methods which scrape the substrate). Removal of algal mats can lead to erosion which also adversely affects critical elevations.</p>

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			Because such impacts have actually occurred on conservation lands located within the vicinity of the project, it would seem both logical and appropriate for FAA to base its evaluation of potential future anomalies on measurable effects that have yet to be restored.
46	114	3.10.4.2	The reference U.S. Air Force (USAF) 2014 cited to support non negative effects on marine species from sonic booms is not included in the references listed in Appendix A. TPWD requests the opportunity to review the cited study.
47	116	3.10.4.3	<p>The draft PEA states that the permanent loss of upland and wetland habitat would be a small fraction of habitat available in the Lower Rio Grande Valley and that adverse cumulative effects are not anticipated. This is misleading.</p> <p>The significance of proposed impacts within the footprint of the Proposed Action should not be assessed by merely comparing proposed impacts to the available habitat in the region. FAA should also consider that the unique and rare suite of high functioning habitats at the project site (that are limited in geographic scope to the Matamorán Province of the Lower Rio Grande Valley) coincide with a suite of vulnerable species considered rare, threatened, or endangered by state and federal resource agencies. This circumstance has led to extensive conservation efforts by state, federal, and non-governmental entities within the vicinity of the project site.</p> <p>Cumulative impacts pose a threat to vulnerable species and their habitats. Current site conditions indicate that direct, secondary, and cumulative impacts have already resulted from activities previously authorized by FAA, secondary activities that have developed as a consequence of those authorized activities, as well as unconnected past, present, and reasonably foreseeable development projects.</p>
48	116	3.10.4.3	The assessment of adverse effects on piping plover critical habitat should include potential direct, secondary, and cumulative effects outside the project boundary. Debris and debris removal activities resulting from anomalies may cause a significant adverse effect on piping plover critical habitat. TPWD recommends establishing annual wintering bird surveys conducted by a qualified biological monitor for the area surrounding the VLA to track the direct, secondary, and cumulative effects on the avian community and critical habitats from launch/testing activities, anomalies, and other secondary activities promoted by activities authorized by FAA.
49	117	3.10.5	With respect to the first construction measure listed, FAA should consider secondary effects to algal flats from increased or directed freshwater inputs from stormwater runoff. To avoid habitat conversions which would result

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			from the encroachment of emergent vegetation encouraged by stormwater runoff, stormwater runoff should not be directed into mud flat or algal flat habitats.
50	120	3.11.3	South Bay Coastal Preserve, a state designated coastal conservation area, may qualify as an eligible marine protected area located in south Texas. The citation, NOAA 2018, is not included in the list of references in Appendix A.
51	120	3.11.4	<p>With respect to consistency with relevant state coastal zone management plan(s), Title 31, Section 501.29 of the Texas Administrative Code states that development by a person other than TPWD that requires the use or taking of any public land in state parks, wildlife management areas or preserves shall comply with Texas Parks and Wildlife Code Chapter 26. In this context, the Texas statutory definition of "use or taking" may differ from that considered by FAA for Section 4(f) properties.</p> <p>With respect to adverse impacts on the coastal environment that cannot be satisfactorily mitigated, please note that proposed algal flat restoration activities are conceptual and have not been tested in Texas or the Boca Chica area. Therefore, it is unclear if algal flat impacts (from rutting, trampling, falling debris, scraping, and noise) can be restored to achieve an equivalent level of aquatic resource function that occurred prior to the impact. Before any habitat can be successfully restored, the perturbations that caused the impacts must first be removed. At present, it is not clear when these perturbations will no longer result in additional impacts to areas in need of restoration. In the meantime, temporal losses of aquatic resource functions continue to accrue.</p>
52	120	3.11.4	Bullet 5 listed on this page is a factor for the FAA to evaluate as a significant potential impact on coastal resources for establishing a significance threshold. The habitat located within and surrounding SpaceX's test and launch site consists of ecologically important coastal resources. Again, TPWD is not aware of any algal flat restoration or establishment projects with documented success in Texas. As such, algal flats are considered difficult to replace. A proposed pilot project is two years out from fully informing any restoration methods and it is unclear if satisfactory mitigation is achievable, although we remain committed to working with all parties to explore viable options.
53	121	3.12.3	The land surrounding the launch site is described as being primarily used for recreational purposes. While the Boca Chica area has long supported outdoor recreation, much of the land has been managed by state, federal, and private partners as conservation lands for its highly unique fish and wildlife resources and associated habitats. Boca Chica State Park and the Loma Ecological Preserve are leased by the USFWS and managed as part of the

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			Lower Rio Grande National Wildlife Refuge. South Bay Coastal Preserve is cooperatively managed by the Texas General Land Office and TPWD. TPWD recommends that the language in the PEA be updated to reflect the information provided here.
54	128	3.13.5	Concerning SpaceX reporting any release of hazardous material in the Gulf of Mexico through the U.S. Coast Guard (USCG) National Response Center, hazardous materials released into tidal waters would not only have a significant nexus to the Gulf of Mexico, but oftentimes result in adverse impacts to sensitive habitat. Therefore, any release of hazardous material into tidal waters should also be reported to both Texas General Land Office and USCG.
55	130	3.14	SpaceX proposes to construct and operate a 250 megawatt (MW) natural gas power plant to supply power for SpaceX operations at the Boca Chica Launch Site. In response to TPWD's comments on the Administrative Draft PEA, the FAA provided a response to TPWD that natural gas would be trucked to the pretreatment system (See Comment #21). However, the method of natural gas delivery and the feasibility of trucking enough natural gas to supply a power plant that would operate 24/7 was not described in the draft PEA. The PEA should describe in detail how natural gas will be conveyed to the pretreatment system and power plant and evaluate the potential impacts of the conveyance method(s) being considered.
56	17	Appendix D	Previously, TPWD provided comments regarding statements in the Administrative Draft PEA which indicated that the additional 300 anomaly-response hours would be used at the discretion of TPWD, the USFWS, and Cameron County. TPWD commented that it had not agreed to be responsible for restricting access to the Boca Chica area to address issues caused by SpaceX. The text in the draft PEA has been revised to clarify the role of TPWD during anomaly response closures; however, the text from the earlier Administrative Draft EA has been retained in Appendix D (i.e., stating that TPWD would be one of the entities determining when these hours would be used). TPWD recommends Appendix D be revised to be consistent with the text of the draft EA, clarifying TPWD's role during anomaly response closures.

References:

Belnap, J. 1995. Surface disturbances: their role in accelerating desertification. *Environ. Monit Assess.* 37:39-57.

Martin, S.R., C.P. Onuf, K.H. Dutton. 2008. Assessment of propeller and off-road vehicle scarring in seagrass beds and wind-tidal flats of the southwestern Gulf of Mexico. *Bot. Mar.* 51:79-91.

Newstead, D. and B. Hill. 2021. Piping Plover population abundance, trend and survival at Boca Chica 2018-2021. *Coastal Bend Bays and Estuaries Program Report.*

From: [REDACTED] on behalf of James Taylor <[REDACTED]>
Sent: Monday, November 1, 2021 12:29 PM
To: SpaceXBocaChica
Subject: ***Possible Spoofing Attempt*** Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. THIS MAJOR ROCKET LAUNCHING FACILITY HAS POTENTIAL FOR MAJOR ECOLOGICAL IMPACTS THAT MUST BE ASSESSED AND MITIGATED!

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
James Taylor

[REDACTED]

From: [REDACTED] on behalf of Scott Hall <[REDACTED]>
Sent: Monday, November 1, 2021 5:50 AM
To: SpaceXBocaChica
Subject: ***Possible Spoofing Attempt*** Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Scott Hall

[REDACTED]

From: Allen Withington <[REDACTED]>
Sent: Monday, November 1, 2021 11:03 AM
To: SpaceXBocaChica
Subject: Accountability

From what I have read on the plans by Space X at their Boca Chica launch site, it seems that an environmental study is in order. The CNG plant, power station, pipeline and fracking plans were not included in the original proposal. They should not be allowed to get away with unlimited scope creep without a review of the full project. Please do your due diligence in ensuring that Space X is held to the standards in the law. --

Sincerely,
Allen Withington

From: Rebekah Hinojosa <[REDACTED]>
Sent: Monday, November 1, 2021 6:48 PM
To: SpaceXBocaChica
Subject: Amendment to Complaint under Title VI Civil Rights Act of 1964
Attachments: Title VI Complaint Amendment.pdf

Please see our attached Amendment to our Title VI complaint to the FAA and US DOT's Office of Civil Rights regarding the inadequate Spanish language translation and interpreting on SpaceX permit request at the Boca Chica site.*

Thanks,

Rebekah

November 1, 2021

By email

Federal Aviation Administration
Office of Civil Rights
ARC-1, Room 1030
800 Independence Ave, SW
Washington, DC 20591

U.S. Department of Transportation
Department Office of Civil Rights
1200 New Jersey Ave, S.E.
Washington, DC 20590

CC:
U.S. House of Representative Filemon Vela

Re: Amendment to Complaint Under Title VI of the Civil Rights Act of 1964, US DOT Order 5610.2(a), and FAA Order 1050.1F

Dear Federal Aviation Administration:

Another Gulf Is Possible Collaborative (AGIP), Lone Star Chapter Sierra Club, Voces Unidas, Las Imaginistas, Carrizo/Comecrudo Tribe of Texas, South Texas Environmental Justice Network, Resource Center Matamoros, and Trucha RGV (collectively, "Complainants") submit this complaint amendment against the Federal Aviation Administration ("FAA") for violations of Title VI of the Civil Rights Act of 1964, 42 U.S.C. § 2000d *et seq.*, and the U.S. Department of Transportation's ("US DOT's") implementing regulations, DOT Order 5610.2(a). Since the FAA receives funding from US DOT, the agency's public meeting notice rules and public hearing format apply here. As explained below, the FAA has violated Title VI and US DOT's implementing regulations in its review of permits for the SpaceX project sited in the Rio Grande Valley. In particular, the agency has failed to comply with its obligations to provide Spanish language translations for the largely non-English speaking community directly impacted by the proposed SpaceX project. As such, Complainants request that US DOT and FAA's Offices of Civil Rights investigate the claims set forth herein and take appropriate action to ensure impacted minority communities are provided fair notice and opportunity to participate in the SpaceX permitting processes as prescribed by law.

The FAA has not responded to the initial Title VI complaint that we filed on 10/14/21. The FAA has continued to violate Title VI in its review of permits for the SpaceX project. The FAA required the public to register via Eventbrite to give an oral comment during the two hearings on October 18 and 20, but the EventBrite page was only made available in the English language.

This prevented Spanish speakers from registering to give oral comments. Additionally, the notice of Spanish interpretation and closed captioning was not publicized on their website until October 15th, which was merely three days before the hearings were set to begin. To our knowledge, the notices of interpretation available at hearings were not promoted in Spanish or English news sources. The slides that were shown at the beginning of the public hearing were not translated into Spanish; they were translated five days after the public hearings ended on October 25th; and that is when they were uploaded on the website and emailed to the mailing list.

Along with the failure to translate slides, only a summary of the DPEA was translated into Spanish. The Spanish interpretation that was available was slow and spotty. The poorly timed translations made it very difficult to understand what Spanish speakers were trying to say during the hearings. We have also checked a variety of Tamaulipas news sources, none of which reported on this FAA hearing. It seems evident that the FAA may have failed to reach out to Mexican officials or coordinate any outreach to the Matamoros community even though the FAA mentions Mexico as an impacted community in their presentation: the border and Playa Bagdad beach are less than a mile away from the SpaceX expansion project. This is a direct violation of FAA Order 1050.1F, Paragraph 2-5.2.b., which provides that “the responsible FAA official must, to the extent practicable, make every effort to notify potentially affected minority populations and low-income populations of proposed actions and their impacts.”¹

Additionally, US DOT’s Environmental Justice Order 5610.2(a), Paragraph 5.b.1., states that “procedures shall be established or expanded, as necessary, to provide meaningful opportunities for public involvement by members of minority populations and low-income populations during the planning and development of programs, policies, and activities.”² The FAA’s Community Involvement Policy Statement (April 17, 1995) “affirms the FAA’s commitment to make complete, open, and effective public participation an essential part of its actions, programs, and decisions.”³ ⁴ According to the FAA’s draft programmatic environmental assessment (DPEA) for the SpaceX project, the eastern part of the Rio Grande Valley is listed

¹ FAA, Policies and Procedures for Considering Environmental Impacts, Order 1050.1F, Paragraph 2-5.2.b. (2015), https://www.faa.gov/documentLibrary/media/Order/FAA_Order_1050_1F.pdf

² Department of Transportation, Final DOT Environmental Justice Order, Order 5610.2(a), Paragraph 5.b.1, (2012) <https://www.transportation.gov/transportation-policy/environmental-justice/departament-transportation-order-56102a>

³ FAA, Community Involvement Policy Statement (April 17, 1995), <https://tfmlearning.faa.gov/publications/atpubs/AIR/airapp10.html>

⁴ FAA, Policies and Procedures for Considering Environmental Impacts, Order 1050.1F, Paragraph 2-5.2. (2015), https://www.faa.gov/documentLibrary/media/Order/FAA_Order_1050_1F.pdf

as an area that will be affected by operations.⁵ The Rio Grande Valley is a marginalized region that has both a minority and low-income population identifying them as an environmental justice community. The 2019 US Census Bureau data for Brownsville shows that 29.9% of the population lives in poverty which is higher than the 10.5% national average poverty rate;^{6 7} and 93.8% of the population identifies as Hispanic or Latino.⁸ Moreover, the Rio Grande Valley has a population of 1.4 million and about 80% speaks Spanish.

In light of the above violations, Complainants request that US DOT bring the FAA into compliance by taking the following actions: (1) require FAA to publish notice of public meetings and relevant permitting documents, such as the environmental assessment, in Spanish, and in a manner identical to notices and documents published in English; (2) issue publication of public meeting notices at least 30 days prior to the scheduled meeting date ; and (3) provide professional interpretation services at public meetings where public notice must be provided in alternative languages. Delivery of such notice must be reasonably structured to assure that the person to whom it is directed receives it.

The FAA must take steps to correct the deficiencies in its public notice of the SpaceX permit proceedings. While developing measures for compliance with Title VI and the US DOT Order, the FAA must engage fully with representatives of the Rio Grande Valley community and be guided by the community's needs. To this end, Complainants also request that the agency inform and invite them to any stakeholder meetings and other efforts addressing the Civil Rights violations set forth herein. If the FAA does not come into compliance voluntarily, Complainants request that the US DOT and the FAA restart SpaceX's permitting review process, fully complying with Title VI and agency notice and public participation mandates.

Sincerely,

Neil Carman, PhD
Clean Air Program Director
Lone Star Chapter Sierra Club
[REDACTED]

⁵ FAA, Draft Programmatic Environmental Assessment for the SpaceX Starship/Super Heavy Launch Vehicle Program at the SpaceX Boca Chica Launch Site in Cameron County, Texas, 3,15,2 Study Area, pg. 134 (September 2021), https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

⁶U.S. Census Bureau, Brownsville, TX (2019),
<https://www.census.gov/quickfacts/fact/table/brownsvillecitytexas/POP060210>

⁷ U.S. Census Bureau, Income and Poverty in the United States (2020),
<https://www.census.gov/library/publications/2021/demo/p60-273.html>

⁸ U.S. Census Bureau, Brownsville, TX (2019),
<https://www.census.gov/quickfacts/fact/table/brownsvillecitytexas/POP060210>

Michelle Serrano
Voces Unidas and Las Imaginistas
Communications Specialist and Media Mage



Juan Mancias
Tribal Chairman
Carrizo/Comecrudo Tribe of Texas



Rebekah Hinojosa
Member
Another Gulf Is Possible Collaborative



Nansi Guevara
Co-founder
956 Radical Library



Xandra Treviño
Member
Fuera SpaceX



Josue Ramirez
Cultural Organizer
Trucha RGV



Emma Guevara
Member
South Texas Environmental Justice Network



Gabriela Zavala
Executive Director and Founder
Resource Center Matamoros



From: Emily Jo Williams <[REDACTED]>
Sent: Monday, November 1, 2021 2:21 PM
To: SpaceXBocaChica
Subject: American Bird Conservancy letter regarding the need for an EIS for SpaceX Boca Chica
Attachments: American Bird Conservancy letter to FAA re SpaceX EIS 31Oct2021.pdf

Attention: Stacey M. Zee
Federal Aviation Administration
SpaceX PEA

Please find attached the letter from American Bird Conservancy detailing why a complete and robust Environmental Impact Statement is required for the SpaceX facilities and operations at Boca Chica, Texas. We appreciate your attention to these views contained in our letter and welcome an opportunity to contribute to a new supplemental EIS that would address the impacts of the Super Heavy Project, offer multiple alternatives, and solicit meaningful public comment.

Sincerely,

Emily Jo Williams
American Bird Conservancy
Vice President, South East Region



October 31, 2021

Stacey M. Zee
Federal Aviation Administration
SpaceX PEA
c/o ICF
9300 Lee Highway
Fairfax, VA 22031
[REDACTED]

Dear Ms. Zee:

American Bird Conservancy (ABC) hereby respectfully requests that the Federal Aviation Administration (FAA) prepare a supplemental Environment Impact Statement (EIS) for SpaceX's Starship Super Heavy Project at the Boca Chica Launch Site ("the Super Heavy Project").

Introduction

As we show below, SpaceX's current and proposed activities are significantly different from those presented to the FAA when it issued its 2014 EIS and Record of Decision (ROD), and are creating (and will create) far more negative environmental, wildlife, and human safety impacts than what was originally planned. The current draft Programmatic Environmental Assessment (PEA) does not adequately address these impacts nor provide sufficient alternatives for consideration, and a full EIS is required under the National Environmental Policy Act ("NEPA") and FAA's published NEPA policies and procedures. Nor does the PEA adequately address what we believe are violations of the National Wildlife Refuge Improvement Act of 1997; the Preservation of Parklands statute, the Clean Water Act, and the Endangered Species Act.

The ecological importance of this region cannot be overstated. The SpaceX site is surrounded by critically important and sensitive habitat for many declining wildlife species, including the federally Threatened Piping Plover (designated critical habitat for which directly overlaps the site) and Red Knot. The Lower Rio Grande Valley National Wildlife Refuge (NWR), Boca Chica State Park, Brazos Island State Park, and Las Palomas Wildlife Management Area/Boca Chica Unit all surround the SpaceX site. These conservation areas are home to some of the country's most diverse communities of wind tidal flats, mid-delta thorn forest, and mid-valley riparian woodlands that support rare, endangered, and threatened species, making it critically important to ensure impacts to these natural resources are minimized. Furthermore, this area is an incredibly important region for migratory birds, with hundreds of thousands of birds – including numerous rare and federally Threatened and Endangered species – depending on Boca Chica habitat during fallouts when they need to rest and refuel before continuing on with their journeys.



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We begin with a review of the FAA's NEPA-implementing policies, showing that they require a full EIS. Then we discuss the many adverse environmental impacts of the Super Heavy Project that the EIS should address. And then we show that the Super Heavy Project appears to run afoul of four federal statutes, a subject that the full EIS should also address

I. FAA NEPA Policies and Procedures

FAA Order 1050.1F, effective 7/16/15, "serves as the [FAA's] policy and procedures for compliance with the National Environmental Policy Act (NEPA) and implementing regulations issued by the Council on Environmental Quality (CEQ)." Section 9.2, which is referenced in the FAA's 2014 EIS, states that a supplemental EIS is ***not*** needed if three conditions are met. Here, *all three* conditions are *not* met, and hence an EIS is required.

The first condition is: "The proposed Action conforms to plans or projects for which * * * a prior EIS has been filed and there are *no substantial changes in the [proposed] action that are relevant to environmental concerns.*" Section 9.2.c(1) (emphasis added).

The 2014 EIS examined the impacts of launching the Falcon 9 or Falcon Heavy rockets from Boca Chica, but that is no longer the plan. Now, SpaceX is already developing the integrated Starship/Super Heavy launch vehicle, which is taller and significantly larger than the Falcon rockets, containing 41 Raptor engines (combined) propelled by 10.1 million pounds of liquid oxygen and liquid methane. SpaceX is also proposing additional infrastructure expansion, including a redundant launch pad with 11 tanks, redundant landing pad, integration towers, tank structural test stands, desalination plant, support buildings and parking lots, power plant, trenching, payload processing facility, natural gas pretreatment system, liquefier, expanded solar farm, as well as a 500-hundred-hour addition to annual closings of State Highway 4, and Highway 4 pull-offs. These changes are "substantial" by any definition of the word and they are "relevant to environmental concerns." They were not previously accounted for in the 2014 EIS, and therefore a new EIS is required to ensure that the appropriate and legally required federal oversight is in place to protect the public interest.

We would add that, so far, SpaceX has provided inadequate information to evaluate the actual impacts of these expanded operations. Instead, amazingly, it has proceeded with construction activities and round-the-clock experimental testing for the Super Heavy Project even though the NEPA process remains incomplete. Moreover, a number of accidental explosions at the site have put human health and safety at risk, burned over 100 acres on national wildlife refuge lands, and scattered debris causing long term damage to the fragile tidal flats and associated habitats.



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The second condition is: “Data and analysis contained in the previous * * * EIS are *still substantially valid and there are no significant new circumstances or information relevant to environmental concerns* and bearing on the proposed action or its impacts.” Section 9.2.c(2) (emphasis added).

This second condition is related to the first and, for the reasons stated above, it has not been met. The substantial changes to the original project that the draft PEA identifies, coupled with the subsequent and widely varied impacts, make the 2014 EIS outmoded, irrelevant, and inaccurate. New impacts from the greatly revised Super Heavy Project should be analyzed appropriately and thoroughly to consider impacts to surrounding public lands, wildlife, and people.

The draft PEA does not accomplish this. It fails, altogether or substantially, to examine the greatly changed impacts relating to light, noise, sonic booms and overpressure, air pollution, CO2 emissions, stormwater runoff, explosions, and fires. Impact zones or closure areas should be re-examined and include larger swaths of land that would likely include portions of surrounding communities (i.e. South Padre Island, Port Isabel). This is especially important to human, wildlife, and environmental health since a permitted liquefied natural gas (LNG) export terminal is proposed for the Brownsville Ship Channel and SpaceX is planning to transport and store large amounts of propellant/fuel on site. These significant new circumstances make the analysis contained in the 2014 EIS “substantially *invalid*” in light of the “significant new circumstances or information relevant to environmental concerns” raised by the new Super Heavy Project.

The third condition is: “Pertinent conditions and requirements of the prior approval have been, or will be, met in the current action.” Section 9.2.c(3).

It is fair to say that the FAA has exercised little to no oversight over SpaceX activities and compliance with the terms and conditions of the 2014 ROD and the original FWS Biological Opinion.

To take one example, SpaceX’s road closures have greatly exceeded the limits set forth in the 2014 EIS, which were agreed to by SpaceX, the Texas General Land Office (TGLO), and Cameron County. Surpassing allowed closure hours is a violation of the Texas Open Beach Act. Moreover, SpaceX has consistently provided the public with short notice of closings and made frequent changes and revocations, making it difficult for any member of the public to regularly access the state parkland, national wildlife refuge, and public beach.

Moreover, on this subject, SpaceX is now requesting 800 hours of closure per year for Highway 4 for testing, launches, and debris cleanup. That is 500 more hours than the currently approved 300 hours. It will close the highway for 4 to 5 hours per day, Monday through Friday, for 32 weeks of the year. An EIS is required to fully analyze the notice that needs to be provided to the



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public, federal and state agencies, and any stakeholders who support land and wildlife management, as well as a need for strict adherence to a published schedule and a standardized way of reporting closure hours.

For another example of noncompliance, SpaceX is violating its 2014 lighting plan, putting a huge amount of nighttime light into the surrounding natural environment, impacting nesting sea turtles and migrating birds.

In short, **none** of the three conditions that must be met before the FAA may dispense with an EIS has been met here: there are **many** “substantial changes in the [proposed action] that are relevant to environmental concerns”; the data and analysis in the 2014 EIS are **not** “still substantially valid” because of “significant new circumstances or information relevant to environmental concerns and bearing on the” Super Heavy Project; and “[p]ertinent conditions and requirements of” the 2014 EIS have not been met. Section 9.2.c(1)-(3).

We turn now to specific impacts of the SpaceX project that are insufficiently addressed in the PEA and that must be addressed in an EIS.

II. Impacts That Must Be Addressed

Impacts to Habitat, Birds and Other Wildlife

The Super Heavy Project area is immediately adjacent to state parks lands, beaches, and a national wildlife refuge. It will affect listed and endangered species through impacts associated with noise, overpressure, construction, industrialization, traffic, explosions, lighting, habitat displacement and habitat disturbance. Many of birds and other wildlife have already been killed on Highway 4 where the increase in construction has led to an increase in traffic. The bird carcasses found on the side of the highway over the past two years include Snowy Plover, Common Nighthawk, Harris’s Hawk, Rose-breasted Grosbeak, and Eastern Meadowlark, all of which are designated as Birds of Conservation Concern by the U.S. Fish and Wildlife Service.

According to an analysis by Coastal Bend Bays & Estuaries Program, the federally Threatened Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX set up operations testing and launching rockets.

The draft PEA states that noise and shock waves (far-field overpressure) may break windows on South Padre Island and Port Isabel, 5 miles away from the launch site. The PEA does not address the effects on birds, reptiles and mammals that are a half mile or less from the launch site. A full EIS is required to address this issue.



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Impacts on Climate Change

SpaceX and the FAA claim that the “proposed action is not expected to result in significant climate-related impacts.” But the Super Heavy Project is expected to emit 47,522 metric tons of carbon dioxide per year, with no mitigation proposed. The climate related impacts of the Super Heavy Project must be addressed in a full EIS.

Impacts on Public Safety and Property Damage

A launch failure analysis should be part of a full EIS to assess the risks to public safety and to the operations at the Port of Brownsville and off-shore operations. The draft PEA does not address this issue.

The PEA notes that predicted overpressure levels for a Super Heavy landing range from 2.5 pressure per square foot (psf) to 15 psf, but otherwise does not address this issue.. Brazos Island State Park, Boca Chica Bay, Boca Chica State Park, portions of the NWR, Boca Chica Village, and Tamaulipas, Mexico would experience levels up to 15 psf. Boca Chica Beach and the southern tip of South Padre Island are within the 6.0 psf contour. South Padre Island, including residences, Port Isabel, and the Port of Brownsville ship channel are included in the 4.0 psf contour. The potential damage that can occur at 4-6 psf includes damage to glass, plaster, roofs, and outside walls. The potential damage that can occur at 10+ psf is more severe.

Air Pollution Impacts

The Super Heavy Project is expected to emit enough carbon monoxide (102 U.S. tons per year) to make it a “major source” of pollution under Environmental Protection Agency (“EPA”) guidelines, and the proposed 250-megawatt power station will qualify as a major new source of air pollution under the Clean Air Act. An EIS is required to conduct a conformity determination to comply with air pollution laws, and the EPA should be engaged as a cooperating agency in its drafting.

Noise Impacts

The Center for Disease Control states that immediate hearing loss can occur at sound intensity levels of 120 dB. The Noise addendum to the PEA shows that portions of South Padre Island and Port Isabel will likely be exposed to sounds at 120 dB during Starship Orbital launches and landings. The PEA does not address the extent to which using water to suppress sound may adversely impact nearby communities, or whether other protections or mitigations may be required.

Nor does the PEA address how the sound intensities will impact birds, reptiles, and mammals immediately surrounding the launch site and in other impact zones/closure areas. A wildlife

professional with expertise in noise impacts to various wildlife should be enlisted in a new supplemental EIS to examine these impacts.

Light Impacts

SpaceX is already putting a huge amount of nighttime light into the surrounding natural environment, and the proposed infrastructure expansion will further illuminate the area at night, impacting nesting sea turtles and migrating birds. In addition, the illuminated integration tower will be a collision risk for disoriented migratory birds. A full EIS is required to examine these impacts and address the kinds of preventive and mitigating measures SpaceX should adopt to reduce light output at night, subjects not included in the draft PEA.

Water Impacts

The draft PEA says that “Surface water discharges from runoff during construction and operations would be managed according to requirements of the Texas Pollutant Discharge Elimination System * * * with minimal impact to ground water quality with stormwater treatment and industrial wastewater systems that are properly designed and operated in accordance with permit conditions.” There is (or was until perhaps recently)



already runoff going straight into the flats that does not appear to be filtered through any type of system. Accompanying is a photo taken by Coastal Bend Bays & Estuaries Program in June of 2021 showing discoloration of the water and proteinaceous foam, not clean storm water runoff. A new EIS should address this issue, and include the anticipated updated FWS’s Biological Opinion regarding SpaceX’s stormwater prevention and treatment plans.

Power Plant Impacts

The proposed gas-fired 250-megawatt power plant will be about 5.4 acres in size, have structures up to 150 feet tall, and operate continuously year-round, day and night. A power plant this big typically serves over 100,000 homes. This one will run a new desalination plant



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that will produce the millions of gallons of fresh water needed annually for sound and fire suppression during launches. Large amounts of electricity will also be used to make liquid oxygen from the air. A 250-megawatt power station would normally qualify as a major new source of air pollution under the Clean Air Act. The impacts of this plant and necessary mitigation measures must be fully disclosed and analyzed in a full EIS.

Natural Gas Impacts

It is unclear how the tens of millions of cubic feet of gas required daily will get to the Super Heavy Project site. Potential methods could include reusing a defunct natural gas pipeline running through the Lower Rio Grande Valley National Wildlife Refuge, drilling/fracking onsite, or trucking in natural gas, which would require thousands of tanker deliveries every year. *None of these* are addressed in the draft PEA.

Desalination Plant Impacts

The Super Heavy Project proposes to construct a 4300 square foot desalination plant, which would treat water from two new source wells and the existing well, and which would inject brine into an injection well some 2900 feet deep. The PEA provides no details about how the injection well will work or the impacts of injecting brine into the aquifer. Nor does the PEA describe if or how aquifer drawdown will impact connected water resources or other water rights holders/water users reliant on this aquifer. There is no information about how much energy will be required to run the desalination plant other than "the desalination process requires substantial quantities of energy". More details are needed for public review.

Social Justice Impacts

The negative impacts associated with loss of beach access, access to park and refuge lands, potential for property damage, and public health and safety concerns will disproportionately impact low-income communities and communities of color, which are the communities in closest driving proximity to the Super Heavy Project area. For many low income and Hispanic residents of Brownsville, Boca Chica is "their" beach – it is free, easily accessible, and closer than the beaches on South Padre Island. The PEA does not address these issues, nor how these adverse impacts might be mitigated.

The Carrizo/Comecrudo Tribe of Texas, the ancestral lands of which are being developed by the Super Heavy Project, has not been consulted at any point by SpaceX. Project analysis materials and notices have not properly been distributed in Spanish. It is unknown whether the governments or communities in Tamaulipas, MX have been made aware of the Super Heavy Project or invited to comment. The PEA is silent on these issues.



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III. Federal statutory violations

Under the National Wildlife Refuge Improvement Act of 1997, 16 U.S.C. 668dd-668ee, the Secretary of the Interior administers the National Wildlife Refuge System “for the conservation of fish and wildlife.” *Id.* § 668dd(a)(1). The Secretary can permit activities in a refuge when he/she determines “that such uses are compatible with the major purposes for which such areas are established,” *id.* 668dd(d)(1)(A), but the Secretary may not permit a new use of a refuge without a determination that “the use is a compatible use.” *Id.* 668dd(d)(3)((A)(i). “Compatible use” is defined to mean “a wildlife-dependent recreational use [such as hunting] or any other use of a refuge that * * * will not materially interfere with or detract from the fulfillment of the **mission** of the System or the purposes of the refuge.” 668ee(1) (emphasis added). “The mission of the System is to administer a national network of lands and waters for the conservation * * * of * * * fish, wildlife, and plant resources and their habitats * * * for the benefit of present and future generations of Americans.” *Id.* 668dd(a)(2). The Super Heavy Project is totally incompatible with the mission of the Lower Rio Grande Valley National Wildlife Refuge to conserve fish, wildlife, and plant resources for the benefit of the American public. To our knowledge, the Secretary of the Interior has never permitted the use that SpaceX plans to make of that Refuge, and, without that permission, SpaceX’s use of the Refuge violates the law.

23 U.S.C. § 138, “Preservation of Parklands,” declares that it shall be “our national policy that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges. *Id.* 138(a). It imposes so-called “4(f) requirements” on the Secretary of Transportation, since they are taken from section 4(f) of the now-repealed [Department of Transportation Act](#) ([Public Law 89–670](#); [80 Stat. 934](#)). *Id.* 138(d). They require the Secretary to “develop[e] transportation plans and programs that include measures to maintain or enhance the natural beauty of the lands traversed,” and they forbid the Secretary from approving any project that “requires the use of any * * * land from a public park, recreation area, or wildlife and waterfowl refuge of national, [State](#), or local significance as determined by the Federal, [State](#), or local officials having jurisdiction thereof * * * unless (1) there is no feasible and prudent alternative to the use of such land, **and** (2) such program includes all possible planning to minimize harm to such park, recreational area, wildlife and waterfowl refuge.” *Id.* 138(a). Federal regulations state that a constructive use of property protected by the Act occurs when a project’s proximity impacts are so severe that the protected features of the land “are substantially impaired. 23 C.F.R. § 774.15(a). The FAA itself has recognized that “[potential causes of constructive use include shifts in user population because of direct use of bordering properties, and/or non-physical intrusions such as noise, air pollution, or other effects that would substantially impair the resource’s use.” FAA Office of Airports, *Environmental Desk Reference for Airport Actions* at Ch. 7, p. 6 (Oct. 2007) (https://www.faa.gov/airports/environmental/environmental_desk_ref/media/desk-ref.pdf). The Super Heavy Project is a “constructive use” if ever there was one, and requires a permit from the Secretary of Transportation, which does not exist.



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Section 404 of the Clean Water Act, 33 U.S.C. § 1334, requires the consideration of alternatives to any proposed filling or dredging of wetlands – which has in fact already occurred in this case – before the Army Corps of Engineers may issue a permit. The PEA identified only two alternatives: the Super Heavy Project, already well underway, and the No Action alternative. Accordingly, the Super Heavy Project is proceeding in violation of section 404.

Finally, given the demonstrated adverse impact on ESA-listed Piping Plovers mentioned above – more than a 50% decrease in the Boca Chica population in the three years since SpaceX arrived – the Super Heavy Project is violating and will continue to violate the ESA.

A new EIS should meaningfully address each of these statutory issues.

* * * * *

We appreciate your attention to these views and welcome an opportunity to contribute to a new supplemental EIS that would address the impacts of the Super Heavy Project, offer multiple alternatives, and solicit meaningful public comment. For additional information or questions, please contact American Bird Conservancy at [REDACTED]

Sincerely,

Emily Jo Williams

Emily Jo Williams, Vice President Southeast Region
American Bird Conservancy

CC:
Jayni Hein
Counsel and Senior Director for the National Environmental Policy Act
White House Council on Environmental Quality
[REDACTED]

Mary Orms, Fish & Wildlife Biologist
USFWS – Southwest Region
Texas Coastal Ecological Services Field Office
[REDACTED]

Dawn Gardiner, Assistant Field Supervisor
USFWS – Southwest Region
Texas Coastal Ecological Services Field Office
[REDACTED]



Shaping the future for birds

Bryan Winton, Refuge Manager
USFWS - Lower Rio Grande Valley NWR
[REDACTED]

Kelly McDowell, Refuge Supervisor
USFWS - Texas Coastal National Wildlife Refuges
[REDACTED]

Kristin Madden, Chief
USFWS – Division of Migratory Birds Region 2
[REDACTED]

Kendal Keyes, Regional Natural Resources Coordinator
Texas Parks and Wildlife Department - State Parks Division
[REDACTED]

From: Dennis An <[REDACTED]>
Sent: Monday, November 1, 2021 10:44 AM
To: SpaceXBocaChica
Subject: Boca Chica launch site questions

I am writing this as a concerned American citizen and would like to ask a few questions in regards to the Boca Chica launch site. I am concerned that the ramifications that would come from allowing the launch site to be completed, along with the flights to be allowed launching.

- 1) why can't they launch away from water resources? If a failed launch or landing could pollute water systems permanently, why are we poisoning water that we may be drinking 100 years from now?
- 2) with nesting endangered turtles there, is there a chance that the extreme vibration from the rockets could affect the eggs similar to how shaking a baby causes shaking baby syndrome?
- 3) why is SpaceX allowed to build their buildings without FAA approval? Normal business and construction members would have their licenses taken away and the construction site removed.
- 4) if water lasts forever, why are we so intent on permanently altering water supplies in a negative way?
- 5) why is SpaceX planning a ridiculous amount of launches compared to their first proposal?
- 6) is Elon promoting everything Texas so he can take advantage of their people, state, government resources/grants, and disgracefully lenient pro-rape laws?
- 7) are any toxic materials used to build the rockets that when added to water could create toxic water supplies?
- 8) if it would take an asteroid 1/4 the size of earth to create an atmosphere on Mars, how much carbon would it take to move that size of an asteroid? Wouldn't the amount of carbon necessary to move an asteroid of that size while having the rockets in place in multiple possible areas make it a 0 sum game where we would die of carbon pollution before we could settle on Mars?
- 9) why does Elon Musk seem to have every personality trait of the anti-Christ?
- 10) how many endangered species have already been effected?
- 11) Couldn't the death of 1 bird or turtle have permanent ramifications on the future of those species, and possibly even lead to the extinction of those species? If extinction is permanent, why are we allowing Elon to exacerbate it?
- 12) why can't Elon launch and recover vehicles from desert areas away from waterways so when his rockets inevitably fail their test flight, it doesn't ruin people's drinking water causing birth defects and breathing problems similar to lead toxicity issues, except spacex debris would be so vast the ramifications would be permanent as the complete cleanup would be impossible?
- 13) why did Elon/SpaceX take so much time to hide the depth of their operations and intent, while also violating numerous federal laws? Didn't he quite literally mess with Texas?

Thanks for taking the time to read my questions and concerns. I pray that you do not allow Elon to build and complete construction of the Boca Chica facility as it would nearly guarantee the rapid destruction of Earth.

Yours sincerely,
D.A.

Sent from my iPhone

From: Chris <[REDACTED]>
Sent: Monday, November 1, 2021 6:58 AM
To: SpaceXBocaChica
Subject: Comment and Mailing list request

Hello!

First off, I would like to voice my empathic support for what SpaceX is trying to do down in Boca Chica. They deserve the whole hearted support of our entire species. With regards to the potential environmental impact.... we have all collectively managed to screw up irreplaceable habitats all over this planet almost without even noticing or giving it a second thought. The oil and gas industry has caused 1000x the impact this afternoon than ever will with no positive impact to the human race. In the case of the Boca Chica launch site, that potential impact should be weighed against the immense positive long term impact it could have on future generations.

Also, I would like this email added to the mailing list regarding updates on this process

Thanks!

Chris Edwards

From: Chris Allieri <[REDACTED]>
Sent: Monday, November 1, 2021 5:48 PM
To: SpaceXBocaChica
Subject: Comment for Boca Chica

To Whom It May Concern-

I'm the founder of NYC Plover Project, a non-profit effort to protect endangered Piping Plovers.

I'm gravely concerned about the draft PEA, which lacks the comprehensive environmental review which is needed.

Piping Plovers need more protections not less.

How is a company, SpaceX, led by the world's richest man able to run roughshod over the Endangered Species Act?

We ask you re-open this process, provide more protections and follow federal law to protect this species.

Thank you,
Chris Allieri

NYC Plover Project

New Yorkers coming together to protect endangered Piping Plovers

www.nycploverproject.org

From: Emma Guevara (via Google Docs) <[REDACTED]>
Sent: Monday, November 1, 2021 3:30 PM
To: SpaceXBocaChica
Subject: comment for faa hearing
Attachments: comment for faa hearing.pdf

[REDACTED] attached a
document

[REDACTED] has attached the following document:

Good evening,

Attached is the comment I was unable to read during the public hearings held two weeks ago. I would like to submit it in writing to show that I am opposed to the approval of the PEA and any further licenses and permits for SpaceX Boca Chica. Thank you.

Respectfully,

Emma Guevara

 comment for faa hearing

Google LLC, 1600 Amphitheatre Parkway, Mountain View, CA 94043, USA
You have received this email because [REDACTED] shared a document with you from Google Docs.



Good evening, my name is Emma Guevara, and I am a life-long resident of Brownsville, TX and a multi-generational Brownsville resident on both sides of my family. I'm here today to speak in opposition of this project and in opposition to SpaceX as a whole.

I want to start off by pointing out the fact that the community organizations and residents of Brownsville and the Rio Grande Valley and Matamoros have long opposed SpaceX and the further colonization of our beach. I would also like to make sure that everyone is aware that rockets were literally developed by Nazis, so yes, rocket science is racist.

Those who speak in favor of SpaceX are our elected officials, and Brownsville elitists, many of whom are incredibly wealthy and out of touch with the regular working class residents of Brownsville so they really have no idea what they're talking about when they talk about public opinion. There are people who claim to be locals but aren't really, and then there are those locals who have contempt for our home because of the way it's been colonized and think the answer is more colonization. Those of us who are in opposition love our home, love our beach, and have ancestral ties to the region.

There are also those who have transplanted here and treat our beach as an amusement park, and then, there are those who have never even been here before and claim to understand our region, our concerns, and our anger. If we sound too prepared, it's because we've been preparing. For years. SpaceX is not the first company to threaten our way of life.

Our city is already being gentrified with bland murals that try to rebrand Brownsville as "Starbase" when in reality all of this land is occupied Somi'Sek belonging to Carrizo-Comecrudo Tribe of Texas. People are already being displaced. Rent is already being raised. In fact, my own rent was raised as well. Many try to characterize this city as dying and depressing with no hope, but personally I feel like those who make that point are just classist.

Brownsville is an amazing city with a unique culture and unique ecosystem that needs to stay accessible to those who are from here, to those who respect this land and give back to it. It does not need to become more accessible to a company who is only here because their CEO thinks that a place where the majority of people are minorities and low income is okay to blow stuff up near. This company has no respect for our home, no respect for the residents, and frankly, has turned into a pretty bad neighbor.

Next, I would like to point out that we (those of us in opposition to this project) have a unified message because we're not just random people that follow a billionaire on twitter; we are a community that is desperately fighting tooth and nail for our home. If we sound prepared it's because we are. We've got no choice but to be prepared.

To characterize us as "environmental extremists," or trying to characterize us as hysterical or dramatic, is incredibly reductionist, insulting, misogynist, and borderline racist. We are a majority-minority community that is one of the most impoverished areas in the country. Our wealthy elected officials (who, while they deny their wealth all drive teslas now and are definitely

wealthy by Brownsville standards) post photos of their thousand dollar shoe collections on their Facebook pages, block their constituents, and seem like they'd rather be social media influencers for a billionaire who couldn't care less about them. I think most of us who are actually local will agree that they do not represent the hordes of us (nearly 200k) that are working class and just want to defend our home and our beach.

In fact, according to the PEA, SpaceX is planning to close the only street to get to the beach for at least 800 hours a year. Last year alone, SpaceX had this street closed for over 1000 hours already. Is this going to be an additional 800 or is it just a boldfaced lie about how often this street will be closed? Everyone always talks about how there's a text alert service, but many have reported on multiple occasions that the text alerts are incorrect and don't actually help at all. People need to be able to get to their homes, to get to work, or just to get to the beach. How can you say that 800 hours of closure will make money for our city or further humanity? It will make money for the richest man on the planet, and I have no interest in contributing to his greedy fortune that was made off the backs of the working class, during a time where the people are at their most vulnerable, desperate for more help in the wake of this pandemic, and he hordes a disgusting amount of wealth that could end world hunger and house the houseless and still leave him with enough money to do whatever he wants.

Speaking of wealth, it's not often mentioned that people use this beach for fishing so they can eat. I don't think you all understand the gravity of this at all. You are denying our community access to a free food source. This is especially egregious in a community that is considered a "food swamp" which means that we don't have access to affordable healthy food at all. And 1 out of 5 children in the region face food insecurity. Along with closures to the beach, according to this PEA, there will also be closures to the ship channel which can seriously disrupt the shrimping and fishing industry which sustains so many in our community. I, myself, am the granddaughter of a retired shrimper.

As for the jobs everyone claims that SpaceX has created, what jobs are they? Can any of you actually name a professional level job that a local has gotten? The vast majority of the locals we know that work at SpaceX are either contracted laborers so that union-busting Elon doesn't have to give them benefits or they work custodial positions and maintenance. Why else would he tweet out to his fanbase that they should move here to work?

This draft also fails to discuss anything regarding the cumulative impact. Less than 10 miles away from this facility is an existing pipeline, the Port of Brownsville, and two proposed LNG sites, not to mention the oil tankers that frequent the area. In no way, shape, or form is it a good idea to try to build and fly the biggest rocket in existence in proximity to all of this. Along with all these explosives, are communities. If something went wrong it could potentially be incredibly devastating, and to act like an explosion or a crash is an outlandish fear to have completely disregards the fact that explosions and crashes have already happened. I've seen it outside my window. People have had their windows shattered, their lawns littered with debris, and the beach was littered as well. None of this was cleaned up or dealt with in a timely manner except

for the clean up of their own facility. Debris was left on the beach for days, people were posting photos of huge metal pieces sticking out of the sand further polluting our beach.

This community is already starting to see the effects of climate change and has already been ravaged by natural disasters. Hurricanes, the grid failure (during which SpaceX had power while most of us went without power in freezing temperatures for days). Just a few weeks ago, this whole area flooded horribly and so many had damage to their homes and cars. Not to mention that Texas is the state with the most flood related deaths. Our infrastructure can't handle the destruction of more floodplains and wetlands and our planet cannot handle more pollution from billionaires for the sake of profit. There is no way that this project can help the environment more than it has harmed. It is literally 100 feet from the beach, there's no possible way that runoff alone hasn't polluted the water or the sand. Not to mention the egregious levels of light pollution that previously did not exist before SpaceX's creation.

Those in support of this project are being bought by delusions of grandeur and fond memories of science fiction television. Well I'm here to tell you that you are never going to Mars. Never. This project has absolutely nothing to do with space exploration, nothing to do with Mars, nothing to do with becoming a "multiplanetary species" (which is an incredibly problematic thing to say on its own). This project is helping a rich guy get to space so he can strip other planets and asteroids of their natural resources, make a quick buck off of it, and then leave us all to die on a planet that is desperately trying to correct what we've done wrong. The doomsday mentality exhibited by many in support of this is incredibly telling. The Earth is worth saving, and there are people here who need help now. Space travel is a fun and exciting idea and all but what does it matter when human beings and their homes are being harmed? This land belongs to the Carrizo-Comecrudo Tribe of Texas and this is colonization. Colonization is an act of violence, and the creation of this facility alone was an act of violence, and continuing to expand is continuing this barrage of harm. Find your humanity, you're not on Mars yet, and listen to the people who live here right now. Listen to us when we tell you that this is a dangerous project with serious consequences that we've already begun to feel the effects of.

The FAA at the very least needs to do a full Environmental Impact Study, but in reality this entire process seems to be flawed. At the last hearing, only 12 speakers were actually local. Out of the dozens that spoke that night. There needs to be serious consideration taken to center the voices of those who are directly impacted by these projects. Elon Musk tweeted out to his massive following to join this meeting which is why there is an inundation of speakers who have absolutely no stake in this issue at all, and the FAA needs to take this seriously. We know this is a fun hobby for a lot of you and exciting to watch, but this isn't an online community or a hobby to us, this is our actual life, our actual home, the lives of our children, the lives of our elders, the home of our ancestors. We don't have an urgency to Mars, we have an urgency to people who are alive right now and will deal with these effects for years to come. Don't erase us, respect us, respect our home, respect our culture, and respect our history.

From: Patricia Daunt-Grogan ([REDACTED]) Sent You a Personal Message
<[REDACTED]>
Sent: Monday, November 1, 2021 8:41 AM
To: SpaceXBocaChica
Subject: Comment for Programmatic EA on Starship/Super Heavy launch operations

Dear Federal Aviation Administration,

The South Padre Island has been a pleasant place for our family gatherings for nearly 30 years. Being able to enjoy the beauty of water, air, open space (and growing population) has been a restorative experience. Driving now through a launch site to access Boca Chica beach seems absurd. The environment of marshland, beach and gulf waters should be protected!

I urge the FAA to conduct a new EIS for the SpaceX Starship/Super Heavy operations currently underway at SpaceX's Boca Chica site. From the 2014 FEIS, the objective, launch vehicle, and the size and scope is entirely different, which potentially may include off-shore launches via Super Heavy-class spaceports, Super Heavy re-landing on the launch stand, simultaneous launches, and a resort.

FAA should consider not just the "proposed project" and "no action" alternatives, but also other alternatives that include launches of Starship from an offshore platform or moving Starship launches to Cape Canaveral, for which the necessary infrastructure already exists and is situated further away from National Wildlife Refuges and/or state park land.

A new cumulative analysis needs to be conducted. A 3rd-party launch failure analysis is needed due to the proximity of Port Isabel, Long Island Village and potentially three LNG export terminals within five miles of the launch site. Additionally, an analysis of the potential impacts to the proposed Jupiter LLC project, a crude upgrading, processing and export facility which includes an offshore VLCC loading facility six miles offshore.

A new biological opinion is needed. The Starship is much larger, there will be more testing, more beach closures, and more traffic where endangered wildlife is present. More closures of Boca Chica beach will result in increased inaccessibility to monitoring of endangered sea turtle nesting sites.

Additionally, I request the FAA enforce and/or hold SpaceX accountable to their required mitigation.

Sincerely,

Patricia Daunt-Grogan
[REDACTED]

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Lillian Miller at Sierra Club at [REDACTED] or [REDACTED]

From: Cheryl Stevens ([REDACTED]) Sent You a Personal Message
< [REDACTED] >
Sent: Monday, November 1, 2021 8:47 AM
To: SpaceXBocaChica
Subject: Comment for Programmatic EA on Starship/Super Heavy launch operations

Dear Federal Aviation Administration,

The FAA is failing us.

A new EIS is needed and necessary. Since when does a company get 9 written re-evaluations of a project that bears NO resemblance to what they laid out in 2014?

SpaceX was dishonest about actual intentions and FAA is complicit by not holding them to the standard that they should be held to. SpaceX wants EAs rather than a full blown EIS. Why? Because it would take far too long and uncover things that could not be mitigated.

The FAA is doing what SpaceX wants rather than doing its job.

How many hours will they be allowed to limit the general public's access to a national wildlife refuge and a public beach?

Please stop rubber stamping all SpaceX plans. FAA should strive to maintain a professional distance and thoroughly assess actual damages to the environment and take more seriously the projected future damages to wildlife and people. Without a doubt, Starship will severely damage wildlife and the environment. And potential risk to human lives is high.

I urge the FAA to conduct a new EIS for the SpaceX Starship/Super Heavy operations currently underway at SpaceX's Boca Chica site. From the 2014 FEIS, the objective, launch vehicle, and the size and scope is entirely different, which potentially may include off-shore launches via Super Heavy-class spaceports, Super Heavy re-landing on the launch stand, simultaneous launches, and a resort.

FAA should consider not just the "proposed project" and "no action" alternatives, but also other alternatives that include launches of Starship from an offshore platform or moving Starship launches to Cape Canaveral, for which the necessary infrastructure already exists and is situated further away from National Wildlife Refuges and/or state park land.

A new cumulative analysis needs to be conducted. A 3rd-party launch failure analysis is needed due to the proximity of Port Isabel, Long Island Village and potentially three LNG export terminals within five miles of the launch site. Additionally, an analysis of the potential impacts to the proposed Jupiter LLC project, a crude upgrading, processing and export facility which includes an offshore VLCC loading facility six miles offshore.

A new biological opinion is needed. The Starship is much larger, there will be more testing, more beach closures, and more traffic where endangered wildlife is present. More closures of Boca Chica beach will result in increased inaccessibility to monitoring of endangered sea turtle nesting sites.

Additionally, I request the FAA enforce and/or hold SpaceX accountable to their required mitigation.

Sincerely,

Cheryl Stevens
[REDACTED]
[REDACTED]

[REDACTED]

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Lillian Miller at Sierra Club at [REDACTED] or [REDACTED]

From: John Grogan ([REDACTED]) Sent You a Personal Message <[REDACTED]>
Sent: Monday, November 1, 2021 10:00 AM
To: SpaceXBocaChica
Subject: Comment for Programmatic EA on Starship/Super Heavy launch operations

Dear Federal Aviation Administration,

I enjoy the natural beauty of Boca Chica and I know local people also do. Let's keep this natural beauty for our future generation.

I urge the FAA to conduct a new EIS for the SpaceX Starship/Super Heavy operations currently underway at SpaceX's Boca Chica site. From the 2014 FEIS, the objective, launch vehicle, and the size and scope is entirely different, which potentially may include off-shore launches via Super Heavy-class spaceports, Super Heavy re-landing on the launch stand, simultaneous launches, and a resort.

FAA should consider not just the "proposed project" and "no action" alternatives, but also other alternatives that include launches of Starship from an offshore platform or moving Starship launches to Cape Canaveral, for which the necessary infrastructure already exists and is situated further away from National Wildlife Refuges and/or state park land.

A new cumulative analysis needs to be conducted. A 3rd-party launch failure analysis is needed due to the proximity of Port Isabel, Long Island Village and potentially three LNG export terminals within five miles of the launch site. Additionally, an analysis of the potential impacts to the proposed Jupiter LLC project, a crude upgrading, processing and export facility which includes an offshore VLCC loading facility six miles offshore.

A new biological opinion is needed. The Starship is much larger, there will be more testing, more beach closures, and more traffic where endangered wildlife is present. More closures of Boca Chica beach will result in increased inaccessibility to monitoring of endangered sea turtle nesting sites.

Additionally, I request the FAA enforce and/or hold SpaceX accountable to their required mitigation.

Sincerely,

John Grogan
[REDACTED]

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Lillian Miller at Sierra Club at [REDACTED] or [REDACTED]

From: Hayley Austin ([REDACTED]) Sent You a Personal Message
< [REDACTED] >
Sent: Monday, November 1, 2021 10:58 AM
To: SpaceXBocaChica
Subject: Comment for Programmatic EA on Starship/Super Heavy launch operations

Dear Federal Aviation Administration,

I'm was born and raised in Texas, and I strongly encourage the FAA to undertake a new EIS for the SpaceX Starship Operation.

Boca Chica State Park is a fragile ecological environment home to 34 rare and protected species that could be affected by the SpaceX project.

There are not many places that we have set aside for environmental protection, and it is insane to allow major industrial development in the middle of a wildlife refuge.

It's an outrage to allow the launch site 300 feet from Boca Chico State Park.

It's an outrage to put the ambitions of a billionaire who wants to colonize space, ahead of the rights of the people, animals and environments on the planet that we already have.

If the FAA allows this project to move forward without at full EIS, which takes safety risks to the public, socioeconomic impacts, and environmental justice into account, they will be making a historic mistake.

I urge the FAA to conduct a new EIS for the SpaceX Starship/Super Heavy operations currently underway at SpaceX's Boca Chica site. From the 2014 FEIS, the objective, launch vehicle, and the size and scope is entirely different, which potentially may include off-shore launches via Super Heavy-class spaceports, Super Heavy re-landing on the launch stand, simultaneous launches, and a resort.

FAA should consider not just the "proposed project" and "no action" alternatives, but also other alternatives that include launches of Starship from an offshore platform or moving Starship launches to Cape Canaveral, for which the necessary infrastructure already exists and is situated further away from National Wildlife Refuges and/or state park land.

A new cumulative analysis needs to be conducted. A 3rd-party launch failure analysis is needed due to the proximity of Port Isabel, Long Island Village and potentially three LNG export terminals within five miles of the launch site. Additionally, an analysis of the potential impacts to the proposed Jupiter LLC project, a crude upgrading, processing and export facility which includes an offshore VLCC loading facility six miles offshore.

A new biological opinion is needed. The Starship is much larger, there will be more testing, more beach closures, and more traffic where endangered wildlife is present. More closures of Boca Chica beach will result in increased inaccessibility to monitoring of endangered sea turtle nesting sites.

Additionally, I request the FAA enforce and/or hold SpaceX accountable to their required mitigation.

Sincerely,

Hayley Austin



This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Lillian Miller at Sierra Club at [REDACTED] or [REDACTED]

From: Cynthia Wood ([REDACTED]) Sent You a Personal Message
<[REDACTED]>
Sent: Monday, November 1, 2021 11:11 AM
To: SpaceXBocaChica
Subject: Comment for Programmatic EA on Starship/Super Heavy launch operations

Dear Federal Aviation Administration,

Please leave Texas out of the space age. Boca Chica State Park is home to 34 rare and protected species that could be affected by the SpaceX project.

There are not many places that we have set aside for environmental protection, and it is insane to allow major industrial development in the middle of a wildlife refuge.

It's an outrage to put the ambitions of a billionaire who wants to colonize space, ahead of the rights of the people, animals and environments on the planet that we already have.

If the FAA allows this project to move forward without a full EIS, which takes safety risks to the public, socioeconomic impacts, and environmental justice into account, they will be making a historic mistake.

I urge the FAA to conduct a new EIS for the SpaceX Starship/Super Heavy operations currently underway at SpaceX's Boca Chica site. From the 2014 FEIS, the objective, launch vehicle, and the size and scope is entirely different, which potentially may include off-shore launches via Super Heavy-class spaceports, Super Heavy re-landing on the launch stand, simultaneous launches, and a resort.

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A new biological opinion is needed. The Starship is much larger, there will be more testing, more beach closures, and more traffic where endangered wildlife is present. More closures of Boca Chica beach will result in increased inaccessibility to monitoring of endangered sea turtle nesting sites.

Additionally, I request the FAA enforce and/or hold SpaceX accountable to their required mitigation.

Sincerely,

Cynthia Wood
[REDACTED]

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Lillian Miller at Sierra Club at [REDACTED] or [REDACTED]

From: John Austin ([REDACTED]) Sent You a Personal Message
< [REDACTED] >
Sent: Monday, November 1, 2021 11:27 AM
To: SpaceXBocaChica
Subject: Comment for Programmatic EA on Starship/Super Heavy launch operations

Dear Federal Aviation Administration,

Proceeding without a new EIS a profound mistake.
Wrong place for the project.
Woefully misguided to allow the rockets in proximity to Boca Chica State Park barring further review.
Thanks,
John E. Austin

I urge the FAA to conduct a new EIS for the SpaceX Starship/Super Heavy operations currently underway at SpaceX's Boca Chica site. From the 2014 FEIS, the objective, launch vehicle, and the size and scope is entirely different, which potentially may include off-shore launches via Super Heavy-class spaceports, Super Heavy re-landing on the launch stand, simultaneous launches, and a resort.

FAA should consider not just the "proposed project" and "no action" alternatives, but also other alternatives that include launches of Starship from an offshore platform or moving Starship launches to Cape Canaveral, for which the necessary infrastructure already exists and is situated further away from National Wildlife Refuges and/or state park land.

A new cumulative analysis needs to be conducted. A 3rd-party launch failure analysis is needed due to the proximity of Port Isabel, Long Island Village and potentially three LNG export terminals within five miles of the launch site. Additionally, an analysis of the potential impacts to the proposed Jupiter LLC project, a crude upgrading, processing and export facility which includes an offshore VLCC loading facility six miles offshore.

A new biological opinion is needed. The Starship is much larger, there will be more testing, more beach closures, and more traffic where endangered wildlife is present. More closures of Boca Chica beach will result in increased inaccessibility to monitoring of endangered sea turtle nesting sites.

Additionally, I request the FAA enforce and/or hold SpaceX accountable to their required mitigation.

Sincerely,

John Austin
[REDACTED]

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Lillian Miller at Sierra Club at [REDACTED] or [REDACTED]

From: BIEL Adolph ([REDACTED]) Sent You a Personal Message <[REDACTED]>
Sent: Monday, November 1, 2021 11:53 AM
To: SpaceXBocaChica
Subject: Comment for Programmatic EA on Starship/Super Heavy launch operations

Dear Federal Aviation Administration,

Destruction of the pristine environment of Port Isabel and South Padre Island.

I urge the FAA to conduct a new EIS for the SpaceX Starship/Super Heavy operations currently underway at SpaceX's Boca Chica site. From the 2014 FEIS, the objective, launch vehicle, and the size and scope is entirely different, which potentially may include off-shore launches via Super Heavy-class spaceports, Super Heavy re-landing on the launch stand, simultaneous launches, and a resort.

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A new biological opinion is needed. The Starship is much larger, there will be more testing, more beach closures, and more traffic where endangered wildlife is present. More closures of Boca Chica beach will result in increased inaccessibility to monitoring of endangered sea turtle nesting sites.

Additionally, I request the FAA enforce and/or hold SpaceX accountable to their required mitigation.

Sincerely,

BIEL Adolph
[REDACTED]

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Lillian Miller at Sierra Club at [REDACTED] or [REDACTED]

From: Brandon Marks ([REDACTED]) Sent You a Personal Message
< [REDACTED] >
Sent: Monday, November 1, 2021 12:01 PM
To: SpaceXBocaChica
Subject: Comment for Programmatic EA on Starship/Super Heavy launch operations

Dear Federal Aviation Administration,

I urge the FAA to conduct a new EIS for the SpaceX Starship/Super Heavy operations currently underway at SpaceX's Boca Chica site. From the 2014 FEIS, the objective, launch vehicle, and the size and scope is entirely different, which potentially may include off-shore launches via Super Heavy-class spaceports, Super Heavy re-landing on the launch stand, simultaneous launches, and a resort.

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A new biological opinion is needed. The Starship is much larger, there will be more testing, more beach closures, and more traffic where endangered wildlife is present. More closures of Boca Chica beach will result in increased inaccessibility to monitoring of endangered sea turtle nesting sites.

Additionally, I request the FAA enforce and/or hold SpaceX accountable to their required mitigation.

Sincerely,

Brandon Marks
[REDACTED]

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Lillian Miller at Sierra Club at [REDACTED] or [REDACTED]

From: Julie Edelstein-Best ([REDACTED]) Sent You a Personal Message
<[REDACTED]>
Sent: Monday, November 1, 2021 1:08 PM
To: SpaceXBocaChica
Subject: Comment for Programmatic EA on Starship/Super Heavy launch operations

Dear Federal Aviation Administration,

As a resident of South Padre Island I am concerned for the structure of our home as the Space X lift offs and landings cause quite a lot of vibration. I am also concerned for our wildlife whether in the ocean or on land. We have witnessed with one recent explosion, debris was found in a several mile radius?. quite a hazard to us all. I am quite concerned what will happen with larger and more powerful rockets. When the Space X project first broke ground, I do not believe it was represented to the public as it wants to become now. I urge the FAA to conduct a new EIS.

I urge the FAA to conduct a new EIS for the SpaceX Starship/Super Heavy operations currently underway at SpaceX's Boca Chica site. From the 2014 FEIS, the objective, launch vehicle, and the size and scope is entirely different, which potentially may include off-shore launches via Super Heavy-class spaceports, Super Heavy re-landing on the launch stand, simultaneous launches, and a resort.

FAA should consider not just the "proposed project" and "no action" alternatives, but also other alternatives that include launches of Starship from an offshore platform or moving Starship launches to Cape Canaveral, for which the necessary infrastructure already exists and is situated further away from National Wildlife Refuges and/or state park land.

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A new biological opinion is needed. The Starship is much larger, there will be more testing, more beach closures, and more traffic where endangered wildlife is present. More closures of Boca Chica beach will result in increased inaccessibility to monitoring of endangered sea turtle nesting sites.

Additionally, I request the FAA enforce and/or hold SpaceX accountable to their required mitigation.

Sincerely,

Julie Edelstein-Best
[REDACTED]

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Lillian Miller at Sierra Club at [REDACTED] or [REDACTED]

From: Anita Knight ([REDACTED]) Sent You a Personal Message
< [REDACTED] >
Sent: Monday, November 1, 2021 2:33 PM
To: SpaceXBocaChica
Subject: Comment for Programmatic EA on Starship/Super Heavy launch operations

Dear Federal Aviation Administration,

I empathize with the Carrizo-Comecrudo Tribe in that area, and their sacred duty to protect their lands.

I urge the FAA to conduct a new EIS for the SpaceX Starship/Super Heavy operations currently underway at SpaceX's Boca Chica site. From the 2014 FEIS, the objective, launch vehicle, and the size and scope is entirely different, which potentially may include off-shore launches via Super Heavy-class spaceports, Super Heavy re-landing on the launch stand, simultaneous launches, and a resort.

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A new biological opinion is needed. The Starship is much larger, there will be more testing, more beach closures, and more traffic where endangered wildlife is present. More closures of Boca Chica beach will result in increased inaccessibility to monitoring of endangered sea turtle nesting sites.

Additionally, I request the FAA enforce and/or hold SpaceX accountable to their required mitigation.

Sincerely,

Anita Knight
[REDACTED]

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Lillian Miller at Sierra Club at [REDACTED] or [REDACTED]

From: Donna Hoffman ([REDACTED]) Sent You a Personal Message
<[REDACTED]>
Sent: Monday, November 1, 2021 2:37 PM
To: SpaceXBocaChica
Subject: Comment for Programmatic EA on Starship/Super Heavy launch operations

Dear Federal Aviation Administration,

I'm from the Texas Gulf Coast and have enjoyed visiting and want to continue visiting South Padre Island. Space Ex would destroy that much needed and economically important experience. It would harm the lives of people and wildlife. FAA, Say no to space travel in particular this massively dangerous project, until we have thoroughly addressed our challenges with Climate Change at home. There are many solutions. We need your help to stop this project today. Thank you.
Donna

I urge the FAA to conduct a new EIS for the SpaceX Starship/Super Heavy operations currently underway at SpaceX's Boca Chica site. From the 2014 FEIS, the objective, launch vehicle, and the size and scope is entirely different, which potentially may include off-shore launches via Super Heavy-class spaceports, Super Heavy re-landing on the launch stand, simultaneous launches, and a resort.

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A new biological opinion is needed. The Starship is much larger, there will be more testing, more beach closures, and more traffic where endangered wildlife is present. More closures of Boca Chica beach will result in increased inaccessibility to monitoring of endangered sea turtle nesting sites.

Additionally, I request the FAA enforce and/or hold SpaceX accountable to their required mitigation.

Sincerely,

Donna Hoffman
[REDACTED]

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Lillian Miller at Sierra Club at [REDACTED] or [REDACTED]

From: Rebecca Hughes ([REDACTED]) Sent You a Personal Message
<[REDACTED]>
Sent: Monday, November 1, 2021 2:55 PM
To: SpaceXBocaChica
Subject: Comment for Programmatic EA on Starship/Super Heavy launch operations

Dear Federal Aviation Administration,

Please protect our Texas State Park Land and National Wildlife Refuges for our younger generations to enjoy. I want my grandchildren to enjoy our Parks and refuges. Move Starship to Cape Canaveral where they are ready for space launches.

I urge the FAA to conduct a new EIS for the SpaceX Starship/Super Heavy operations currently underway at SpaceX's Boca Chica site. From the 2014 FEIS, the objective, launch vehicle, and the size and scope is entirely different, which potentially may include off-shore launches via Super Heavy-class spaceports, Super Heavy re-landing on the launch stand, simultaneous launches, and a resort.

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A new biological opinion is needed. The Starship is much larger, there will be more testing, more beach closures, and more traffic where endangered wildlife is present. More closures of Boca Chica beach will result in increased inaccessibility to monitoring of endangered sea turtle nesting sites.

Additionally, I request the FAA enforce and/or hold SpaceX accountable to their required mitigation.

Sincerely,

Rebecca Hughes
[REDACTED]

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Lillian Miller at Sierra Club at [REDACTED] or [REDACTED]

From: Teresa Carrillo ([REDACTED]) Sent You a Personal Message
< [REDACTED] >
Sent: Monday, November 1, 2021 3:18 PM
To: SpaceXBocaChica
Subject: Comment for Programmatic EA on Starship/Super Heavy launch operations

Dear Federal Aviation Administration,

Dear Senators, Congressmen/women, State Representatives, State Senators, Cameron County Judge, Cameron County Commissioners, and any other elected or appointed official who should be regulating this nightmare - Enforce the rules of the permit, tighten the permit, stop letting the road closure abuse, the noise abuse, the quality of life to humans abuse, the wildlife killing and harming abuse, the wetland destruction abuse, the USFWS sanctuary abuse, the TPWD sanctuary abuse, and any other kind of abuse - stop this abuse from continuing unabated! Hold space x accountable for living on THIS PLANET! It's not all about some mythical jobs, and mythical space trips! They are destroying the planet we live on now. Pay attention folks. Do NOT ISSUE ANOTHER PERMIT OR MODIFICATION

I urge the FAA to conduct a new EIS for the SpaceX Starship/Super Heavy operations currently underway at SpaceX's Boca Chica site. From the 2014 FEIS, the objective, launch vehicle, and the size and scope is entirely different, which potentially may include off-shore launches via Super Heavy-class spaceports, Super Heavy re-landing on the launch stand, simultaneous launches, and a resort.

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A new biological opinion is needed. The Starship is much larger, there will be more testing, more beach closures, and more traffic where endangered wildlife is present. More closures of Boca Chica beach will result in increased inaccessibility to monitoring of endangered sea turtle nesting sites.

Additionally, I request the FAA enforce and/or hold SpaceX accountable to their required mitigation.

Sincerely,

Teresa Carrillo
[REDACTED]

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Lillian Miller at Sierra Club at [REDACTED] or [REDACTED]

From: Robert Rosa ([REDACTED]) Sent You a Personal Message
<[REDACTED]>
Sent: Monday, November 1, 2021 4:24 PM
To: SpaceXBocaChica
Subject: Comment for Programmatic EA on Starship/Super Heavy launch operations

Dear Federal Aviation Administration,

You all are worried about space while you are continuing to destroy the planet you live. Instead of destroying land air fauna and creatures try spending all that money to restore all you're destroying

I urge the FAA to conduct a new EIS for the SpaceX Starship/Super Heavy operations currently underway at SpaceX's Boca Chica site. From the 2014 FEIS, the objective, launch vehicle, and the size and scope is entirely different, which potentially may include off-shore launches via Super Heavy-class spaceports, Super Heavy re-landing on the launch stand, simultaneous launches, and a resort.

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A new cumulative analysis needs to be conducted. A 3rd-party launch failure analysis is needed due to the proximity of Port Isabel, Long Island Village and potentially three LNG export terminals within five miles of the launch site. Additionally, an analysis of the potential impacts to the proposed Jupiter LLC project, a crude upgrading, processing and export facility which includes an offshore VLCC loading facility six miles offshore.

A new biological opinion is needed. The Starship is much larger, there will be more testing, more beach closures, and more traffic where endangered wildlife is present. More closures of Boca Chica beach will result in increased inaccessibility to monitoring of endangered sea turtle nesting sites.

Additionally, I request the FAA enforce and/or hold SpaceX accountable to their required mitigation.

Sincerely,

Robert Rosa
[REDACTED]

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Lillian Miller at Sierra Club at [REDACTED] or [REDACTED]

From: Icelica DeLaTorre ([REDACTED]) Sent You a Personal Message
<[REDACTED]>
Sent: Monday, November 1, 2021 5:12 PM
To: SpaceXBocaChica
Subject: Comment for Programmatic EA on Starship/Super Heavy launch operations

Dear Federal Aviation Administration,

I urge the FAA to conduct a new EIS for the SpaceX Starship/Super Heavy operations currently underway at SpaceX's Boca Chica site. From the 2014 FEIS, the objective, launch vehicle, and the size and scope is entirely different, which potentially may include off-shore launches via Super Heavy-class spaceports, Super Heavy re-landing on the launch stand, simultaneous launches, and a resort.

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A new biological opinion is needed. The Starship is much larger, there will be more testing, more beach closures, and more traffic where endangered wildlife is present. More closures of Boca Chica beach will result in increased inaccessibility to monitoring of endangered sea turtle nesting sites.

Additionally, I request the FAA enforce and/or hold SpaceX accountable to their required mitigation.

Sincerely,

Icelica DeLaTorre
[REDACTED]

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Lillian Miller at Sierra Club at [REDACTED] or [REDACTED]

From: Kathy Pinckney ([REDACTED]) Sent You a Personal Message
<[REDACTED]>
Sent: Monday, November 1, 2021 5:51 PM
To: SpaceXBocaChica
Subject: Comment for Programmatic EA on Starship/Super Heavy launch operations

Dear Federal Aviation Administration,

I urge the FAA to conduct a new EIS for the SpaceX Starship/Super Heavy operations currently underway at SpaceX's Boca Chica site. From the 2014 FEIS, the objective, launch vehicle, and the size and scope is entirely different, which potentially may include off-shore launches via Super Heavy-class spaceports, Super Heavy re-landing on the launch stand, simultaneous launches, and a resort.

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A new biological opinion is needed. The Starship is much larger, there will be more testing, more beach closures, and more traffic where endangered wildlife is present. More closures of Boca Chica beach will result in increased inaccessibility to monitoring of endangered sea turtle nesting sites.

Additionally, I request the FAA enforce and/or hold SpaceX accountable to their required mitigation.

Sincerely,

Kathy Pinckney
[REDACTED]

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Lillian Miller at Sierra Club at [REDACTED] or [REDACTED]

From: Jane Decker ([REDACTED]) Sent You a Personal Message
<[REDACTED]>
Sent: Monday, November 1, 2021 6:39 PM
To: SpaceXBocaChica
Subject: Comment for Programmatic EA on Starship/Super Heavy launch operations

Dear Federal Aviation Administration,

Our south Texas beaches, animals, habitats are important and shouldn't be destroyed, even by space hardware.

I urge the FAA to conduct a new EIS for the SpaceX Starship/Super Heavy operations currently underway at SpaceX's Boca Chica site. From the 2014 FEIS, the objective, launch vehicle, and the size and scope is entirely different, which potentially may include off-shore launches via Super Heavy-class spaceports, Super Heavy re-landing on the launch stand, simultaneous launches, and a resort.

FAA should consider not just the "proposed project" and "no action" alternatives, but also other alternatives that include launches of Starship from an offshore platform or moving Starship launches to Cape Canaveral, for which the necessary infrastructure already exists and is situated further away from National Wildlife Refuges and/or state park land.

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A new biological opinion is needed. The Starship is much larger, there will be more testing, more beach closures, and more traffic where endangered wildlife is present. More closures of Boca Chica beach will result in increased inaccessibility to monitoring of endangered sea turtle nesting sites.

Additionally, I request the FAA enforce and/or hold SpaceX accountable to their required mitigation.

Sincerely,

Jane Decker
[REDACTED]

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Lillian Miller at Sierra Club at [REDACTED] or [REDACTED]

From: Willis Rachel ([REDACTED]) Sent You a Personal Message
<[REDACTED]>
Sent: Monday, November 1, 2021 7:17 PM
To: SpaceXBocaChica
Subject: Comment for Programmatic EA on Starship/Super Heavy launch operations

Dear Federal Aviation Administration,

We have to consider our actions today and the impact they have on the future. So many times in our history we have made this grave error in judgement. We have put profits and aspirations of power before considering what we are taking from our future. We have added too many species to our extinct list and we continue to disrespect our environment. At some point we will pay that price and we cannot say "as long as that day is not today". Please reconsider the location for this launch site. There must be other sites, perhaps less convenient or requiring more money to develop, but a better choice than land already identified as important for our environment.

I urge the FAA to conduct a new EIS for the SpaceX Starship/Super Heavy operations currently underway at SpaceX's Boca Chica site. From the 2014 FEIS, the objective, launch vehicle, and the size and scope is entirely different, which potentially may include off-shore launches via Super Heavy-class spaceports, Super Heavy re-landing on the launch stand, simultaneous launches, and a resort.

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A new biological opinion is needed. The Starship is much larger, there will be more testing, more beach closures, and more traffic where endangered wildlife is present. More closures of Boca Chica beach will result in increased inaccessibility to monitoring of endangered sea turtle nesting sites.

Additionally, I request the FAA enforce and/or hold SpaceX accountable to their required mitigation.

Sincerely,

Willis Rachel
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Lillian Miller at Sierra Club at [REDACTED] or [REDACTED]

From: Aurora Martinez ([REDACTED]) Sent You a Personal Message
<[REDACTED]>
Sent: Monday, November 1, 2021 8:01 PM
To: SpaceXBocaChica
Subject: Comment for Programmatic EA on Starship/Super Heavy launch operations

Dear Federal Aviation Administration,

We have too much to lose down in our little paradise. Please do not take any shortcuts at the expense of our wildlife and nature. Yes, our homes could be rebuilt but we could never recover the wildlife in its current state if due diligence is not done

I urge the FAA to conduct a new EIS for the SpaceX Starship/Super Heavy operations currently underway at SpaceX's Boca Chica site. From the 2014 FEIS, the objective, launch vehicle, and the size and scope is entirely different, which potentially may include off-shore launches via Super Heavy-class spaceports, Super Heavy re-landing on the launch stand, simultaneous launches, and a resort.

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Additionally, I request the FAA enforce and/or hold SpaceX accountable to their required mitigation.

Sincerely,

Aurora Martinez
[REDACTED]


This message was sent by KnowWho, as a service provider, on behalf of an individual associated with Sierra Club. If you need more information, please contact Lillian Miller at Sierra Club at [REDACTED] or [REDACTED]

From: [REDACTED]
Sent: Monday, November 1, 2021 11:28 AM
To: SpaceXBocaChica
Subject: Comment letter on SpaceX EA
Attachments: SpaceXEAltr.docx; Cameron County DA.pdf; USFWSletter.pdf

Please find my comment letter and attachments on the Space X EA attached. I would appreciate being added to any email lists that are compiled about this proposed action.

Thank you.

Dinah Bear
[REDACTED]


November 1, 2021

Ms. Stacey Zee
SpaceX PEA, c/o ICF
9300 Lee Highway
Fairfax, VA 22031.

RE: Comments on Environmental Assessment for SpaceX Proposal
Via email at SpaceXBocaChica@icf.com.

Dear Ms. Zee:

I write to express concern with important elements of the FAA's process for implementing the National Environmental Policy Act (NEPA) proposal to decide whether to approve SpaceX Starship/Super Heavy Launch Vehicle Program at the SpaceX Boca Chica Launch Site in Cameron County, Texas . In particular, I am concerned that the FAA demonstrates too much deference for the applicant in the NEPA process. Further, the potential effects from this proposed action require that the FAA should commence preparation of an environmental impact statement.

For the record, I served as Deputy General Counsel for the Council on Environmental Quality (CEQ) from May 1981 to January 1983 and as CEQ's General Counsel from January 1983 to 1993. I served again as General Counsel from January 1995 through 2007. During these periods, I had substantial responsibility for oversight of the National Environmental Policy Act (NEPA).

I have continued to stay active in the field professionally and have had both professional and personal reasons to visit the Rio Grande Valley in Texas several times, beginning in 2008. Those trips included a visit to the Boca Chica beach area. While I have not travelled for any purpose since the beginning of the Covid-19 pandemic, I plan to resume travelling in the near future and intend to visit the Boca Chica again. I am keenly aware of the unique ecological features of the Rio Grande Valley and Boca Chica, including very rare wildlife and unique habitat, as well as the rich cultural and indigenous traditions of the area. Indeed, the purpose of my personal travel there has been to see and enjoy the unique wildlife of the lower Rio Grande Valley, especially in the national wildlife refuges, as well as to learn more about the history and culture of this interesting area and that is why I plan to return.

Appropriate Role of the Applicant and Analysis of Reasonable Alternatives

While applicants for proposed actions are permitted to draft environmental assessments, the FAA has taken, as it must, responsibility for the document. The FAA has also appropriately warned SpaceX that the launch tower and other infrastructure it has or is constructing has not been approved, that SpaceX is proceeding at its own risk in undertaking that construction, and that Space X's proposed actions are not covered by the 2014 environmental impact statement (EIS).

It is disappointing, however, that the FAA appears to have inappropriately deferred to Space X's evaluation of reasonable alternatives to the proposed action. Without the requirement to analyze all reasonable alternatives as rigorously and objectively as possible, the NEPA process becomes merely an evaluation of the impacts of a decision already made, not a process for making a decision in accord with this nation's national environmental policies.

The statutory basis for alternatives analysis in EA requires that agencies, "study, develop and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources."¹ Certainly, the situation at issue involves serious unresolved conflicts. The fact that the proposal comes from an applicant instead of the FAA does not lessen the FAA's responsibility to take a "hard look"² at alternatives to the proposed action, especially those that would mitigate some of the serious effects of Space X's ongoing and potentially expanded operations.³

In the draft EA, the FAA examines only two alternatives – SpaceX's alternative and the no action alternative. The brief discussion of "Alternatives Considered but Eliminated from Further Consideration" in Section 2.3 of the EA succinctly reveals how completely the FAA ceded the alternatives analysis to Space X. It begins by stating that to meet "the purpose and need of SpaceX's proposed Starship/SuperHeavy launch program, **Space X determined** that action alternatives must meet the following criteria"⁴ But there is no legal authority that permits agencies to simply adopt the purpose and need statement of an applicant; indeed, federal courts have cautioned agencies not to frame the purpose and need statement in a way that would "define competing 'reasonable alternatives' out of consideration (and even out of existence)."⁵ The criteria that follow in the EA are clearly and openly framed by SpaceX's needs and evaluation alone ("**SpaceX evaluated** its existing launch facilities **SpaceX dismissed** these launch sites from detailed review."⁶) But while the FAA must understand the applicant's goals, nothing in

¹ 42 U.S.C. § 4332(E).

² *National Audubon Soc'y v. Department of Navy*, 422 F.3d 174, 187 (4th Cir. 2005) (The hallmarks of a "hard look" are thorough investigation into environmental impacts and forthright acknowledgment of potential environmental harms." (cites omitted).

³ *Van Abbema v. Fornell*, 807 F.2d 633 (7th Cir. 1986). *See also, Davis v. Mineta*, 302 F.3d 1104, 1120 (10th Cir. 2002) ("A properly-drafted EA must include a discussion of appropriate alternatives to the proposed action.")

⁴ EA, Section 2.3 p. 34 (bolding added).

⁵ *Simmons v. U.S. Army Corps of Engineers*, 120 F.3d 664 (7th Cir. 1997).

⁶ EA, Section 2.3, p. 35 (bolding added).

NEPA law permits the FAA to cede evaluation of alternatives solely based on the applicant's evaluation of its own purpose and need. Indeed, the purpose and need statement and EA violates the FAA's own NEPA procedures that states:

Purpose and Need. This section briefly describes the underlying purpose and need for the Federal action. It presents the problem being addressed and describes what the FAA is trying to achieve with the proposed action. The purpose and need for the proposed action must be clearly explained and stated in terms that are understandable to individuals who are not familiar with aviation or commercial aerospace activities. To provide context while keeping this section of the EA brief, the FAA may incorporate by reference any supporting data, inventories, assessments, analyses, or studies.⁷

The FAA Order contains the legally appropriate direction – to identify the federal purpose and need; that is, what the FAA is trying to achieve with this proposed action. Unfortunately, this monumentally inadequate consideration of alternatives leads the reader to conclude that, despite its statements to the contrary, the FAA is trying to get to an approval of SpaceX's proposal without a thoughtful, objective consideration of alternatives.

The FAA Should Move Directly to Publication of Notice of Intent to Prepare an Environmental Impact Statement

Based on the information presented in the EA, I strongly urge the FAA to move forward to noticing preparation of an EIS. On its face, the EA and the accompanying Biological Assessment demonstrates that this proposed action will adversely affect eighteen historic properties. Further, it is "likely to adversely affect" the Kemp's Ridley Sea Turtle, the Leatherback Sea Turtle, the Hawksbill Sea turtle, the ocelot, the Gulf Coast jaguarundi and the Northern Aplomado Falcon, all endangered species, as well as the Piping Plover, the Red Knot, the Green Sea Turtle and the Loggerhead Sea Turtle, all listed as threatened species under the Endangered Species Act. The action would increase the already constrained access to public land and add serious noise impacts over communities and public lands. These projected impacts far exceed, in my experience, the threshold for preparation of an EIS.

Then there is this truly unique standard by which the EA attempts to conclude that the proposed action is not expected to result in significant climate-related impacts because the amount of greenhouse gases (GHG) projected to be emitted from this project – approximately 47,522 metric tons of carbon dioxide equivalent per year – "is substantially less than the total GHG emissions generated by the United States in 2018."⁸ This is a remarkable statement. FERC does not and cannot, to my knowledge, cite any legal precedent for the idea that an agency is excused from analyzing climate impacts

⁷ FAA Order 1050, Section 6-2.1(c).

⁸ EA, Table S-3, p. S-11.

under NEPA if a proposed action is likely to emit less than the United States' total GHG emissions

The EA also states that, “. . . at present, no methodology exists that would enable estimating the specific impacts (if any) that this change in GHGs would produce locally or globally.”⁹ The federal courts have long warned against agencies hiding behind the rubric of uncertainty to avoid any type of analysis of climate change. For example, in *Mid States Coalition for Progress v. Surface Transportation Board*,¹⁰ the Court of Appeals for the Eighth Circuit dealt with the proposed expansion of a railroad specifically intended to transport low sulfur coal. The Court addressed the lead agency's reluctance to characterize the climate change impacts that would be caused by the increased availability of coal, driving the construction of additional power plants and associated impacts. The applicant plead uncertainty as to where those new power plants would be, arguing that it was not possible to calculate GHG emissions with certainty. As the Court stated (18 years ago!), even if that assertion was accurate, it shows only that the extent of the effect is speculative. “The nature of the effect, however, is far from speculative. “ And indeed, a number of federal court decisions have held that agencies must do far more than simply quantify GHG. They must analyze and present in NEPA analyses the “*actual* environmental effects resulting from . . . emissions of GHG.”¹¹ The FAA must do no less here.

The Applicant's Failure to Meet Closure Limitations Set forth in the 2014 EIS and other Actions Should Increase the FAA's Independent Analysis and Oversight in this Action

I am also concerned about the many indications that SpaceX simply chooses to comply or not with FAA requirements when and if it is convenient. For example, according to public reports, SpaceX violated its launch license in December, 2020¹², constructed a new tower despite knowing that the FAA had not approved it,¹³ has allegedly and repeatedly violated a Memorandum of Agreement between Cameron County and the Texas General Land Office that sets forth requirements that are supposed to be met by SpaceX before the public is denied access to Boca Chica beach,¹⁴ and actually attempted to thwart an investigation by the Cameron County District Attorney into these allegations by, among other things, denying access to County staff to County

⁹ EA, p. 46.

¹⁰ 345 F.3d 520 (8th Cir. 2003).

¹¹ *Sierra Club v. FERC*, 867 F.3d 1357, 1374-75 (D.C. Cir. 2017); *see also*, *Center for Biological Diversity v. NHTSA*, 538 F.3d 1172, 1216 (9th Cir. 2008), “The EA does not discuss the *actual* environmental effects resulting from those emissions or place those emissions in context of other CAFÉ rulemakings.” (emphasis in original).

¹² <https://www.theverge.com/2021/1/29/22256657/spacex-launch-violation-explosive-starship-faa-investigation-elon-musk>.

¹³ <https://www.reuters.com/business/aerospace-defense/faa-warns-spacex-it-has-not-approved-new-texas-launch-site-tower-2021-07-14/>

¹⁴ Letter from Bill Berg, Agent, Save RGV to Luis Saenz, Cameron County District Attorney and Eddie Trevino, Jr., Cameron County Judge, June 3, 2021).

roads.¹⁵ Further, Space X's activities have significantly impeded access to areas of the Lower Rio Grande Valley National Wildlife Refuge, as well as causing considerable damage to tidal flats and other assets in the national wildlife refuge. These impacts have been characterized as "both '*adverse*' and '*severe*' impacts to Refuge public use, management, wildlife, and habitat."¹⁶ This is an unacceptable degradation of public resources for private gain. Additionally, these actions undermine the public's ability to have confidence that the FAA will be able to effectively manage its responsibilities vis-a-vi Space X. Further NEPA analysis and, importantly, conditions set forth in the FAA's final decision should reflect the applicant's record of compliance and implement appropriate safeguards.

I do understand that that there is a great deal of pressure on the FAA about this proposed action. Please do the right thing and initiate preparation of an EIS for this proposed action. We need to do the right thing on earth right now.

Sincerely,

Dinah Bear

Dinah Bear

cc: Ms. Katherine B. Andrus Manager, Environmental Policy and Operations, Office of Environment and Energy (AEE-400)

Attachments: Letters referenced at footnotes 15 and 16 below.

¹⁵ Letter from Louis V. Saenz, Cameron County District Attorney to Shyamal Patel, Senior Director-Starship Operations SpaceX, June 11, 2011 (attached).

¹⁶ Letter from Manuel Perez III, Acting Complex Refuge Manager, South Texas Refuge Complex, to Daniel P. Murray, Manager, Safety Division, FAA, October 7, 2020 (attached).



CAMERON COUNTY DISTRICT ATTORNEY

Luis V. Saenz

District Attorney

June 11, 2021

**VIA ELECTRONIC MAIL &
HAND DELIVERY**

Shyamal Patel
Senior Director - Starship Operations
Space Exploration Technologies Corp.
Iba Space-X
sam.patel@spacex.com

Re: COMPLAINT FROM SAVE RGV

Mr. Patel:

On June 3, 2021, *Save RGV* sent Cameron County Judge Eddie Trevino and me a letter outlining concerns about Space-X operations/facility in the Boca Chica Beach Area of Cameron County, Texas.

One of the concerns was a complaint that Space-X and its private security personnel have been closing and/or denying public access to Remedios Avenue and Joanna Street. These two roads are county roads off of State Highway 1 at or near the following coordinates: 25.98524169806188, -97.18868123113385.

Giving Space-X the benefit of the doubt, on June 9, 2021, my staff visited the Space-X Area to verify the veracity of the complaint. I have been notified that after turning off of State Highway 1 onto Remedios Avenue my staff was immediately approached, stopped, and detained by Mr. Oscar Lopez.¹ Mr. Lopez stated that he was a member of Space-X

¹ I understand that Mr. Lopez was wearing, what appeared to be, a tactical bulletproof vest. I have been told by my staff that while he did not appear to be outwardly armed with a firearm, a

Cameron County Administration Building

Security, that my staff could not use the road, and that they had to turn around and return to Highway 4. After my staff informed him that they were with the District Attorney's Office and merely following up on a citizen complaint, he represented that "they were the type that was going to make a big deal about things." My staff informed Mr. Lopez, his supervisor, and the head of your security team, that Remedios Avenue is a public road, and that neither the Cameron County Sheriff nor Cameron County Commissioner's Court had authorized the closure of said road.²

As shared with your staff, he advised, the actions of Space-X and its staff/employees/agents/contractors may constitute crimes in the State of Texas. Specifically

- **OBSTRUCTING A HIGHWAY OR OTHER PASSAGEWAY:** It is a Class B Misdemeanor for a person to without legal privilege or authority to intentionally, knowingly, or recklessly obstruct

members of the security team commented to them that they, the security officer, had just returned from Afghanistan. We are aware your company is registered with the Texas Department of Public Safety as a Private Business with an Internal Security Staff (License No. P09419401). This is required of private businesses that intend to employ internal commission (armed) security personnel. See Tex. Occ. Code §1702.181 (West 2021) & 37 TAC §35.101. In addition, Texas Department of Public Safety Records reflects that Space-X employs a number of individuals that hold commissioned and personal protection licenses. This leads me to conclude Space-X employs seasoned and experienced security personnel that are potentially armed and able to be armed. As such, he advised, any Space-X Security Personnel brandishing a weapon in their role as a security professional or wearing any type of identifier as a security professional must be licensed by the Department of Public Safety. See Tex. Occ. Code §§1702.161, 1702.221, and 1702.333 (West 2021). Furthermore, Texas Department of Public Safety records reflect that neither Mr. Oscar Lopez, nor Space-X Brownsville Head of Security Mr. Milburn hold any type of Texas Security License. While there may be a clerical error in the records, it is important to note, failure to employ properly licensed security personnel, may expose Space-X and its employees to civil and criminal penalties. See Tex. Occ. Code Ch. 1702, Subchapter P, §§1702.381 - 1702.389 (West 2021). Please confirm that if Space-X personnel are armed and all Space-X security personnel are currently properly licensed or becoming licensed.

² My staff reported that the road that should be Juana Street appears now to be renamed Zeekeet Road. My staff shared that it appears part of it may have been built over and/or closed off, I am awaiting confirmation, but if this is still a county road and/or subject to any county easement then the action of closing or building over portions of Juana Street would not be okay and potentially is a taking of public property. Please clarify on the authorization to take these actions.

a highway, street, sidewalk, railway... or any other place used for the passage of... persons, vehicles, or conveyance regardless of the means of creating the obstruction and whether the obstruction arises from his acts alone or from his acts and acts of others. (Texas Penal Code §12.03 (West 2021));

and,

- **IMPERSONATING A PUBLIC SERVANT:** It is a third degree felony for a person to impersonate a public servant with intent to induce another to submit to his pretended official authority or to rely on his pretended official acts; or, knowingly purports to exercise any function of a public servant or a public officer (Texas Penal Code §37.11 (West 2021)).

This conduct is unacceptable. And I strongly believe you, Mr. Patel, and Space-X, also knew it was unacceptable. In early April 2021 Cameron County, separate and apart from my office, advised you, Mr. Patel, that this type of conduct was inappropriate. It is important to note, in response to said advisory, a Space X employee responded, much like the space security personnel did on June 9, 2021, that Space-X has a case of an overzealous security guard.¹⁶

While Space-X is a valued member of our community, this does not authorize Space-X, its employees, staff, agents, and/or contractors to disregard Texas Law. Also, be advised, if this conduct were to happen again, not only could the individual Space-X employee/contractor/agent be subject to arrest and prosecution, but as a Texas Business Entity, under Subchapter B of Chapter 7 of the Texas Penal Code, Space-X could be prosecuted as well.

A number of the other concerns raised by *Space RCV* relate to the permitted closure hours utilized by Space-X. It is alleged that the Memorandum of Understanding executed by the Texas General Land Office and the County of Cameron, Texas, as enabled by Texas Natural

¹⁶ I find it also concerning that the April 19, 2021 response went further to explain that a sign is specifically posted at the intersection and/or near to the intersection to deter heavy traffic of tourists. If it is the intention of Space-X to engage in certain actions, please be upfront about it.

Resources Code §61.132, permits Space-X in conjunction with the County of Cameron to close State Highway 4, enables Space-X to conduct launches, and limits the number of hours that State Highway 4 can be closed to 180 hours a year. The complaint further alleges that the Federal Aviation Administration has issued a Written Reevaluation that functions as an addendum to the agreement and permits allowed closures up to 300 hours. The information provided by *Save RGV* included a log allegedly created by the United States Fish and Wildlife Service and the Coastal Bend Bay & Estuary Program that reflects that Space-X has already utilized 385 closure hours this calendar year.

Does this number match Space-X's records regarding closure hours?

Does Space-X keep a record of closure hours?

If so, how does Space-X calculate the closure hours?

This allegation is concerning to me as Space-X's ability to obstruct, and the County of Cameron's ability to approve the closure of, the public highway is contingent on the legal authorization derived from the aforementioned Memorandum of Understanding. If Space-X has indeed exceeded the allotted hours, then there is no longer a legal authorization to obstruct State Highway 4. As such, it is highly likely that a Texas District Court might conclude that any further action by Space-X and Cameron County, Texas to close and obstruct State Highway 4 exceeds the authority authorized by the Memorandum of Understanding executed by the Texas General Land Office and the County of Cameron, Texas, and Texas Natural Resources Code §61.132. As such, it could be the case that any further closure of State Highway 4 and Boca Chica Beach constitutes the before mentioned Texas Offense of Obstructing a Highway and any act by a Space-X employee, agent, or contractor to inform the public that they cannot use the road may constitute the before mentioned offense of Impersonating a Public Servant. Please provide clarification on this matter. In addition, please provide the document/authority that supports the position that the "authorized hours" is capped at 300 hours as opposed to 180 hours.

Another concern raised by *Space RGV* relates to the request for closures of State Highway 1. It is alleged by *Space RGV*, and it seems to be supported by the Memorandum of Understanding executed by the Texas General Land Office and the County of Cameron, Texas, that the requests for closure of Highway 1 and Boca Chica Beach, must be submitted in a timely manner and in some instances be accompanied by a beach mitigation plan.

Have beach access mitigation plans been created and provided to the county?

Have all requests for closure of State Highway 1 been made with at least 14 days' notice, and if not, is there a legal basis for making them with less than 14 days?"

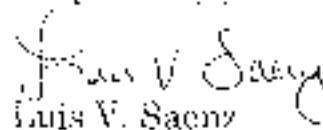
In so far as the legal authorization to obstruct State Highway 1 is contingent on complying with Memorandum of Understanding executed by the Texas General Land Office and the County of Cameron, Texas, failure to comply with this requirement may not satisfy the conditions precedent for Space-X to qualify for the legal authorization protection to obstruct State Highway 1. As a result, any action by Space-X without the satisfaction of said conditions precedent may constitute the Texas Offense of Obstructing a Highway. In addition it would be likely that a Texas District Court might conclude that any action by Space-X and Cameron County, Texas, to close and obstruct State Highway 1 without adherence to the before mentioned authority is improper. Please review this matter and provide any analysis or legal basis that would allow otherwise.

Because of the anomalies detailed herein, I must advise my law enforcement partners that absent a well-reasoned response by Space-X answering the questions addressed herein, it would be prudent for them not to permit any police officer or sheriff/constable deputy to work for or assist with Space-X operations that may run afoul of Texas Law. I would advise them that any said action by a law enforcement official could potentially expose their agencies and respective political subdivisions to liability under the United States Civil Rights Act of 1871. Furthermore, it could potentially expose the individual

officer/deputy to criminal liability under the Texas Official Oppression Statute.² While I cannot mandate my law enforcement partners take a particular course of action, I feel it my duty, as a public servant, to inform them of the issues identified herein.

Thank you for your attention to this matter. Please respond to the questions and concerns I have raised by Monday June 14, 2021 at 1:30 PM to my Executive Assistant Ms. Janie Carrizales, at janie.carrizales@co.cameron.tx.us, with a carbon copy to the Executive Assistant to First Assistant District Attorney Edward A. Sandoval, Ms. Gabriela Roussell, at gabriela.roussel@co.cameron.tx.us.

Respectfully yours,


Luis V. Saenz

CC: Eddie Trevino, Judge, Cameron County Judge
Eric Garza, Sheriff, Cameron County
Norman Esquivel, Jr., Constable, Cameron County Pct. 1
Marcus Chiech, Lieutenant, Texas Department of Public Safety-Highway Patrol
Cameron County Civil Legal Division
Texas General Land Office
Bill Berg, Save RGV

² Official Oppression occurs when a public servant under color of his office or employment: "(1) intentionally subjects another to mistreatment or to arrest, detention, search, seizure, dispossession, assessment, or lien that he knows is unlawful [or] (2) intentionally denies or impedes another in the exercise or enjoyment of any right, privilege, power, or immunity, knowing his conduct is unlawful." Tex. Pen. Code § 9.04(a) (West 2021).



United States Department of the Interior

FISH AND WILDLIFE SERVICE

South Texas Refuge Complex

Lower Rio Grande Valley National Wildlife Refuge



October 7, 2020

Daniel P. Murray
Manager, Safety Division
Federal Aviation Administration (FAA)
800 Independence Ave., SW
Washington, D.C. 20591

Dear Mr. Murray:

This responds to your letter dated August 27, 2020, requesting our concurrence with FAA's determination that an increase in closure hours from 180 to 300 on the Lower Rio Grande Valley National Wildlife Refuge (Refuge) will not result in a "constructive use" as defined by Section 4(f) of the Department of Transportation Act of 1966. For the reasons provided in this letter, we do not concur.

The U.S. Fish and Wildlife Service (FWS) does not concur with the FAA determination that the action will not result in a "constructive use" to the Refuge. The Refuge, and the national Refuge System in general, maintains the biological integrity, diversity and environmental health of these natural resources for the benefit of present and future generations of Americans (National Wildlife Refuge System Improvement Act of 1997, 16 U.S.C. 668dd-668ee). The refuge was established in 1979, as a long-term program of acquiring lands to protect and restore the unique biodiversity of the Lower Rio Grande Valley of Texas. The stated purposes and legislative authorities for this Refuge are "...for the development, advancement, management, conservation, and protection of fish and wildlife resources..." 16 U.S.C. § 742f(a)(4); "...for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude ..." 16 U.S.C. § 742f(b)(1) (Fish and Wildlife Act of 1956); "...particular value in carrying out the national migratory bird management program" 16 U.S.C. § 667b (An Act Authorizing the Transfer of Certain Real Property for Wildlife, or other purposes), "...suitable for: - (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ..." 16 U.S.C. § 460k-1 "...the Secretary... may accept and use... real... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ..." 16 U.S.C. § 460k-2 (Refuge Recreation Act) (16 U.S.C. § 460k-460k-4, as amended); and, "...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds" 16 U.S.C. § 715d (Migratory Bird Conservation Act). The Refuge therefore ensures the conservation of fish, wildlife and plant populations and their habitat, which is necessary for the scientific study of wildlife, conservation biology and ecosystem management. In addition to its primary task of conserving wildlife, the Refuge also provides six wildlife-dependent recreational

uses, which include: hunting, fishing, wildlife observation, photography, environmental education, and interpretation. Each year, an estimated 110,000 visitors access the Refuge for these uses and the majority (63 percent) are beachgoers or fishers to the Boca Chica tract at all times of the year.

Section 4(f) protects publicly owned parks, recreation areas, and wildlife and waterfowl refuges of national, state, or local significance and historic sites of national, state, or local significance from use by transportation projects. Due to operations by SpaceX at all times, the FWS's ability to maintain the biological integrity, diversity and environmental health of Refuge resources, as well our ability in ensuring the viability of the six wildlife-dependent recreational uses, are significantly diminished at the Boca Chica tract. This occurs by preventing or constraining public access year-round, hampering biological and monitoring studies including sea turtle patrols, hampering refuge management and law enforcement patrol, increased observations of road mortality of wildlife at all hours of daytime and nighttime, damaging sensitive habitats such as the wind tidal flats and the salt prairie from explosions and fires, as well as impacting nesting habitat for sensitive species. According to the Coastal Bend Bays and Estuaries Program, Wilson's and Snowy Pluffers have essentially stopped nesting near the SpaceX site.

Since 2014, SpaceX has undertaken activities not covered in FAA's 2014 environmental impact statement (EIS). These activities include a higher frequency of road closures plausibly extending well beyond 180 hours, large explosions from reported anomalies, the appearance of significantly large staffing, traffic, and construction activities not analyzed in the EIS. In addition, debris falling onto the Refuge damages the sensitive wind tidal flats and the vehicles or machinery used to retrieve debris creates rutting and damage that interrupts tidal water sheet flow across these flats. These have prompted concerns including re-evaluating FAA's current EIS, as well as the potential need to reinstate consultation with the FWS on the Biological Opinion analyzing SpaceX operations pursuant to 50 C.F.R. 402.16. Currently, the FAA is requesting to increase the number of Refuge closure hours from 180 to 300. However, for the past six years, closures of the road to Boca Chica Beach are increasingly frequent and may occur for one or more days due to delays or problems occurring during testing. The FAA/SpaceX closure reporting computation remains in question as the extended closures occurring for anomalies or delays are deterrents for public access to the Boca Chica tract and the beaches for the duration of all published closure timeframes. In 2019, the FWS conservatively quantified closure hours (over 1,000) and noted a significant disparity in accounting between SpaceX's reported total of 158 hours and the conservative total being tracked by FWS staff.

Based on the Section 4(f) definitions, a "constructive use" occurs when there is "a temporary occupancy of land that is adverse in terms of the statute's preservation purpose" or when "a project's proximity impacts are so severe that the protected activities, features, or attributes of a property are substantially impaired." The level, nature, and extent to which an area is constructively used is subject to the expertise and determination of the agency responsible for management and administration of the 4(f) lands impacted by the constructive use, in this case, the FWS. Frequent closures caused by SpaceX activities are already substantially impairing both the Refuge's ability to adequately manage the Refuge and the public's enjoyment of the Boca Chica Beach area for wildlife-dependent recreation. There are both "adverse" and "severe" impacts to Refuge public use, management, wildlife, and habitat from the SpaceX activities as exemplified above. Increasing the "official" closure hours to 300 will only exacerbate the levels of impairment of Refuge properties. The protected activities of the Refuge that will be

substantially impaired include fishing, wildlife observation, photography, environmental education, and interpretation. When closures occur, all of these wildlife-dependent recreational uses are substantially impaired because they are not available to the public. As previously mentioned, features and attributes of the Refuge that will be substantially impaired include the sensitive tidal flats, salt prairies, wildlife, and sensitive bird nesting and wintering sites. These features and attributes will be substantially impaired by increased closures because explosions, debris, traffic, building construction, and invasive plant species will continue to threaten the health and diversity of the Refuge's habitats and wildlife.

Section 4(f) regulations "require rigorous exploration and objective evaluation of alternative actions that would avoid all use of Section 4(f) properties...that would avoid some or all adverse effects" (OEPC Section 4(f) Handbook, after 23 C.F.R. § 774). 23 U.S.C. § 138 precludes the Secretary of Transportation from approving a program or project unless "such program includes all possible planning to minimize harm" to wildlife refuges. Your letter provides no evidence that either of these requirements have been met. The FWS therefore disagrees with the FAA determination now, as well as in the past, (see January 10, 2014 letter to the FAA, Stacey Zee), and requests a Section 4(f) analysis be undertaken to explore all reasonable and prudent alternatives that completely avoid Section 4(f) properties and/or to ensure "all possible planning to minimize harm to the Section 4(f) property" will occur.

We appreciate your consideration of the above issues and look forward to discussing these or other concerns as pertains to the SpaceX Boca Chica site. You may contact me via email at [REDACTED] or my direct line at [REDACTED].

Sincerely,

Manuel
Perez III
Manuel "Sonny" Perez III
Acting Complex Refuge Manager

Digitally signed by
Manuel Perez III
Date: 2020.10.08
09:54:23 -05'00'

cc.

Stacey Zee, Federal Aviation Administration, Washington, DC.
Bryan R. Winton, Refuge Manager, Lower Rio Grande Valley NWR
Kelly McDowell, Refuge Supervisor, OK/TX Refuges
Dawn Gardiner, Assistant Field Supervisor, Texas Coastal ES Field Office

From: Laurel S <[REDACTED]>
Sent: Monday, November 1, 2021 1:43 PM
To: SpaceXBocaChica
Subject: comment on SpaceX Environmental Assessment
Attachments: SpaceX comment.pdf

Hello Ms Zee,

Pleased see the pdf attachment for my comment.

Thank you,

Laurel Steinberg

Laurel Steinberg



Ms Stacy Zee
SpaceX PEA c/o ICF
9300 Lee Highway
Fairfax, VA 22031
Email: SpaceXBocaChica@icf.com

Dear Ms Zee,

I am writing to urge you to require an Environmental Impact Statement for this SpaceX program change, and to reject the Draft Programmatic Environmental Assessment. SpaceX's original EIS of 2014 was for a project so different from its current projects that it is not acceptable as a basis for SpaceX's PEA. SpaceX is not building on what it proposed in 2014. And SpaceX never did the main project that it proposed at that time.

1. The original project that the EIS of 2014 was based on was to launch tested Falcon and Falcon heavy rockets 12 times a year. The current project is to test Starship and Super Heavy rockets which have over 4 times the thrust of the Falcons. Testing unfinished rockets is completely different from launching proven rockets. Testing will involve explosions and other accidents as the rockets are perfected. Testing is a completely different project from launching and requires an EIS.
2. There needs to be a launch failure analysis to assess the risks to public safety and nearby wildlife refuges. Even successful tests could damage infrastructure in nearby towns from shock waves and vibrations. Wildlife will be disturbed by noise, lights, vibrations, fire, smoke and heat. The National Wildlife Refuge has already been damaged by fire and debris retrieval caused by SpaceX. This violates the purpose of the refuge which is for the benefit of wildlife. SpaceX expects more debris retrieval.
3. Several other infrastructure projects are proposed such as a power plant, a natural gas pretreatment system and liquefier, and a desalination plant. These are not described in sufficient detail and no design plans have been provided. For example no source of gas is mentioned for the LNG plant or power plant. Perhaps they will want a pipeline or gas may be trucked in. The details of these major projects need to be thoroughly described, with alternatives given. The environmental effects need to be assessed for each project individually as well as cumulatively.

4. The hours of closure of Route 4 to Boca Chica beach and/or closure of the beach will be increased. Already the hours of closure have increased greatly and the public is turned away or inconvenienced. These closures are in violation of the Texas state constitution which does not allow beach closures for any reason, even though a law was passed in 2013 to allow beach closures for space flight activities. The law does not cancel or amend the constitution. And there is no access to the beach except for Route 4.

5. No mitigation has been proposed for the filling of 17 acres of wetlands, not has it been demonstrated that it is absolutely necessary to fill those acres.

6. To review, it seems absolutely necessary for the FAA to require an EIS for SpaceX's proposed projects. It is essential for SpaceX to be required to describe their projects in detail and to be held to the agreements that they make. They should be good neighbors to the protected lands that surround them and the nearby towns. I think that SpaceX can be a great asset to the lower Rio Grande Valley, but they are so focused on their project that they are not following the rules they agreed to. For example, they have built a 450 foot launch tower before they even have permission from the FAA, they are closing the road to the beach for more hours than they have agreed to, and they degraded delicate mudflats in the National Wildlife Sanctuary when they collected debris.

It seems that SpaceX prefers asking for forgiveness over asking for permission. According to the recent FAA hearings, SpaceX supporters think that regulations should be relaxed in order to quickly develop transportation to Mars, but the Lower Rio Grande Valley is not a sacrifice zone. People, animals and plants live here. Donating money to various municipalities and organizations is not a substitute for following proper environmental regulations, even if they take time. SpaceX must follow the national, state, and local laws and regulations, and be held accountable for their actions. It is not necessary to sacrifice the local environment for some peoples' dreams of colonizing Mars.

By accepting the Draft Programmatic Environmental Assessment the FAA will allow SpaceX to continue its work as it wishes without having to ask permission. By requiring an Environmental Impact Statement the FAA will make sure that SpaceX asks permission. You, the FAA are in a position to hold SpaceX accountable to the rules. Please do it.

Thank you for your attention to these comments.

Sincerely,
Laurel Steinberg

From: Nook <[REDACTED]>
Sent: Monday, November 1, 2021 1:32 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Operations and Expansion Plans

To the Federal Aviation Administration

I am writing to you from Germany in support of the people of the Carrizo Comecrudo Tribe as well as the local citizens affected by the operation and expansion plans of SpaceX in Brownsville, TX, to demand that you reject these plans.

I am deeply concerned about the SpaceX launch site expansion and its economic, cultural, & environmental impacts on the region. Since the operations began in Brownsville, TX, numerous explosions have threatened public safety, caused dangerous fires near wildlife refuges, and stripped locals' access to the pristine beach. These explosive risks will only increase because of three liquefied natural gas (LNG) terminals, with their safety hazards, plan to build within 6-miles of SpaceX. The facility is also actively gentrifying the region by displacing people from their homes at Boca Chica Village, including some of my friends. SpaceX should not be allowed to expand and increase the size and scale of these damages.

Democratically elected officials and SpaceX should not be allowed to privatize or commercialize Boca Chica and further restrict access from the public. Boca Chica beach is culturally and spiritually sacred to the Rio Grande Valley people, especially to the Carrizo Comecrudo Tribe of Texas, who were never consulted about the SpaceX project.

I urge you to actively consult the people of the Carrizo Comecrudo Tribe regarding SpaceX's plans in the region!
Protecting the land and the Earth must have priority over supporting the further growth of a multi-billion corporation that aims at colonizing Mars!

Sincerely,

Nook

From: [REDACTED] on behalf of Dorothy Savage <[REDACTED]>
Sent: Sunday, October 31, 2021 6:46 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Dorothy Savage

From: [REDACTED] on behalf of Amy Douglass <[REDACTED]>
Sent: Sunday, October 31, 2021 6:51 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Amy Douglass

From: [REDACTED] on behalf of Becky Coulter <[REDACTED]>
Sent: Sunday, October 31, 2021 6:51 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Becky Coulter

From: [REDACTED] on behalf of Mary Gaub <[REDACTED]>
Sent: Sunday, October 31, 2021 6:52 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. A comprehensive environmental impact study must be done before the damage to the vulnerable species which live in the Boca Chica area is irreversible.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Mary Gaub

From: [REDACTED] on behalf of T.J.Z <[REDACTED]>
Sent: Sunday, October 31, 2021 6:54 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
T.J. Z

From: [REDACTED] on behalf of April Narcisse <[REDACTED]>
Sent: Sunday, October 31, 2021 6:57 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
April Narcisse

[REDACTED]

From: [REDACTED] on behalf of Katie Parker
Sent: Sunday, October 31, 2021 7:02 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Katie Parker

[REDACTED]

From: [REDACTED] on behalf of Adler Betsy <[REDACTED]>
Sent: Sunday, October 31, 2021 7:03 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Adler Betsy

From: [REDACTED] on behalf of Mary Angerer
Sent: Sunday, October 31, 2021 7:04 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Mary Angerer

From: [REDACTED] on behalf of Stephanie Nunez <[REDACTED]>
Sent: Sunday, October 31, 2021 7:07 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Stephanie Nunez
[REDACTED]

From: [REDACTED] on behalf of Reilly Linda
Sent: Sunday, October 31, 2021 7:11 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Reilly Linda

From: [REDACTED] on behalf of Julie Nichols
Sent: Sunday, October 31, 2021 7:12 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. It has been brought to my attention that a complete Environmental Impact Statement has not been completed. This is a MUST! So many bird and animal species rely on this land (and air) for it to be handed over without a thorough EIS.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Julie Nichols
[REDACTED]

From: [REDACTED] on behalf of Rachel Handy [REDACTED]
Sent: Sunday, October 31, 2021 7:13 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. Our birds are already facing massive declines and need more protections - please read below on this important topic!!!

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Rachel Handy

From: [REDACTED] on behalf of Susan Hanson
Sent: Sunday, October 31, 2021 7:14 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

This is one of the most biologically diverse regions of the state, and it very much needs our protection. Please do the right thing and act to ensure the continued survival of this rich ecosystem.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Susan Hanson

From: [REDACTED] on behalf of Barbara Heiser [REDACTED]
Sent: Sunday, October 31, 2021 7:15 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Barbara Heiser

From: [REDACTED] on behalf of Abbie Bernstein
Sent: Sunday, October 31, 2021 7:15 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Abbie Bernstein

From: [REDACTED] on behalf of Gregoria Ponce
Sent: Sunday, October 31, 2021 7:16 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Gregoria Ponce

From: [REDACTED] on behalf of Paulina Mastryukov
Sent: Sunday, October 31, 2021 7:21 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Paulina Mastryukov

From: [REDACTED] on behalf of Marcia Matthews <[REDACTED]>
Sent: Sunday, October 31, 2021 7:21 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. While moving forward in space, we are losing treasures here on earth! These small birds are the source of our knowledge about moving in the air! Please be very careful about each step of what you are doing so that we don't lose more than we gain for the people of the earth! Study the environment carefully as you go.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Marcia Matthews

From: [REDACTED] on behalf of Sarika Arora
Sent: Sunday, October 31, 2021 7:21 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Sarika Arora

From: [REDACTED] on behalf of Gretchen Crawford <[REDACTED]>
Sent: Sunday, October 31, 2021 7:21 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Thank you for your attention on this matter.

Sincerely,
Gretchen Crawford

[REDACTED]

From: [REDACTED] on behalf of Kim George
Sent: Sunday, October 31, 2021 7:22 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Thank you for your attention on this matter.

Sincerely,
Kim George

[REDACTED]

From: [REDACTED] on behalf of Wendy Schultz <[REDACTED]>
Sent: Sunday, October 31, 2021 7:23 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Thank you for your attention on this matter.

Sincerely,
Wendy Schultz

[REDACTED]

From: [REDACTED] on behalf of Julie Schuster <[REDACTED]>
Sent: Sunday, October 31, 2021 7:26 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Julie Schuster

From: [REDACTED] on behalf of Carol Pope <[REDACTED]>
Sent: Sunday, October 31, 2021 7:26 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Thank you for your attention on this matter.

Sincerely,
Carol Pope

[REDACTED]

From: [REDACTED] on behalf of Nicole Schoeder
Sent: Sunday, October 31, 2021 7:27 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Nicole Schoeder

[REDACTED]

From: [REDACTED] on behalf of Virginia Ilardi <[REDACTED]>
Sent: Sunday, October 31, 2021 7:28 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. Despite the area's ecological importance, SpaceX has conducted operations with little oversight from the Federal Aviation Administration (FAA). Now, in spite of major expansions in operations and infrastructure in Boca Chica, the FAA has not conducted a full Environmental Impact Study. Please reject the current assessment and, instead, require a full-scale Environmental Impact Study of SpaceX's plans. Thank you.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,

Virginia Ilardi



From: [REDACTED] on behalf of Judith King <[REDACTED]>
Sent: Sunday, October 31, 2021 7:31 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

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Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Judith King

From: [REDACTED] on behalf of Sally Davidson <[REDACTED]>
Sent: Sunday, October 31, 2021 7:32 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Sally Davidson

From: [REDACTED] on behalf of Karen Blum <[REDACTED]>
Sent: Sunday, October 31, 2021 7:34 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Karen Blum

From: [REDACTED] on behalf of Beverly Ann Conroy
Sent: Sunday, October 31, 2021 7:35 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Beverly Ann Conroy

[REDACTED] [REDACTED]

From: [REDACTED] on behalf of Laura Daniel
Sent: Sunday, October 31, 2021 7:39 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Laura Daniel

From: [REDACTED] on behalf of Marian Hollander <[REDACTED]>
Sent: Sunday, October 31, 2021 7:39 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Marian Hollander
[REDACTED]

From: [REDACTED] on behalf of Shelley Nuffer <[REDACTED]>
Sent: Sunday, October 31, 2021 7:50 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Shelley Nuffer
[REDACTED]

From: [REDACTED] on behalf of Jayne Rosenberg <[REDACTED]>
Sent: Sunday, October 31, 2021 7:52 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Jayne Rosenberg
[REDACTED]

From: [REDACTED] on behalf of Teri Bowers
Sent: Sunday, October 31, 2021 8:00 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

Please reject the current PEA assessment and, instead, require a full-scale Environmental Impact Study of SpaceX's plans.

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

I work as a volunteer in NJ with the Piping Plovers. It breaks my heart that SpaceX is threatening their numbers. FAA please take aggressive action to protect our Endangered species. Please!

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Teri Bowers

[REDACTED]

From: [REDACTED] on behalf of Shawn Jones-Bunn <[REDACTED]>
@ [REDACTED]
Sent: Sunday, October 31, 2021 8:01 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Shawn Jones-Bunn
[REDACTED]

From: [REDACTED] on behalf of Sayrah Namaste <[REDACTED]>
Sent: Sunday, October 31, 2021 8:04 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Sayrah Namaste

From: [REDACTED] on behalf of Sarah Schmidt <[REDACTED]>
Sent: Sunday, October 31, 2021 8:07 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

As a wildlife biologist, I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Sarah Schmidt

From: [REDACTED] on behalf of Peggy Draper
Sent: Sunday, October 31, 2021 8:13 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Peggy Draper

[REDACTED]

From: [REDACTED] on behalf of Sue Shanks <[REDACTED]>
@ [REDACTED]
Sent: Sunday, October 31, 2021 8:14 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

Dear Sirs: I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Sue Shanks

From: [REDACTED] on behalf of Winona Hendrickson
Sent: Sunday, October 31, 2021 8:17 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Winona Hendrickson

From: [REDACTED] on behalf of Chaz Huffman <[REDACTED]>
Sent: Sunday, October 31, 2021 8:21 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Chaz Huffman

From: [REDACTED] on behalf of Sundholm Barbara [REDACTED]
Sent: Sunday, October 31, 2021 8:21 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. We can't continue to ignore the total impact that our short sighted actions will have on this planet. The arrogant attitude that nothing else matters except human beings will spell our destruction in the long run! Please take action while there is still time to salvage this beautiful planet!

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Sundholm Barbara

From: [REDACTED] on behalf of Chad Bruce <[REDACTED]>
@ [REDACTED]
Sent: Sunday, October 31, 2021 8:23 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

We are living in an age of unprecedented technological, intellectual, and innovative advancement, and companies like SpaceX are leading the charge. As an electrical engineering student, I marvel in the idea of regular commercial space travel, and even the possibility of consistent travel to and from the moon, or someday Mars.

However, all too often short sighted ignorance cloaked in the guise of inevitable progress and profit has caused many a natural wonder to fall from Eden. From the extirpation of species like the Chinese Paddlefish, brought down by a massive dam, to the current degradation of the world's rainforests, example environmental destruction as a byproduct of human action can be found all across the earth throughout the last several hundred years of human history.

I urge you to take this into account as you build upon and expand your facility. In today's world, we know our impact and can measure it, and we also know how to counteract it. Please keep the wildlife of the region in mind. Many of the birds that migrate to my home in Michigan from south of the United States pass through coastal Texas on their way up, the same birds that will be destroyed if the SpaceX projects continue at their current pace.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Chad Bruce

[REDACTED]

From: [REDACTED] on behalf of Reilly Linda
Sent: Sunday, October 31, 2021 8:25 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Reilly Linda

[REDACTED]

From: [REDACTED] on behalf of Buni Panick
Sent: Sunday, October 31, 2021 8:26 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. Let's take care of what is on this earth before we joy ride into space.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Buni Panick
[REDACTED]

From: [REDACTED] on behalf of John A Beavers
Sent: Sunday, October 31, 2021 8:26 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
John A Beavers

From: [REDACTED] on behalf of Lauren Richie <[REDACTED]>
Sent: Sunday, October 31, 2021 8:27 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Lauren Richie

From: [REDACTED] on behalf of Alan Clemence
Sent: Sunday, October 31, 2021 8:31 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Alan Clemence

[REDACTED]

From: [REDACTED] on behalf of Nancy Reinstein <[REDACTED]>
Sent: Sunday, October 31, 2021 8:33 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Nancy Reinstein

From: [REDACTED] on behalf of Philip Splawn
Sent: Sunday, October 31, 2021 8:36 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Philip Splawn
[REDACTED]

From: [REDACTED] on behalf of Kimberly Uyehara
Sent: Sunday, October 31, 2021 8:39 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Kimberly Uyehara
[REDACTED]

From: [REDACTED] on behalf of Renee OHoro <[REDACTED]>
@ [REDACTED]
Sent: Sunday, October 31, 2021 8:42 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. Please do the right thing and protect the birds and animals affected by your work.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Renee OHoro
[REDACTED]

From: [REDACTED] on behalf of Shanahe Mariarose
Sent: Sunday, October 31, 2021 8:46 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

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Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Shanahe Mariarose

From: [REDACTED] on behalf of Leslie White <[REDACTED]>
@ [REDACTED]
Sent: Sunday, October 31, 2021 8:47 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Leslie White

From: [REDACTED] on behalf of Kristy Bradley <[REDACTED]>
Sent: Sunday, October 31, 2021 8:50 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. Our focus and priority must be on preserving our ecosystems and sensitive wildlife here on earth versus expanding space tourism.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Kristy Bradley

[REDACTED]

From: [REDACTED] on behalf of laura raforth <[REDACTED]>
Sent: Sunday, October 31, 2021 8:34 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
laura raforth

[REDACTED]

From: [REDACTED] on behalf of Xoxenia Harris
Sent: Sunday, October 31, 2021 8:52 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Xoxenia Harris

[REDACTED]

From: [REDACTED] on behalf of Christine Dingeman <[REDACTED]>
Sent: Sunday, October 31, 2021 8:57 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Christine Dingeman

From: [REDACTED] on behalf of Beth Nemoff <[REDACTED]>
Sent: Sunday, October 31, 2021 8:59 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Beth Nemoff

From: [REDACTED] on behalf of JILL HERBERS <[REDACTED]>
Sent: Sunday, October 31, 2021 9:01 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
JILL HERBERS

[REDACTED]

From: [REDACTED] on behalf of Winifred Thomas
Sent: Sunday, October 31, 2021 9:03 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. I am deeply concerned about the tech-gone-wild where no one is looking into the heavy duty impacts this is having on all of us and endangering the planet! STOP! Look at what this is doing to the environment, weather, and health!

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

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Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Winifred Thomas

[REDACTED]

From: [REDACTED] on behalf of Xoxenia Harris
Sent: Sunday, October 31, 2021 9:03 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Xoxenia Harris

[REDACTED]

From: [REDACTED] on behalf of Joan Leannah-Brumm [REDACTED]
Sent: Sunday, October 31, 2021 9:06 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Joan Leannah-Brumm

From: [REDACTED] on behalf of Elaine Morgan <[REDACTED]>
Sent: Sunday, October 31, 2021 9:06 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

Dear Sen. Diane Feinstein,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

Here we go again, when will Wildlife be important.

When all the wildlife disappears, we will disappear.

The landscape is changing. We have sprayed the Bee's away used toxic sprays to abate ants. Now the birds.

Even used Agent Orange with wild abandon.

I hope Space X will not join the long list of companies who just don't care?

Respectfully, Elaine Morgan

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Elaine Morgan

[REDACTED]

From: [REDACTED] on behalf of Susan Pollack
Sent: Sunday, October 31, 2021 9:07 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

To the FAA:

Comment on SpaceX Starship/Super Heavy Project Dear Madame or Sir; I am deeply concerned about the impacts on birds, other wildlife and human health from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. For both the health of bird populations (many species funnel through through Texas as part of their migration) and the potential impact on human health related to the many chemicals involved in processes there, it is imperative that a full and complete Environmental Impact Study be conducted in accordance with the law. Thank you for helping to ensure that this does happen! Susan H. Pollack MD, FAAP (public health pediatrician)

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Susan Pollack

[REDACTED]

From: [REDACTED] on behalf of Kim Buell <[REDACTED]>
Sent: Sunday, October 31, 2021 9:21 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Kim Buell

[REDACTED]

From: [REDACTED] on behalf of Mary Anderson
Sent: Sunday, October 31, 2021 9:23 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

As an aerospace medicine specialist, I am a proponent of advancements in aerospace, but as a conservationist, I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

More needs to be done to protect the fragile environment of coastal Texas and the species that depend upon it.

Advancements in space exploration should not come at the price of environmental injury and extinctions on earth.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,

Mary Anderson



From: [REDACTED] on behalf of Val Schroeder <[REDACTED]>
Sent: Sunday, October 31, 2021 9:23 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Val Schroeder

From: [REDACTED] on behalf of Paul Albano
Sent: Sunday, October 31, 2021 9:28 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Paul Albano

From: [REDACTED] on behalf of Jim Nasella <[REDACTED]>
Sent: Sunday, October 31, 2021 9:34 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Jim Nasella

From: [REDACTED] on behalf of Claire Joaquin <[REDACTED]>
Sent: Sunday, October 31, 2021 9:44 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. Let's take care of this planet and its birds and habitats before planning to move to another.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Claire Joaquin

From: [REDACTED] on behalf of Jeff Wiles <[REDACTED]>
Sent: Sunday, October 31, 2021 9:45 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

This communication submitted by citizen Jeff Wiles of Coon Rapids, Minnesota. Please provide it your prompt and full attention. Thank you in advance for listening!

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Jeff Wiles

[REDACTED] [REDACTED]

From: [REDACTED] on behalf of Pam Sheeler <[REDACTED]>
Sent: Sunday, October 31, 2021 9:46 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Pam Sheeler

From: [REDACTED] on behalf of Keith Miller <[REDACTED]>
Sent: Sunday, October 31, 2021 9:51 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Keith Miller

From: [REDACTED] on behalf of Tom Rolofson <[REDACTED]>
Sent: Sunday, October 31, 2021 9:55 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Tom Rolofson

From: [REDACTED] on behalf of Lorrin Pickens
Sent: Sunday, October 31, 2021 9:57 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Lorrin Pickens

From: [REDACTED] on behalf of Donna DeAngelis
Sent: Sunday, October 31, 2021 9:58 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Donna DeAngelis
[REDACTED]

From: [REDACTED] on behalf of Tina Jones <[REDACTED]>
Sent: Sunday, October 31, 2021 9:59 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

Please ask the FAA to perform an Environmental Impact Study in the Boca Chica area that is in, and next to the SpaceX operations area. I want the FAA to keep up their good reputation by doing this.

Threatened birds like the Red Knot and Piping Plover do not have money to buy their own lands to migrate through.

Tina Jones
Instructor of Wildlife subjects for the Audubon Society

Littleton, CO.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Tina Jones

[REDACTED]

From: [REDACTED] on behalf of Caden McQueen
Sent: Sunday, October 31, 2021 10:05 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Caden McQueen

[REDACTED]

From: [REDACTED] on behalf of Melissa Sharp [REDACTED]
Sent: Sunday, October 31, 2021 10:09 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Melissa Sharp

From: [REDACTED] on behalf of Vicki Sievers
Sent: Sunday, October 31, 2021 10:10 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Vicki Sievers

From: [REDACTED] on behalf of Eric Steele <[REDACTED]>
Sent: Sunday, October 31, 2021 10:14 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Eric Steele

From: [REDACTED] on behalf of Travis Longcore
Sent: Sunday, October 31, 2021 10:24 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am a conservation scientist and the Science Director of The Urban Wildlands Group. Our research on the effects of urban and industrial land uses would suggest that the SpaceX operations in Boca Chica could have a significant adverse impact on the environment and therefore the preparation of an Environmental Impact Statement is required for the construction and operation of the Starship/Super Heavy Project and launch site.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Travis Longcore
[REDACTED]

From: [REDACTED] on behalf of Michael Salamacha
Sent: Sunday, October 31, 2021 10:38 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

There should be an update to authorization due to changes in impacts from much larger operations. This is affecting the shoreline habitat of the shore birds and others.

FAA and EPA should be actively involved in changing assessments and conditions. Immediately

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,

Michael Salamacha



From: [REDACTED] on behalf of Dianne Croft <[REDACTED]>
Sent: Sunday, October 31, 2021 10:41 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Dianne Croft

From: [REDACTED] on behalf of Sandra Nealon
Sent: Sunday, October 31, 2021 10:45 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Sandra Nealon

From: [REDACTED] on behalf of Alta Goolsby <[REDACTED]>
Sent: Sunday, October 31, 2021 10:52 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Alta Goolsby

From: [REDACTED] on behalf of Dr. Stacey McRae
Sent: Sunday, October 31, 2021 11:01 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Dr. Stacey McRae

From: [REDACTED] on behalf of Susan Von Schmacht
Sent: Sunday, October 31, 2021 11:02 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Susan Von Schmacht

From: [REDACTED] on behalf of Nina Bohn <[REDACTED]>
Sent: Sunday, October 31, 2021 11:03 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Nina Bohn

From: [REDACTED] on behalf of Diana Umpierre
Sent: Sunday, October 31, 2021 11:03 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Diana Umpierre

[REDACTED] [REDACTED]

From: [REDACTED] on behalf of Lorraine LaRose
Sent: Sunday, October 31, 2021 11:06 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

Birds ARE one of the many animals, like the canary in the coal mines, that let us know we have gone too far!

Please, have studies run so we know what impact these SpaceX operations will have on our environment, affects on the land and water plus any possible contaminants/sound pollution the animals and people that live close to these sites may endure.

Science can help people...BUT can also cause deleterious affects too! Is illness or long term suffering worth it for fame-spaceship rides?

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Lorraine LaRose

[REDACTED]

From: [REDACTED] on behalf of Mark Lawler
Sent: Sunday, October 31, 2021 11:05 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

While I support SpaceX's effort to improve its ability to launch spacecraft near Boca Chica, TX, I am concerned about how it has neglected environmental impacts from its operations in the area. It must explore ways to reduce, eliminate, or mitigate impacts from its facilities and launch processes. Building a major industrial facility in the heart of this world-class bird, wildlife, and estuary habitat is not going to be without major impacts.

I ask the FAA to hold SpaceX accountable to meet federal and state environmental standards, and to minimize impacts to local communities.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Mark Lawler



From: [REDACTED] on behalf of Mary-Lou Molloy
Sent: Sunday, October 31, 2021 11:15 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Mary-Lou Molloy

From: [REDACTED] on behalf of Romona Czichos-Slaughter
Sent: Sunday, October 31, 2021 11:15 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Romona Czichos-Slaughter

From: [REDACTED] on behalf of Monica Bond <[REDACTED]>
Sent: Sunday, October 31, 2021 11:30 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I strongly urge the Federal Aviation Administration to properly analyze and minimize adverse impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. It is an absolute outrage that space exploration and tourism is facilitated by harming biodiversity here on Earth.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

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Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Monica Bond

[REDACTED]

From: [REDACTED] on behalf of Deborah Burge
Sent: Sunday, October 31, 2021 11:39 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Deborah Burge

From: [REDACTED] on behalf of Sara Gemind
Sent: Sunday, October 31, 2021 11:39 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Sara Gemind

From: [REDACTED] on behalf of Emily Danielson <[REDACTED]>
Sent: Sunday, October 31, 2021 11:50 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Emily Danielson
[REDACTED]

From: [REDACTED] on behalf of judith hoppe <[REDACTED]>
Sent: Monday, November 1, 2021 1:00 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
judith hoppe

From: [REDACTED] on behalf of Rebecca Desjardins <[REDACTED]>
@ [REDACTED]
Sent: Monday, November 1, 2021 1:00 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. Boca Chica is beautiful, and so, so important.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Rebecca Desjardins
[REDACTED]

From: [REDACTED] on behalf of Bob Bowes <[REDACTED]>
Sent: Monday, November 1, 2021 1:00 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Thank you for your attention on this matter.

Sincerely,
Bob Bowes

From: [REDACTED] on behalf of P.Davis <[REDACTED]>
Sent: Monday, November 1, 2021 1:00 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
P. Davis

[REDACTED]

From: [REDACTED] on behalf of Pat Smith-Morgan
Sent: Monday, November 1, 2021 1:00 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Pat Smith-Morgan

[REDACTED]

From: [REDACTED] on behalf of Catherine Jobling <[REDACTED]>
Sent: Monday, November 1, 2021 1:00 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

The area is ecologically important to endangered and threatened animal and bird species. However, the FAA has not done a full Environmental Impact Study. It has issued a draft Programmatic Environmental Assessment which is a quicker and less comprehensive environmental review. This review is not intensive enough for the facility's impact on the surrounding animals' habitats and ecology. SpaceX's plans and expansion are gravely threatening wildlife at the Boca Chica coastal region. Reject your current assessment and require/conduct a full EIS of SpaceX's plans. Too much is at risk for the unique species dependent on the area!

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Catherine Jobling

[Redacted signature block]

From: [REDACTED] on behalf of Juha Cantori
Sent: Monday, November 1, 2021 1:00 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Juha Cantori

[REDACTED]

From: [REDACTED] on behalf of SeEtta Moss <[REDACTED]>
Sent: Monday, November 1, 2021 1:00 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I have visited the South Texas areas including Boca Chica and Port Isabel on many occasions over the past 25 years that are being negatively impacted by Space X. As a birder, bird photographer and conservationist I am appalled that this destructive Space X operation is being allowed without a prior EIS conducted. I just cringed when I saw one their rockets blow up on take off sending fire and pressure waves some distance--what impact is that having on the native birds and other wildlife as well vegetation. And the poor people who live down there are putting with who knows what chemical drifts from this.

So like many others I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,

SeEtta Moss



From: [REDACTED] on behalf of Laurene Kapinos
Sent: Monday, November 1, 2021 1:00 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Thank you for your attention on this matter.

Sincerely,
Laurene Kapinos

From: [REDACTED] on behalf of lisa leong <[REDACTED]>
Sent: Monday, November 1, 2021 1:00 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
lisa leong

[REDACTED]

From: [REDACTED] on behalf of ANNELI GUSTAFSSON
Sent: Monday, November 1, 2021 1:04 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Thank you for your attention on this matter.

Sincerely,
ANNELI GUSTAFSSON
[REDACTED]

From: [REDACTED] on behalf of Nancy Lyn O'Neill
Sent: Monday, November 1, 2021 1:09 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply outraged about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. There is no justification to allow Space X to use this land because of the direct and dire impact on birds and other wildlife, who count on our protection of their always shrinking habitat!

Please remove all rights of Space X to use, build and launch on this very vulnerable land! Space X and all sponsors and investors have more areas to choose from. Please make them aware and accountable!

Sincerely,

Nancy L O'Neill Burton
Hemet, CA

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,

Nancy Lyn O'Neill

[REDACTED]

From: [REDACTED] on behalf of Laura Aarnio
Sent: Monday, November 1, 2021 1:15 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Laura Aarnio

[REDACTED]

From: [REDACTED] on behalf of Ana andrade <[REDACTED]>
Sent: Monday, November 1, 2021 1:55 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Ana andrade

From: [REDACTED] on behalf of Michelle LaVitola <[REDACTED]>
Sent: Monday, November 1, 2021 2:06 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Michelle LaVitola

From: [REDACTED] on behalf of Kathleen Panarisi
Sent: Monday, November 1, 2021 2:06 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Kathleen Panarisi

From: [REDACTED] on behalf of Christine Parry <[REDACTED]>
Sent: Monday, November 1, 2021 2:12 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

This is a matter critical importance to me. I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Christine Parry

From: [REDACTED] on behalf of Ed Dobson <[REDACTED]>
Sent: Monday, November 1, 2021 2:13 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Ed Dobson

[REDACTED]

From: [REDACTED] on behalf of Melissa Barnard <[REDACTED]>
Sent: Monday, November 1, 2021 2:15 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Melissa Barnard

From: [REDACTED] on behalf of Marilyn Groves <[REDACTED]>
Sent: Monday, November 1, 2021 2:39 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Marilyn Groves

[REDACTED]

From: [REDACTED] on behalf of Oleksandra Sokurenko
Sent: Monday, November 1, 2021 2:47 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Oleksandra Sokurenko

From: [REDACTED] on behalf of Marlene Bicardi
Sent: Monday, November 1, 2021 2:59 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Marlene Bicardi

From: [REDACTED] on behalf of Dennis Miller <[REDACTED]>
Sent: Monday, November 1, 2021 3:28 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Dennis Miller

[REDACTED]

From: [REDACTED] on behalf of Robin Meyer
Sent: Monday, November 1, 2021 3:38 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

Federal Aviation Administration
Comment on SpaceX Starship/Super Heavy project

Dear Administration Director:

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. Not only are people affected by launch activities, fires and rocket debris but also sensitive wildlife such as sea turtles, the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Robin Meyer

[REDACTED]

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Robin Meyer

[REDACTED]

From: [REDACTED] on behalf of Lisa Savage <[REDACTED]>
Sent: Monday, November 1, 2021 3:38 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

As the founder of the Maine Natural Guard, I invite people to connect the dots between militarism and climate harms. I will soon be adding space operations to my website as the general environmental harms of space programs are ignored as if they were invisible.

I am concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Lisa Savage

From: [REDACTED] on behalf of Kerry Willhoft <[REDACTED]>
Sent: Monday, November 1, 2021 3:42 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Kerry Willhoft
[REDACTED]

From: [REDACTED] on behalf of David Klinges <[REDACTED]>
Sent: Monday, November 1, 2021 3:42 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I have personally witnessed the depraved activities that private space-travel company SpaceX perpetuates on the land, waters, animals, plants, and community of Boca Chica, and no government agency can permit this company to operate without the highest degree of regulation, oversight, and supervision. Elon Musk has built his private Spacetopia right in the middle of the Lower Rio Grande Delta National Wildlife Refuge, one of the most significant parcels of public land in a state where 95% of land is privately owned. Despite the conservation imperatives of this important ecosystem, home to endangered species such as the Ocelot, Elon Musk and SpaceX have been allowed to operate with impunity an experimental launchpad that is devastating the natural scenic and ecological qualities that made Boca Chica beach a cherished haven for generations of Texans. Despite the presence of 5 endangered sea turtle species which nest here (more than can be found on any other beach in the US), SpaceX hosts enormous floodlights pointed directly at the beach which illuminate the entire facilities, destroy the nighttime tranquility of the beach, and surely lead countless hatchling sea turtles to their death, because these newborn turtles instinctively crawl towards light. In many locations around the world, substantial sea turtle nestling mortality is associated with bright lights and developments.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
David Klinges

[REDACTED]

From: [REDACTED] on behalf of Ashley Krampien
Sent: Monday, November 1, 2021 3:42 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Ashley Krampien

From: [REDACTED] on behalf of Dennis Miller <[REDACTED]>
Sent: Monday, November 1, 2021 3:56 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Dennis Miller

From: [REDACTED] on behalf of Veronica Mohn
Sent: Monday, November 1, 2021 4:11 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Veronica Mohn

From: [REDACTED] on behalf of Sadie Al <[REDACTED]>
Sent: Monday, November 1, 2021 4:23 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Sadie Al

From: [REDACTED] on behalf of Jeff Altaffer <[REDACTED]>
Sent: Monday, November 1, 2021 4:30 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Jeff Altaffer

[REDACTED]

From: [REDACTED] on behalf of Walter Levernier
Sent: Monday, November 1, 2021 4:25 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about SpaceX's impact to the local environment. Several threatened and endangered species spend significant time near the SpaceX facility so this area should have a full EIS in order to fully understand the impacts that will occur to these rapidly declining species.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Walter Levernier

From: [REDACTED] on behalf of Beth Goldin
Sent: Monday, November 1, 2021 4:31 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Beth Goldin

From: [REDACTED] on behalf of Lily Lopez <[REDACTED]>
Sent: Monday, November 1, 2021 4:43 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Lily Lopez

[REDACTED]

From: [REDACTED] on behalf of Daniel Sneed <[REDACTED]>
Sent: Monday, November 1, 2021 4:43 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Daniel Sneed

From: [REDACTED] on behalf of Dorothy Macnak <[REDACTED]>
Sent: Monday, November 1, 2021 4:46 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Dorothy Macnak

From: [REDACTED] on behalf of gj rosenberg
Sent: Monday, November 1, 2021 4:48 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

As a concerned citizen, I am deeply troubled about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
gj rosenberg
[REDACTED]

From: [REDACTED] on behalf of farkas Cindi <[REDACTED]>
Sent: Monday, November 1, 2021 4:50 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
farkas Cindi

From: [REDACTED] on behalf of Margaret Hill <[REDACTED]>
Sent: Monday, November 1, 2021 4:54 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Margaret Hill

[REDACTED] [REDACTED]

From: [REDACTED] on behalf of Linda Tolmie <[REDACTED]>
Sent: Monday, November 1, 2021 4:56 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Linda Tolmie

[REDACTED]

From: [REDACTED] on behalf of Linda Howie <[REDACTED]>
Sent: Monday, November 1, 2021 5:01 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Linda Howie

From: [REDACTED] on behalf of Madeline Spalding
Sent: Monday, November 1, 2021 5:08 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Madeline Spalding

From: [REDACTED] on behalf of Prescott McCurdy
Sent: Monday, November 1, 2021 5:09 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. WHY isn't the EPA involved?

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Prescott McCurdy
[REDACTED]

From: [REDACTED] on behalf of Amanda Garcia-Williams
Sent: Monday, November 1, 2021 5:10 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

Recent research has found that the United States has lost an estimated quarter of its bird population over the past 50 years. This amounts to a loss of over 3 billion birds. Grassland birds and shore birds have seen even more significant decreases in population due to loss of habitat from pollution and development. Now is the time to take action to protect the remaining populations of critical bird species before it is too late.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,

Amanda Garcia-Williams



From: [REDACTED] on behalf of Nate Goldschlag <[REDACTED]>
Sent: Monday, November 1, 2021 5:20 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,

[REDACTED]

From: [REDACTED] on behalf of Diane Krause <[REDACTED]>
Sent: Monday, November 1, 2021 5:22 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Diane Krause

From: [REDACTED] on behalf of Nicole Maurone
Sent: Monday, November 1, 2021 5:25 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Nicole Maurone

From: [REDACTED] on behalf of Amelia Dias <[REDACTED]>
Sent: Monday, November 1, 2021 5:31 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

It is deeply distressing to read that the SpaceX operations in Boca Chica, the Starship/Super Heavy Project and launch site, are not following their originally approved plans and that a complete environmental impact study was not done. Without getting into the usefulness of a "project" that seems to be the product of one man's ego, we know that an EIS should have been required from the outset for such an important site.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Amelia Dias

From: [REDACTED] on behalf of Cheryl Hauskins
Sent: Monday, November 1, 2021 5:32 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Cheryl Hauskins

From: [REDACTED] on behalf of Sheri Gedlinske
Sent: Monday, November 1, 2021 5:37 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

Please require a full Environmental Impact Statement for the SpaceX/Super Heavy project! Growing a new private citizen space project and business requires not only innovation but responsibility. An EIS provides a pathway for responsible and sustainable development that can lead to a successful and healthier future for humans and nature. To be able to continue our ventures into space, we must take care of the planet we come from.

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,

Sheri Gedlinske



From: [REDACTED] on behalf of Deborah Burke
Sent: Monday, November 1, 2021 5:39 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

Please prevent Space X from killing more wildlife including birds like the Piping Plover, Red Knot and Endangered Northern Aplomado Falcon. This is an easy YES WE WILL-I hope. Please insist on a comprehensive environmental assessment. Just the size of this new rocket into space will harm the environment and the many birds and other wildlife in the area. Please stop Space X! Even the increased area for this large rocket ship is concerning. PLEASE DO SOMETHING TO PROTECT EARTH AND HER SPECIES.

Thank you
Deborah Burke

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Deborah Burke

[REDACTED]

From: [REDACTED] on behalf of Cindy Araya [REDACTED]
Sent: Monday, November 1, 2021 5:40 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Cindy Araya

From: [REDACTED] on behalf of Carol Crane <[REDACTED]>
Sent: Monday, November 1, 2021 5:40 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

Because FAA is a federal agency and its authorization is required, and federally-listed endangered and threatened species are likely to be adversely impacted, the FAA is required to perform a Section 10 Consultation under the Endangered Species Act. Contact the USFWS Endangered Species Office in Albuquerque, NM, for direction. I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Carol Crane

From: [REDACTED] on behalf of Nancy McAleer <[REDACTED]>
Sent: Monday, November 1, 2021 5:42 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Nancy McAleer
[REDACTED]

From: [REDACTED] on behalf of Emily Buiwe <[REDACTED]>
Sent: Monday, November 1, 2021 5:45 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Emily Buiwe

From: [REDACTED] on behalf of Joan Cox <[REDACTED]>
Sent: Monday, November 1, 2021 5:51 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Joan Cox

From: [REDACTED] on behalf of Etelle Higonnet
Sent: Monday, November 1, 2021 5:52 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Etelle Higonnet
[REDACTED]

From: [REDACTED] on behalf of Nikki Wojtalik <[REDACTED]>
Sent: Monday, November 1, 2021 5:53 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Thank you for your attention on this matter.

Sincerely,
Nikki Wojtalik
[REDACTED]

From: [REDACTED] on behalf of Lauren Gedlinske
Sent: Monday, November 1, 2021 5:55 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. Make SpaceX play by the rules instead of giving them a free pass. We can no longer ignore the impact we have had on the planet. I will continue to watch how you vote on environmental issues and I will not vote for you if you neglect the environment and let the uber rich play by their own rules.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Lauren Gedlinske
[REDACTED]

From: [REDACTED] on behalf of Nora Reinke <[REDACTED]>
Sent: Monday, November 1, 2021 6:03 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Nora Reinke

From: [REDACTED] on behalf of Priscilla Massie
Sent: Monday, November 1, 2021 6:07 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Priscilla Massie

[REDACTED]

From: [REDACTED] on behalf of Rosie Wuebbels
Sent: Monday, November 1, 2021 6:08 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Thank you for your attention on this matter.

Sincerely,
Rosie Wuebbels

From: [REDACTED] on behalf of Zoe Spiropoulou <[REDACTED]>
Sent: Monday, November 1, 2021 6:17 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Zoe Spiropoulou
[REDACTED]

From: [REDACTED] on behalf of Kevin Kimmel
Sent: Monday, November 1, 2021 6:18 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Kevin Kimmel

[REDACTED]

From: [REDACTED] on behalf of Russell Gay
Sent: Monday, November 1, 2021 6:17 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Russell Gay

[REDACTED] [REDACTED]

From: [REDACTED] on behalf of Kathy Freeman <[REDACTED]>
Sent: Monday, November 1, 2021 6:19 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. No action should be taken unless a complete Environmental Impact Statement is submitted for the actual development that will take place.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Kathy Freeman
[REDACTED]

From: [REDACTED] on behalf of Robert Dornfeld <[REDACTED]>
Sent: Monday, November 1, 2021 6:25 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Robert Dornfeld

From: [REDACTED] on behalf of Scott Watkins <[REDACTED]>
Sent: Monday, November 1, 2021 6:21 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Scott Watkins

From: [REDACTED] on behalf of Suzanne Tallichet <[REDACTED]>
Sent: Monday, November 1, 2021 6:28 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Suzanne Tallichet

From: [REDACTED] on behalf of Barbara Sams <[REDACTED]>
Sent: Monday, November 1, 2021 6:28 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Barbara Sams

From: [REDACTED] on behalf of Shannon Livingston <[REDACTED]>
Sent: Monday, November 1, 2021 6:29 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. Please ensure that a full environmental impact assessment is completed to fully understand the impacts that this project will have on the area. In addition to the current activities at this operation, please also consider any future operations and make future assessments a priority. Exploration of space should not destroy the environment of the planet we live on now.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Shannon Livingston

From: [REDACTED] on behalf of Barbara Tetro <[REDACTED]>
Sent: Monday, November 1, 2021 6:30 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Barbara Tetro

From: [REDACTED] on behalf of Anita Anderson
Sent: Monday, November 1, 2021 6:33 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Anita Anderson

[REDACTED]

From: [REDACTED] on behalf of Ellen Stauffer <[REDACTED]>
Sent: Monday, November 1, 2021 6:34 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Ellen Stauffer

From: [REDACTED] on behalf of Robert Dornfeld <[REDACTED]>
Sent: Monday, November 1, 2021 6:25 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Robert Dornfeld

From: [REDACTED] on behalf of Susan Bonta
Sent: Monday, November 1, 2021 6:37 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Susan Bonta

From: [REDACTED] on behalf of Tim Freiday <[REDACTED]>
Sent: Monday, November 1, 2021 6:45 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Tim Freiday
[REDACTED]

From: [REDACTED] on behalf of Karen Zoller <[REDACTED]>
Sent: Monday, November 1, 2021 6:45 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Karen Zoller

From: [REDACTED] on behalf of Brian Tinker <[REDACTED]>
Sent: Monday, November 1, 2021 6:48 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. Shorebird habitat is in a steep decline, and population sizes are plummeting. These species must be given more consideration in the planning process for any projects that could further impact their populations.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Brian Tinker

From: [REDACTED] on behalf of Tami Adams <[REDACTED]>
Sent: Monday, November 1, 2021 6:50 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Tami Adams

[REDACTED]

From: [REDACTED] on behalf of Susan Meyerholz
Sent: Monday, November 1, 2021 6:49 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Susan Meyerholz

From: [REDACTED] on behalf of Erica Mumford
Sent: Monday, November 1, 2021 6:51 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Erica Mumford
[REDACTED]

From: [REDACTED] on behalf of Teresa Iovino
Sent: Monday, November 1, 2021 6:52 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Teresa Iovino

From: [REDACTED] on behalf of Lisa Brewster
Sent: Monday, November 1, 2021 6:52 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Lisa Brewster

From: [REDACTED] on behalf of Mary Proctor
Sent: Monday, November 1, 2021 6:53 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. Birds reflect the health of the planet and it is judicious to pay attention to the protected environment of the birds for the long term future of human beings.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Mary Proctor

[REDACTED] [REDACTED]

From: [REDACTED] on behalf of Heather Kraus <[REDACTED]>
Sent: Monday, November 1, 2021 6:57 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

Dear Elected Official,

I am deeply concerned about the impact SpaceX operations in Boca Chica will have on birds and other wildlife. The company's Starship/Super Heavy Project and launch site are being built and expanded in the area, but proper consideration for environmental impacts have not be taken into consideration.

It should be our responsibility as citizens of the Earth to protect our planet. While space exploration may have noble goals, our foremost responsibility to the planet and future generations is to protect the resources HERE ON EARTH. As such I ask you to conduct a full environmental impact assessment.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,

Heather Kraus



From: [REDACTED] on behalf of Mary Ann Martin
Sent: Monday, November 1, 2021 7:00 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

Please stop this push towards extinction for more precious species.

Public lands should only be used after a thorough review. If wildlife is endangered these plans must not be allowed to go forward!! I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Mary Ann Martin

[REDACTED] [REDACTED]

From: [REDACTED] on behalf of Diane Olsen <[REDACTED]>
Sent: Monday, November 1, 2021 7:02 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

It is concerning that the FAA may consider an abbreviated environmental impact report for the Space X Boca Chica site in south Texas. An expansion of activities and scope of the projects warrants a full Environmental Impact study as the areas that are being affected are highly sensitive to disturbances that will surely come from this expansion. It is your responsibility to assure that Space X does its bud diligence to cause as little harm as possible. Please require a comprehensive EIS for this project.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Diane Olsen

From: [REDACTED] on behalf of Karla Lara <[REDACTED]>
Sent: Monday, November 1, 2021 7:10 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Karla Lara

[REDACTED]

From: [REDACTED] on behalf of Megan Reed <[REDACTED]>
Sent: Monday, November 1, 2021 7:08 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Megan Reed
[REDACTED]

From: [REDACTED] on behalf of Rebecca Luening
Sent: Monday, November 1, 2021 7:13 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Rebecca Luening

[REDACTED]

From: [REDACTED] on behalf of michele martin <[REDACTED]>
Sent: Monday, November 1, 2021 7:14 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
michele martin

[REDACTED]

From: [REDACTED] on behalf of Julie Levine <[REDACTED]>
Sent: Monday, November 1, 2021 7:17 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Julie Levine

From: [REDACTED] on behalf of Jill Mossor <[REDACTED]>
Sent: Monday, November 1, 2021 7:19 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Jill Mossor

From: [REDACTED] on behalf of Irene Liu <[REDACTED]>
Sent: Monday, November 1, 2021 7:19 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

Please do not prioritize SpaceX's work over the wellbeing of the land that provides free environmental services (like water and air quality) to humans.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Irene Liu

From: [REDACTED] on behalf of Kelly Carlson
Sent: Monday, November 1, 2021 7:25 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Kelly Carlson

[REDACTED] [REDACTED]

From: [REDACTED] on behalf of John Meehan
Sent: Monday, November 1, 2021 7:28 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
John Meehan

[REDACTED]

From: [REDACTED] on behalf of Cara Joos <[REDACTED]>
Sent: Monday, November 1, 2021 7:35 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Cara Joos

From: [REDACTED] on behalf of Aaron Virgin <[REDACTED]>
Sent: Monday, November 1, 2021 7:37 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Aaron Virgin

From: [REDACTED] on behalf of Helen Obenchain
Sent: Monday, November 1, 2021 7:39 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Helen Obenchain

From: [REDACTED] on behalf of Stephen Gliva <[REDACTED]>
Sent: Monday, November 1, 2021 7:39 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Stephen Gliva

From: [REDACTED] on behalf of Virginia Newman
Sent: Monday, November 1, 2021 7:41 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Virginia Newman
[REDACTED]

From: [REDACTED] on behalf of Erika Sanders <[REDACTED]>
@ [REDACTED]
Sent: Monday, November 1, 2021 7:41 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Erika Sanders

From: [REDACTED] on behalf of ellen wertheim <[REDACTED]>
Sent: Monday, November 1, 2021 7:43 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
ellen wertheim

From: [REDACTED] on behalf of Cindy Koch <[REDACTED]>
Sent: Monday, November 1, 2021 7:45 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Cindy Koch

From: [REDACTED] on behalf of Amanda Kemp <[REDACTED]>
Sent: Monday, November 1, 2021 7:49 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Amanda Kemp

From: [REDACTED] on behalf of Jenna Roth <[REDACTED]>
Sent: Monday, November 1, 2021 7:53 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Jenna Roth

[REDACTED]

From: [REDACTED] on behalf of Michael Carpenter
Sent: Monday, November 1, 2021 7:56 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. A new EIA is required before any expansion beyond the original footprint. I also believe that additional assessment under NEPA is required. There can be no reason to go forward until these reviews are satisfactorily completed.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Michael Carpenter

[REDACTED] [REDACTED]

From: [REDACTED] on behalf of Connie Cooper <[REDACTED]>
Sent: Monday, November 1, 2021 8:01 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

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Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Connie Cooper

[REDACTED]

From: [REDACTED] on behalf of Linda Giorgianni
Sent: Monday, November 1, 2021 8:05 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Linda Giorgianni

[REDACTED] [REDACTED]

From: [REDACTED] on behalf of Barry Kesselman
Sent: Monday, November 1, 2021 7:53 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX is important. So is the land and all the creatures that live upon it. Spending the money that naturalists and environmentalists insist is necessary to protect and preserve these habitats is simply the ordinary cost of doing business. More life preserved. Less profit. This is what is right policy.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Barry Kesselman



From: [REDACTED] on behalf of Roxanne Donohue
Sent: Monday, November 1, 2021 8:08 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Roxanne Donohue

From: [REDACTED] on behalf of Steven Smith <[REDACTED]>
Sent: Monday, November 1, 2021 8:09 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

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Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Steven Smith

[REDACTED]

From: [REDACTED] on behalf of Jennifer Linander
Sent: Monday, November 1, 2021 8:09 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

Federal regulators not considering state or local impacts is a deeply concerning trend and the short-sightedness makes me ashamed to be a part of this country. We need to take care of the planet we have, not speed it's decline trying to leave it. Red Knots are already facing population issues due to a dwindling food supply during their migration; please don't make their population take another hit with SpaceX. Please do your due diligence and consider the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

Thank you.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Jennifer Linander

[REDACTED]

From: [REDACTED] on behalf of Craig Campeau
Sent: Monday, November 1, 2021 8:11 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Craig Campeau

[REDACTED] [REDACTED]

From: [REDACTED] on behalf of Emily Fellows <[REDACTED]>
Sent: Monday, November 1, 2021 8:12 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

You've got to be kidding me!!!!

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Emily Fellows
[REDACTED] [REDACTED]

From: [REDACTED] on behalf of Tara Wheeler <[REDACTED]>
Sent: Monday, November 1, 2021 8:13 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

Take care & God Bless All . . .

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Tara Wheeler

From: [REDACTED] on behalf of Carol Smith
Sent: Monday, November 1, 2021 8:13 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Carol Smith

From: [REDACTED] on behalf of Barbara Rogers [REDACTED]
Sent: Monday, November 1, 2021 8:15 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Barbara Rogers
[REDACTED]

From: [REDACTED] on behalf of Lauren Utykanski <[REDACTED]>
Sent: Monday, November 1, 2021 8:21 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

I currently live 15-20 minutes south of a proposed Space X site near Marquette, MI, and will be anxiously awaiting a detailed environmental impact survey to understand how these rocket launch sites could destroy habitat for a number of species. These plants and animals already have faced a huge amount of habitat loss -- and we are only beginning to understand the global consequences of this loss.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that -- according to the National Environmental Policy Act -- the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year -- from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,

Lauren Utykanski



From: [REDACTED] on behalf of Robert Marvonek
Sent: Monday, November 1, 2021 8:31 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Robert Marvonek

From: [REDACTED] on behalf of Gloria Chepko <[REDACTED]>
Sent: Monday, November 1, 2021 8:34 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Gloria Chepko

From: [REDACTED] on behalf of Terri Lynas <[REDACTED]>
Sent: Monday, November 1, 2021 8:35 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Terri Lynas

From: [REDACTED] on behalf of Donald Mackler
Sent: Monday, November 1, 2021 8:35 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Donald Mackler

From: [REDACTED] on behalf of Toshi Handy <[REDACTED]>
Sent: Monday, November 1, 2021 8:35 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Toshi Handy

From: [REDACTED] on behalf of Nancy Tikalsky <[REDACTED]>
Sent: Monday, November 1, 2021 8:36 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Nancy Tikalsky

[REDACTED]

From: [REDACTED] on behalf of Hygie Starr <[REDACTED]>
Sent: Monday, November 1, 2021 8:39 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Hygie Starr

From: [REDACTED] on behalf of Michelle Thrower
Sent: Monday, November 1, 2021 8:41 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Michelle Thrower

From: [REDACTED] on behalf of Matthew Sabourin
Sent: Monday, November 1, 2021 8:41 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Matthew Sabourin

From: [REDACTED] on behalf of Tina Eden <[REDACTED]>
Sent: Monday, November 1, 2021 8:47 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Tina Eden

From: [REDACTED] on behalf of Michelle Millenacker
Sent: Monday, November 1, 2021 8:48 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Michelle Millenacker
[REDACTED]

From: [REDACTED] on behalf of Socorro Muller Sargent
Sent: Monday, November 1, 2021 8:52 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Socorro Muller Sargent
[REDACTED]

From: [REDACTED] on behalf of Clark Logan <[REDACTED]>
Sent: Monday, November 1, 2021 8:53 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Clark Logan

[REDACTED]

From: [REDACTED] on behalf of Irene Weinman
Sent: Monday, November 1, 2021 8:58 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Irene Weinman

[REDACTED]

From: [REDACTED] on behalf of Deborah Laurel <[REDACTED]>
Sent: Monday, November 1, 2021 9:01 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am a Texas native who visited the barrier islands on the Texas Gulf Coast many times. These islands are sacred spaces for the many species of birds that depend on them. With bird populations crashing by an average of 30%, we must do everything we can to preserve nesting habitat for native birds. I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

BIRDS TAUGHT US HOW TO FLY! We must show our appreciation by respecting the habitat they desperately need for survival.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,

Deborah Laurel



From: [REDACTED] on behalf of Lynn Ehrhart
Sent: Monday, November 1, 2021 9:02 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Lynn Ehrhart

From: [REDACTED] on behalf of tina wilson <[REDACTED]>
Sent: Monday, November 1, 2021 9:04 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
tina wilson

From: [REDACTED] on behalf of Karen Heuler
Sent: Monday, November 1, 2021 9:06 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Karen Heuler

From: [REDACTED] on behalf of Marleen Neus
Sent: Monday, November 1, 2021 9:09 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Marleen Neus

[REDACTED]

From: [REDACTED] on behalf of jackie stremlau
Sent: Monday, November 1, 2021 9:12 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
jackie stremlau

From: [REDACTED] on behalf of Elizabeth Collins
Sent: Monday, November 1, 2021 9:13 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

If the goal is to improve humanity's happiness and connectedness, and make a massive profit, then you'd do well to do all you can to protect the habitat and resident animals who are already an integral part of the earth's ecosystem and are extremely valuable too.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,

Elizabeth Collins



From: [REDACTED] on behalf of Alex Summers
Sent: Monday, November 1, 2021 9:14 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Alex Summers

From: [REDACTED] on behalf of Christine Cavataio
Sent: Monday, November 1, 2021 9:15 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am alarmed to learn the details about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

It is time to take action before more destruction occurs to this ecosystem.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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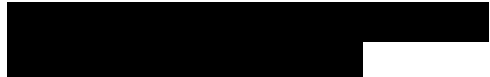
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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,

Christine Cavataio



From: [REDACTED] on behalf of kathy monaco
Sent: Monday, November 1, 2021 9:15 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
kathy monaco
[REDACTED]

From: [REDACTED] on behalf of Joyce A Montenegro <[REDACTED]>
@ [REDACTED]
Sent: Monday, November 1, 2021 9:17 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Joyce A Montenegro
[REDACTED]

From: [REDACTED] on behalf of Krista Hunter
Sent: Monday, November 1, 2021 9:21 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Krista Hunter

[REDACTED]

From: [REDACTED] on behalf of Ana F Gonzalez-Perez
Sent: Monday, November 1, 2021 9:23 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Ana F Gonzalez-Perez

From: [REDACTED] on behalf of Brian Whipple
Sent: Monday, November 1, 2021 9:28 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

SpaceX doesn't matter. Please end this.

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Brian Whipple

[REDACTED] [REDACTED]

From: [REDACTED] on behalf of Joyce Coogan <[REDACTED]>
Sent: Monday, November 1, 2021 9:33 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Joyce Coogan

From: [REDACTED] on behalf of T Vlasak <[REDACTED]>
Sent: Monday, November 1, 2021 9:39 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
T Vlasak

[REDACTED]

From: [REDACTED] on behalf of Carlene Grassmid [REDACTED]
Sent: Monday, November 1, 2021 9:40 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. Please think about all of the ramifications on wild life and ultimately human life as well before you move on this environmental journey.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Carlene Grassmid

From: [REDACTED] on behalf of Pinnell Janna <[REDACTED]>
Sent: Monday, November 1, 2021 9:40 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Thank you for your attention on this matter.

Sincerely,
Pinnell Janna

From: [REDACTED] on behalf of Eugenia Economos
Sent: Monday, November 1, 2021 9:42 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Eugenia Economos

From: [REDACTED] on behalf of Lydia Bohm <[REDACTED]>
Sent: Monday, November 1, 2021 9:45 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Lydia Bohm

From: [REDACTED] on behalf of Tahirih Hanson
Sent: Monday, November 1, 2021 9:44 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

Some day your children and grandchildren will ask you why you were killing birds and other wildlife by SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Tahirih Hanson

From: [REDACTED] on behalf of Diane Wallace <[REDACTED]>
Sent: Monday, November 1, 2021 9:45 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Diane Wallace

From: [REDACTED] on behalf of M McGillivary
Sent: Monday, November 1, 2021 9:45 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
M McGillivary

From: [REDACTED] on behalf of Diane Wallace <[REDACTED]>
Sent: Monday, November 1, 2021 9:47 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Diane Wallace

From: [REDACTED] on behalf of Virginia Shaller
Sent: Monday, November 1, 2021 9:50 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. I ask for a review of current situation as to its effect on birds and turtles. I Demand the FAA do a new study to determine the environmental harm being done by SpaceX operations.

Thank you!!

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Virginia Shaller

From: [REDACTED] on behalf of Sarah Stewart <[REDACTED]>
Sent: Monday, November 1, 2021 9:52 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Sarah Stewart

From: [REDACTED] on behalf of Susan Jones <[REDACTED]>
Sent: Monday, November 1, 2021 9:54 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Susan Jones

From: [REDACTED] on behalf of Iris Sinai <[REDACTED]>
Sent: Monday, November 1, 2021 9:54 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Iris Sinai

[REDACTED]

From: [REDACTED] on behalf of Amelia Jones <[REDACTED]>
Sent: Monday, November 1, 2021 9:56 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

Of course, the work on space flight and travel is quite cool! BUT, the use of all the fossil fuels associated with these projects ALONE is an environmental disaster.

I am super concerned about the impact to wildlife and land on this draft PEA. In fact, i am against it. We need a full scale EIS. I am unhappy with talk about the work of battling climate change and then turning around to do nothing about it.

Lets do a full on environmental impact study on SpaceX plans. This company will work within that framework to make everything better for our environment. Lets make sure we ask it of them.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Amelia Jones

[Redacted signature]

From: [REDACTED] on behalf of Aleda Diggins
Sent: Monday, November 1, 2021 9:58 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

Please require a full EIS before allowing further development. For now that means the No Action Alternative. Endangered sea turtles, mammals and birds are at stake! We cannot replace or relocate them. SpaceX did not get required EISs done, so SpaceX should pay the price of its negligence, not wildlife. I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Aleda Diggins
[REDACTED]



From: [REDACTED] on behalf of Gerolynn Laukevicz <[REDACTED]>
@ [REDACTED]
Sent: Monday, November 1, 2021 9:59 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Gerolynn Laukevicz
[REDACTED]

From: [REDACTED] on behalf of LIZ REMMERSWAAL <[REDACTED]>
Sent: Monday, November 1, 2021 10:00 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
LIZ REMMERSWAAL

[REDACTED]

From: [REDACTED] on behalf of Leslie Sutliff <[REDACTED]>
Sent: Monday, November 1, 2021 10:01 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Leslie Sutliff

[REDACTED]

From: [REDACTED] on behalf of Denise Hopkins <[REDACTED]>
Sent: Monday, November 1, 2021 10:04 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I used to live in Port Isabel, TX, and would watch in horror every time SpaceX launched another rocket doomed to explode and land in endangered species habitat. My husband worked with UTRGV on road crossing structures in the Brownsville/Port Isabel/Laguna Vista area, and we were always in awe at the delicate and intricate population of animals there. He saw everything from huge alligators, deer, coyotes, armadillos, and even an ocelot on his project's cameras. All of them will be impacted by SpaceX without intervention. This area of Texas is beautiful and already struggles with ecological concern -- the one thing it doesn't need is expansion without concern for the environment from a mindless billionaire like Elon Musk.

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that -- according to the National Environmental Policy Act -- the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year -- from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Denise Hopkins

[REDACTED]

From: [REDACTED] on behalf of Sara Leblanc <[REDACTED]>
@ [REDACTED]
Sent: Monday, November 1, 2021 10:10 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Sara Leblanc

From: [REDACTED] on behalf of Carine Mitchell <[REDACTED]>
Sent: Monday, November 1, 2021 10:14 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Carine Mitchell

From: [REDACTED] on behalf of Patrick Niese <[REDACTED]>
Sent: Monday, November 1, 2021 10:19 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Patrick Niese

From: [REDACTED] on behalf of Mary Tardif
Sent: Monday, November 1, 2021 10:20 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Mary Tardif

From: [REDACTED] on behalf of Eliza Willis <[REDACTED]>
Sent: Monday, November 1, 2021 10:26 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

I cannot imagine how the government could forego an environmental impact analysis at this critical site for many threatened bird species. The FAA needs to act now to ensure SpaceX complies with our best environmental protection laws. We need a comprehensive environmental impact study.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Eliza Willis
[REDACTED]



From: [REDACTED] on behalf of Ann Edwards
Sent: Monday, November 1, 2021 10:27 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Ann Edwards

From: [REDACTED] on behalf of Patricia Akers
Sent: Monday, November 1, 2021 10:28 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Patricia Akers

From: [REDACTED] on behalf of Patience Trickett
Sent: Monday, November 1, 2021 10:30 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Patience Trickett

From: [REDACTED] on behalf of Eric Steele <[REDACTED]>
Sent: Monday, November 1, 2021 10:33 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Eric Steele

From: [REDACTED] on behalf of Jerome Moses <[REDACTED]>
Sent: Monday, November 1, 2021 10:36 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Jerome Moses

From: [REDACTED] on behalf of Brigit Rotondi <[REDACTED]>
Sent: Monday, November 1, 2021 10:37 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Brigit Rotondi
[REDACTED]

From: [REDACTED] on behalf of Vera Levitt <[REDACTED]>
Sent: Monday, November 1, 2021 10:39 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Vera Levitt

From: [REDACTED] on behalf of Mary Tarallo <[REDACTED]>
Sent: Monday, November 1, 2021 10:41 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Mary Tarallo

[REDACTED]

From: [REDACTED] on behalf of Joanne Nikides <[REDACTED]>
Sent: Monday, November 1, 2021 10:55 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Joanne Nikides

From: [REDACTED] on behalf of Nina Hamilton
Sent: Monday, November 1, 2021 11:02 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Nina Hamilton

From: [REDACTED] on behalf of Jay Blotcher <[REDACTED]>
Sent: Monday, November 1, 2021 11:05 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

Nature is not replaceable.

When nature dies, we die.

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Jay Blotcher

From: [REDACTED] on behalf of Samuel Park <[REDACTED]>
Sent: Monday, November 1, 2021 11:11 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Samuel Park

From: [REDACTED] on behalf of Barbara and Mark Trombly <[REDACTED]>
Sent: Monday, November 1, 2021 11:12 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

WOULD YOU PLEASE DO WHAT YOU CAN TO STOP THE MURDER OF INNOCENTS?

THE PREVENTABLE DEATHS HAVE GONE ON WAY TOO LONG!!

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Barbara and Mark Trombly



From: [REDACTED] on behalf of Anne Marie Burnett <[REDACTED]>
Sent: Monday, November 1, 2021 11:15 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Anne Marie Burnett

From: [REDACTED] on behalf of Kenneth Hartman
Sent: Monday, November 1, 2021 11:15 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Kenneth Hartman

From: [REDACTED] on behalf of Jesús Franco
Sent: Monday, November 1, 2021 11:16 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Jesús Franco

From: [REDACTED] on behalf of Carol Leuenberger
Sent: Monday, November 1, 2021 11:18 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Carol Leuenberger

From: [REDACTED] on behalf of Helen Carlock <[REDACTED]>
Sent: Monday, November 1, 2021 11:23 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds, especially the Piping Plover, and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. Many of us in Chicago have come to love the Piping Plover pair that has successfully nested on one of our Lake Michigan beaches for several years. We want Monte and Rose and their offspring protected on the sites where they spend the winter.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Helen Carlock

[REDACTED] [REDACTED]

From: [REDACTED] on behalf of Joyce Kaye <[REDACTED]>
Sent: Monday, November 1, 2021 11:22 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Joyce Kaye

From: [REDACTED] on behalf of Beth Cole <[REDACTED]>
Sent: Monday, November 1, 2021 11:23 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Beth Cole

From: [REDACTED] on behalf of Yosuf Mansour
Sent: Monday, November 1, 2021 11:30 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Yosuf Mansour

From: [REDACTED] on behalf of Linda Pentz Gunter <[REDACTED]>
Sent: Monday, November 1, 2021 11:31 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. There is no need for these exorbitant and destructive ventures. We need to manage life on Earth.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Linda Pentz Gunter

From: [REDACTED] on behalf of Mari Schihl <[REDACTED]>
Sent: Monday, November 1, 2021 11:32 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Mari Schihl

[REDACTED]

From: [REDACTED] on behalf of Holley Short
Sent: Monday, November 1, 2021 11:32 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Holley Short

[REDACTED] [REDACTED]

From: [REDACTED] on behalf of Melissa Winn <[REDACTED]>
Sent: Monday, November 1, 2021 11:38 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Melissa Winn

From: [REDACTED] on behalf of saadia ali [REDACTED]
Sent: Monday, November 1, 2021 11:39 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
saadia ali

From: [REDACTED] on behalf of Hanneke Mol <[REDACTED]>
Sent: Monday, November 1, 2021 11:42 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Hanneke Mol

[REDACTED]

From: [REDACTED] on behalf of Pamela Roberson
Sent: Monday, November 1, 2021 11:52 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

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Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Pamela Roberson

From: [REDACTED] on behalf of diana banducci
Sent: Monday, November 1, 2021 11:54 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
diana banducci

From: [REDACTED] on behalf of Mary Patricia Dougherty <[REDACTED]>
Sent: Monday, November 1, 2021 11:56 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

As a landowner, birder and someone who cares, I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. I would urge you to work together with the conservation movement to make our place on earth as lucrative and viable as our journey to Mars. This can be easily done with the birds habitat in mind. Although they don't vote, we can extend a helping hand to them as well as create viable space program which Texas needs. My father was one of the first pioneers to launch a rocket with UT in 1957. he succeeded to get to 10,000 ft. when JKF's "Oppsnick" only made 3 ft. and failed. So I am not anti rocket or Rocket Man. But back then, bird habitat was less threatened. And even now,

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Mary Patricia Dougherty

[Redacted Signature]

From: [REDACTED] on behalf of Judith Hayden <[REDACTED]>
Sent: Monday, November 1, 2021 12:00 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Judith Hayden

From: [REDACTED] on behalf of Jeannine Pinnt
Sent: Monday, November 1, 2021 12:02 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Jeannine Pinnt

From: [REDACTED] on behalf of theodora kerry <[REDACTED]>
Sent: Monday, November 1, 2021 12:02 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. Despite the profound environmental effects of the SpaceX facility upon the surrounding public lands that are crucial to the ongoing survival of multiple bird species, sea turtles, and mammals, the FAA still has not conducted a full scale Environmental Impact Study as required by federal law. Once again, the rules are for me but not for thee. What's different is that "me" and "we" are now paying attention to all you elite rule-benders. You will be stopped. Our "Great Awakening" is far stronger than your "Great Reset". And unlike your plans, ours include the survival of birds, bees, mammals, sea life, and, yes, even billions of humans.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,

theodora kerry



From: [REDACTED] on behalf of Konstantina Karadima
Sent: Monday, November 1, 2021 12:05 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Konstantina Karadima

From: [REDACTED] on behalf of Judy Schriebman <[REDACTED]>
Sent: Monday, November 1, 2021 12:08 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

It is important that we not ruin our home while experimenting in space. This is not NASA; this is a corporation, built on ego and billions and they need to follow the rules we all have set up to protect our lands and wildlife.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Judy Schriebman
[REDACTED]

From: [REDACTED] on behalf of Melinda Averhart
Sent: Monday, November 1, 2021 12:14 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Melinda Averhart

[REDACTED]

From: [REDACTED] on behalf of David Willems <[REDACTED]>
Sent: Monday, November 1, 2021 12:15 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
David Willems

From: [REDACTED] on behalf of Kristi Lowery
Sent: Monday, November 1, 2021 12:15 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Kristi Lowery

From: [REDACTED] on behalf of Mark Cosgriff <[REDACTED]>
Sent: Monday, November 1, 2021 12:20 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Mark Cosgriff

From: [REDACTED] on behalf of James Byrne <[REDACTED]>
Sent: Monday, November 1, 2021 12:22 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
James Byrne

[REDACTED]

From: [REDACTED] on behalf of Chloe Brennan
Sent: Monday, November 1, 2021 12:25 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Chloe Brennan

From: [REDACTED] on behalf of Randall Collins <[REDACTED]>
Sent: Monday, November 1, 2021 12:26 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

Birds and other wildlife are being impacted by SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Randall Collins

From: [REDACTED] on behalf of Kay Daghlia
Sent: Monday, November 1, 2021 12:26 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Kay Daghlia

From: [REDACTED] on behalf of Danika Esden-Tempski
Sent: Monday, November 1, 2021 12:27 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Danika Esden-Tempski

From: [REDACTED] on behalf of Randy Juras <[REDACTED]>
Sent: Monday, November 1, 2021 12:30 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. Please consider the environmental impact.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Randy Juras

From: [REDACTED] on behalf of Evan Gedlinske
Sent: Monday, November 1, 2021 12:33 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Evan Gedlinske

From: [REDACTED] on behalf of El Mocarsky
Sent: Monday, November 1, 2021 12:34 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. Until an updated and thorough EIS is released for the new activity and impacts that were not covered in the 2014 assessment, Space-X must halt construction and expansion, or risk possible extinction of many species that are already protected by the ESA.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
El Mocarsky
[REDACTED]

From: [REDACTED] on behalf of Paul Jacyk <[REDACTED]>
Sent: Monday, November 1, 2021 12:36 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Paul Jacyk

[REDACTED]

From: [REDACTED] on behalf of Nikki Doyle <[REDACTED]>
Sent: Monday, November 1, 2021 12:38 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Nikki Doyle

From: [REDACTED] on behalf of Dorinda Degroff <[REDACTED]>
Sent: Monday, November 1, 2021 12:39 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Dorinda Degroff

[REDACTED]

From: [REDACTED] on behalf of Cee Casper <[REDACTED]>
@ [REDACTED]
Sent: Monday, November 1, 2021 12:38 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Cee Casper

From: [REDACTED] on behalf of Colleen Andrews <[REDACTED]>
Sent: Monday, November 1, 2021 12:43 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. These developments are a direct threat to wildlife and ecosystems that are already at high-risk for destruction from climate change and sea level rise. You are adding fuel to the fire if you don't request these projects to cease development.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Colleen Andrews
[REDACTED]

From: [REDACTED] on behalf of Mary Proteau
Sent: Monday, November 1, 2021 12:44 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am greatly concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

These billionaire "boys with toys" need to respect the fragility of the natural world---so much of which is under threat due to human activity. Stewardship of Earth should take precedence over the power of these billionaires.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Mary Proteau
[REDACTED]

From: [REDACTED] on behalf of Theresa Varner <[REDACTED]>
Sent: Monday, November 1, 2021 12:44 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Theresa Varner

From: [REDACTED] on behalf of Joan Dunn <[REDACTED]>
Sent: Monday, November 1, 2021 12:45 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

Please reject the current assessment on the SpaceX project in Boca Chica and conduct a full Environmental Impact Assessment on surrounding habitats and communities and threatened species in the area.

Joan Dunn

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Joan Dunn

From: [REDACTED] on behalf of Nancy Young <[REDACTED]>
Sent: Monday, November 1, 2021 12:35 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Nancy Young

From: [REDACTED] on behalf of Cheryl Williams <[REDACTED]>
Sent: Monday, November 1, 2021 12:46 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Cheryl Williams

From: [REDACTED] on behalf of Joan Wikler <[REDACTED]>
Sent: Monday, November 1, 2021 12:48 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Joan Wikler

From: [REDACTED] on behalf of Donna Ennis <[REDACTED]>
Sent: Monday, November 1, 2021 12:48 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Donna Ennis

From: [REDACTED] on behalf of Cory Ferguson <[REDACTED]>
Sent: Monday, November 1, 2021 12:52 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Cory Ferguson

[REDACTED] [REDACTED]

From: [REDACTED] on behalf of SHIELDS KAREN <[REDACTED]
@ [REDACTED]>
Sent: Monday, November 1, 2021 12:54 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

In particular, the loss of winter habitat of the Piping Plover is particularly concerning-i monitor these birds in NH and their decline is very disturbing!

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
SHIELDS KAREN
[REDACTED]



From: [REDACTED] on behalf of Caitlyn Smith
Sent: Monday, November 1, 2021 12:54 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Caitlyn Smith

[REDACTED]

From: [REDACTED] on behalf of Prem McMurdo
Sent: Monday, November 1, 2021 12:56 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

The wilderness and its wild occupants are facing extreme pressure from human intervention and exploitation from mining, drilling, development, climate change, hunting, and chemical use. It looks grim for the future survival of many species, especially birds. I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Prem McMurdo
[REDACTED]



From: [REDACTED] on behalf of Michael Plauche
Sent: Monday, November 1, 2021 12:56 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Michael Plauche

From: [REDACTED] on behalf of Sherry MacKinnon
Sent: Monday, November 1, 2021 12:57 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

Dear FAA Representative,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

Please conduct a comprehensive full scale Environmental Impact Study to thoroughly determine what detrimental effects, if any, the SpaceX facility is having particularly on Threatened and Endangered Species.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.


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Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Sherry MacKinnon

A solid black rectangular box used to redact the signature of Sherry MacKinnon.

From: [REDACTED] on behalf of Kevin Bedard <[REDACTED]>
Sent: Monday, November 1, 2021 12:57 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Kevin Bedard

From: [REDACTED] on behalf of Gary Weiner <[REDACTED]>
Sent: Monday, November 1, 2021 12:58 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Gary Weiner

From: [REDACTED] on behalf of Edward Seward
Sent: Monday, November 1, 2021 1:00 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Edward Seward
[REDACTED]

From: [REDACTED] on behalf of Lori Pivonka
Sent: Monday, November 1, 2021 1:01 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. Piping Plovers in particular have lost ground since the outset of Space X operations. It's not just about climate change, it's about using sustainable practices for wildlife to help them withstand the onslaught of challenges created by humans!

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Lori Pivonka

From: [REDACTED] on behalf of J H <[REDACTED]>
Sent: Monday, November 1, 2021 1:03 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
J H

[REDACTED]

From: [REDACTED] on behalf of Cynthia Williams <[REDACTED]>
Sent: Monday, November 1, 2021 1:05 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Cynthia Williams

[REDACTED]

From: [REDACTED] on behalf of Danny Policicchio
Sent: Monday, November 1, 2021 1:08 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Danny Policicchio

From: [REDACTED] on behalf of Murtaugh Flynn
Sent: Monday, November 1, 2021 1:10 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Murtaugh Flynn

From: [REDACTED] on behalf of KellyAnn Young
Sent: Monday, November 1, 2021 1:12 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

Who will protect the creatures of this Earth if not US?

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
KellyAnn Young
[REDACTED]



From: [REDACTED] on behalf of Cheryl Reich Reich <[REDACTED]>
Sent: Monday, November 1, 2021 1:13 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impact of SpaceX operations in Boca Chica, TX, on birds and other wildlife. SpaceX operations have changed significantly since 2014, when it was authorized to test and launch much smaller rockets. SpaceX is also now developing a natural gas facility to extract and deliver fuel to the site. These changes are substantial enough that per the National Environmental Policy Act, FAA should require a full Environmental Impact Statement, rather than the less comprehensive Programmatic Environmental Assessment (PEA) that has been produced. Construction, launch activities, fires, and rocket debris are already impacting the wildlife of the region which contains a critical and sensitive bird habitat sustaining hundreds of thousands of birds of many different species, several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact on wildlife. Project elements of significant complexity, e.g., liquefied natural gas processing and seawater desalination plants and solar farms, typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required. I support the No Action Alternative in the current assessment. I request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica. Thank you.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Cheryl Reich Reich

[Redacted signature block]

From: [REDACTED] on behalf of Catherine Williams
Sent: Monday, November 1, 2021 1:16 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Catherine Williams

From: [REDACTED] on behalf of Nadia Burguin [REDACTED]
Sent: Monday, November 1, 2021 1:18 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Nadia Burguin

From: [REDACTED] on behalf of Cynthia Hogan
Sent: Monday, November 1, 2021 1:23 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

There is no justification for endangering wildlife and destroying habitat so that rich people can entertain themselves with a 15 minute space ride.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Cynthia Hogan

From: [REDACTED] on behalf of Paula Chen <[REDACTED]>
Sent: Monday, November 1, 2021 1:23 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Paula Chen

[REDACTED]

From: [REDACTED] on behalf of Ariane Giudicelli <[REDACTED]>
Sent: Monday, November 1, 2021 1:24 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Ariane Giudicelli

From: [REDACTED] on behalf of SarA Snyder
Sent: Monday, November 1, 2021 1:24 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
SarA Snyder

From: [REDACTED] on behalf of Alexandra Wymetal <[REDACTED]>
Sent: Monday, November 1, 2021 1:28 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Alexandra Wymetal

[REDACTED] [REDACTED]

From: [REDACTED] on behalf of Lisa Kunsch
Sent: Monday, November 1, 2021 1:25 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Lisa Kunsch
[REDACTED]

From: [REDACTED] on behalf of Jonathan Shillington
Sent: Monday, November 1, 2021 1:29 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on Piping Plovers and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Jonathan Shillington
[REDACTED]

From: [REDACTED] on behalf of Kylie Wilson <[REDACTED]>
Sent: Monday, November 1, 2021 1:30 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

Piping plovers are federally threatened due to population declines resulting from disturbance and habitat loss. No development that would negatively impact sensitive nesting areas should be permitted.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Kylie Wilson



From: [REDACTED] on behalf of Florence Cormier <[REDACTED]>
Sent: Monday, November 1, 2021 1:36 PM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Florence Cormier

From: [REDACTED] on behalf of Carly Maki <[REDACTED]>
Sent: Tuesday, November 2, 2021 10:25 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds especially the Piping Plover which federal, state, and private organizations have spent thousands in hours and fiscal resources to protect and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. Why operations are being allowed to continue and proceed without proper research and approval is beyond devastating to me, my children's generation, and the well-being of our bio system.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Carly Maki

From: [REDACTED] on behalf of Keelin Kane
<[REDACTED]>
Sent: Tuesday, November 2, 2021 10:35 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. SpaceX is putting birds and other wildlife at risk in this critical coastal region of Boca Chica, Texas. The Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced. These lands support several species of sea turtle and mammals listed under the Endangered Species Act as well as both birds like the threatened Red Knot. Thank you.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,

Keelin Kane



From: [REDACTED] on behalf of Lee Ratcliffe <[REDACTED]>
Sent: Tuesday, November 2, 2021 10:45 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded. It is horrifying to know what is going on and that nothing is being done to stop it.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Lee Ratcliffe

From: [REDACTED] on behalf of Olivia Reinlander [REDACTED]
Sent: Tuesday, November 2, 2021 10:50 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Olivia Reinlander

From: [REDACTED] on behalf of Amanda Rodomista
Sent: Tuesday, November 2, 2021 5:40 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Amanda Rodomista

From: [REDACTED] on behalf of Victoria Salinas <[REDACTED]>
Sent: Tuesday, November 2, 2021 5:55 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Victoria Salinas

[REDACTED]

From: [REDACTED] on behalf of Benny Arieta <[REDACTED]>
Sent: Tuesday, November 2, 2021 6:04 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

Construction at the facility, launch activities, fires, and rocket debris are already impacting the wildlife and people of the Boca Chica region. This region contains critically important and sensitive bird habitat used by hundreds of thousands of individual birds of many different species throughout the year – from the federally Threatened Piping Plover and Red Knot to the Endangered Northern Aplomado Falcon. According to an analysis by Coastal Bend Bays & Estuaries Program in Corpus Christi, the Piping Plover population in the Boca Chica region has decreased by 54% over the past 3 years (2018-2021) since SpaceX started testing and launching rockets.

These lands also support several species of sea turtle and mammals listed under the Endangered Species Act. The current assessment fails to adequately analyze the impact of operations on wildlife, the environment, and surrounding communities. The assessment presents only two alternatives to be considered: a Preferred Alternative and a No Action Alternative. At this time, the No Action Alternative is recommended by conservation organizations given the lack of an in-depth EIS.

Various individual components of the SpaceX Starship Super Heavy Project are massive and complex, and it is reasonable to foresee that they could result in significant environmental impacts. Elements of the project, such as liquefied natural gas processing plants, seawater desalination plants, and solar farms, are of sufficient complexity that they typically warrant analysis through an EIS as stand-alone projects, let alone as components of a larger project. Yet, no EIS has been required.

I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Benny Arieta

From: [REDACTED] on behalf of Lawrence Seaman <[REDACTED]>
Sent: Tuesday, November 2, 2021 6:58 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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I am submitting my support of the No Action Alternative in the current assessment. I further reiterate my request that the Administration conduct a comprehensive EIS to more fully assess environmental impacts of the SpaceX operations in Boca Chica.

Thank you for your attention on this matter.

Sincerely,
Lawrence Seaman

From: [REDACTED] on behalf of Ellan Terry <[REDACTED]>
Sent: Tuesday, November 2, 2021 7:04 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Thank you for your attention on this matter.

Sincerely,
Ellan Terry

From: [REDACTED] on behalf of Autumn-Ray Russell
Sent: Tuesday, November 2, 2021 8:39 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

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Thank you for your attention on this matter.

Sincerely,
Autumn-Ray Russell

[REDACTED]

From: [REDACTED] on behalf of Karen Boisvert
Sent: Tuesday, November 2, 2021 8:48 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

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Thank you for your attention on this matter.

Sincerely,
Karen Boisvert

From: [REDACTED] on behalf of Joe Lowe <[REDACTED]>
Sent: Tuesday, November 2, 2021 8:48 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

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Thank you for your attention on this matter.

Sincerely,
Joe Lowe

[REDACTED]

From: [REDACTED] on behalf of Jennifer Messina
Sent: Tuesday, November 2, 2021 8:56 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

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SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Thank you for your attention on this matter.

Sincerely,
Jennifer Messina

[REDACTED]

From: [REDACTED] on behalf of Kimberly Nieman
Sent: Tuesday, November 2, 2021 9:04 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

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Thank you for your attention on this matter.

Sincerely,
Kimberly Nieman

From: [REDACTED] on behalf of Meagan Fastuca
Sent: Tuesday, November 2, 2021 9:15 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

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Thank you for your attention on this matter.

Sincerely,
Meagan Fastuca
[REDACTED]

From: [REDACTED] on behalf of Tyson Baker <[REDACTED]>
Sent: Tuesday, November 2, 2021 9:15 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

Tyson Baker

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Thank you for your attention on this matter.

Sincerely,
Tyson Baker
[REDACTED]



From: [REDACTED] on behalf of Trina Keafer
Sent: Tuesday, November 2, 2021 9:26 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

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Thank you for your attention on this matter.

Sincerely,
Trina Keafer

[REDACTED]

From: [REDACTED] on behalf of Birgitt Krisatis <[REDACTED]>
Sent: Tuesday, November 2, 2021 9:33 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

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Thank you for your attention on this matter.

Sincerely,
Birgitt Krisatis
[REDACTED]

From: [REDACTED] on behalf of Rebecca Skalsky <[REDACTED]>
Sent: Tuesday, November 2, 2021 9:34 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

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Thank you for your attention on this matter.

Sincerely,
Rebecca Skalsky

From: [REDACTED] on behalf of Melinda Lupo <[REDACTED]>
Sent: Tuesday, November 2, 2021 10:04 AM
To: SpaceXBocaChica
Subject: Comment on SpaceX Starship/Super Heavy project

Dear Federal Aviation Administration,

I am deeply concerned about the impacts on birds and other wildlife from SpaceX operations in Boca Chica, where the company's Starship/Super Heavy Project and launch site are being built and expanded.

SpaceX operations have significantly changed since 2014, when the company was authorized to test and launch much smaller rockets than those being proposed today. The company is also now developing a natural gas facility to extract and deliver fuel to the site. These changes to SpaceX's activities in Boca Chica are substantial enough that – according to the National Environmental Policy Act – the Federal Aviation Administration (FAA) should require a full Environmental Impact Statement (EIS), rather than the faster, less comprehensive Programmatic Environmental Assessment (PEA) that has now been produced.

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Thank you for your attention on this matter.

Sincerely,
Melinda Lupo
[REDACTED]

From: Octavian Voicu <[REDACTED]>
Sent: Tuesday, November 2, 2021 1:17 AM
To: SpaceXBocaChica
Subject: Comments on SpaceX Draft PEA

Hi,

My comments are below. Thank you for providing this opportunity to add my voice.

Octavian

I represent myself. I live in California. I recognize communities surrounding Boca Chica may be more impacted by construction and operations, though this includes positive impact from new jobs, economic development, and tourism.

However, the environment is everyone's business because climate change knows no borders. Wildfires have ravaged California in the past few years and sea level rises threaten coastal communities everywhere, including Boca Chica, as well as 233 federally protected species in 23 coastal states [1]. That's why I support moving off fossil fuels and I opposed the Keystone XL pipeline, which also doesn't pass through California.

That being said, I reviewed the draft Programmatic Environmental Assessment and strongly support a favorable outcome for SpaceX. I believe the environmental impact is limited and proposed mitigations are appropriate. As stated in the document, SpaceX's proposal is needed to increase operational capabilities and cost effectiveness of space flight programs. Satisfaction of these needs benefits government and public interests, so any potential impact to the environment needs to be weighed against the significant positive benefits. Many of the impacts are unavoidable no matter where this facility would be built, but the location chosen by SpaceX avoids additional environmental impact by collocating production and launch facilities.

It is hard to underestimate the positive impact of reducing cost and increasing access to Low Earth Orbit (LEO). Satellite data is essential for improving the understanding of climate change, as well as analyzing and predicting its impact [2]. Satellite data can be used to monitor emissions of methane, carbon dioxide, and other greenhouse gases [3][4]. In particular, they can be used to pinpoint methane leaks in real time from active and abandoned gas wells [5][6][7][8] and from industrial operations [9], which is the first step to ensuring accountability and stopping them. Satellites also help to identify areas at high risk for wildfires [10] and track severe weather such as flooding [11] and hurricanes [12]. Satellites are also critical to expanding broadband in rural areas [13], which can bring health and equity to all communities (including rural).

Starship, once developed, will decrease the cost of launching satellites to LEO that may lead to significant improvements in spatial and temporal resolution of satellite data, and enable new applications that we can't even imagine today. Keeping greenhouse gases in check in order to prevent irreversible environmental damage critically relies on applications made possible by rapidly reusable rockets, such as Starship. This is how we protect the environment long term, through forward progress done in a thoughtful manner, not by stifling innovation through unnecessary bureaucracy.

As for going to the Moon and the long term goal of colonizing Mars, these are about space exploration, inspiring new generations and uniting the planet under goals that are bigger than any country here on Earth. It's not about ditching Earth, but recognizing its uniqueness and helping to preserve it—our "Pale Blue Dot" as Carl Sagan said—while continuing to look towards the future with hope.

- [1] https://www.biologicaldiversity.org/news/press_releases/2013/sea-level-rise-12-10-2013.html
- [2] <https://www.geospatialworld.net/blogs/satellites-for-monitoring-climate-change/>
- [3] <https://www.nature.com/articles/d41586-018-06963-4>
- [4] <https://rmi.org/for-emissions-monitoring-satellites-shouldnt-fly-solo/>
- [5] <https://www.pnas.org/content/116/52/26376>
- [6] <https://www.neudata.co/alternative-data-news/geofinancial-launches-new-methane-tracking-product>
- [7] <https://www.bloomberg.com/news/articles/2021-02-12/new-climate-satellite-spotted-giant-methane-leak-as-it-happened>
- [8] <https://www.bloomberg.com/features/diversified-energy-natural-gas-wells-methane-leaks-2021/>
- [9] <https://scitechdaily.com/new-space-satellite-pinpoints-methane-leaks-and-industrial-emissions/>
- [10] <https://www.sciencedirect.com/science/article/abs/pii/S0303243402000065>
- [11] <https://www.space.com/satellites-monitor-flooding-in-germany-belgium-july-2021>
- [12] <https://www.nasa.gov/feature/goddard/2020/satellites-have-drastically-changed-how-we-forecast-hurricanes>
- [13] <https://www.telecompetitor.com/report-starlink-looks-very-promising-for-rural-broadband/>

From: Mireya Garcia <[REDACTED]>
Sent: Monday, November 1, 2021 9:10 PM
To: SpaceXBocaChica
Subject: Concerns about SpaceX's presence in Boca Chica, Texas

Hi, my name is Mireya Garcia, and I am concerned with SpaceX and the Starship/Super Heavy Project. Boca Chica is the ancestral and sacred site of the Carrizo Comecrudo Tribe of Texas. As these are their lands, they should be consulted about these projects and their leadership should be followed. Especially since the FAA isn't doing their due diligence, not here or the places they are going to.

Elon Musk's obsession with colonizing space is a legacy of his ancestors that has been taking place for over 500 years. These projects and expansion impact the people, the animals, the air, the waters, and the lands. I support the Carrizo Comecrudo Tribe of Texas and allies in our demands to stop SpaceX and any further colonization of the earth and space.

Best,
Mireya

From: [REDACTED]
Sent: Tuesday, November 2, 2021 8:49 AM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

I do not need to go into details regarding how SpaceX has been great stewards of the environment during the build up of "star base". The SpaceX team has gone above and beyond to ensure that their footprint has minimal impact. This study is similar in nature to the NASA facility in Florida, yet where this differs (aside from years passing between), is that it is a civilian organization that you seem to want to hamper. The FAA needs to stop standing in the way of innovation! SpaceX is doing more for humankind now than any other organization has in decades. What they are trying to accomplish in Boca Chica is nothing short of monumental and historic! Let our race grow and develop into a proper space-faring people. Release SpaceX to do what is needed in Boca Chica and do it now!

From: [REDACTED]
Sent: Tuesday, November 2, 2021 9:26 PM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

Africa leapfrogged wired communications for wireless and the rest of the world has really come round to the same state. The need for starlink and it's capabilities is therefore validated. I may not be able to afford it individually, but as a community, yes as we've seen SpaceX work with such. This is one of those SpaceX innovations that had me exited about them since i started following their progress in 2016. Collaboration, innovation, openness; CEO of the most innovative car company reaching out to other car companies? Where else have we seen such? SpaceX accomodated astronomers input on starlink by adding sunvisors on starlink and real quick. Their push to make space accessible by all of humanity, making us a multiplanetary species. You don't save humanity without the environment. So, when it comes to their most incredible innovation, Starship, built at some "backwaters tatooine spaceport" in Boca Chica, Tx, I have all the trust in them to do right by humanity and our environment and not just their site at Boca Chica, beginning with their carbon neutral plans to make methane using solar and carbon dioxide from our very air for their fuel use. Thank you. Patrick Mwathi. Kenya.

From: [REDACTED]
Sent: Tuesday, November 2, 2021 3:59 AM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

Dear FAA, These are unprecedented times - the degree of effort asserted by one company is unprecedented, it's mission and it's benefits to humans are unprecedented. Your ability to enable this mission must also follow no previous precedent. Responsibility is in your hands.

From: [REDACTED]
Sent: Tuesday, November 2, 2021 2:42 PM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

Dear FAA, Please let Starship launch!

From: [REDACTED]
Sent: Wednesday, November 3, 2021 7:16 AM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

Please Support Space X

From: [REDACTED]
Sent: Tuesday, November 2, 2021 3:59 AM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

Dear FAA, These are unprecedented times - the degree of effort asserted by one company is unprecedented, it's mission and it's benefits to humans are unprecedented. Your ability to enable this mission must also follow no previous precedent. Responsibility is in your hands.

From: [REDACTED]
Sent: Tuesday, November 2, 2021 4:00 PM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

Please let SpaceX continue its program at Star Base. The greatest tragedy for mankind would be a delay in rapid progress toward rocket design and innovation.

From: [REDACTED]
Sent: Monday, November 1, 2021 9:59 PM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

As a lifelong Brownsville TX resident, I was born here in the 80's and have lived here all my life, except for when I left to attend university at Cornell University and then medical school in Galveston. I came back to my hometown to live in Brownsville and would like to comment upon several of the less commented-upon environmental and economic impacts of this project on the Rio Grande Valley. First of all, with regard to economic impacts, I can testify directly to the FAA that I converted a Brownsville residence into a bed & breakfast from approx 2016 - 2020 (shut down to Covid concerns). In that period, I discovered firsthand that a majority of hotel-motel paying guests were traveling and paying to stay in Brownsville, primarily for birding. Brownsville TX is one of North America's epicenters for migrating birds, and I was receiving inquiries and bookings from guests as far away as Scotland and Europe, who wanted to visit my B&B in order to participate in birdwatching tours, not only at parks in Brownsville such as Resaca de la Palma, but especially at Boca Chica preserve (raptors and ocean migrants), Laguna Atascosa (adjacent from Boca Chica) the South Padre Island Birding and Nature Center, Quinta Mazatlan in McAllen, Sabal Palm Sanctuary in Brownsville, just to name a few. In the same time period, I only had one booking of a family who had come specifically to see Starbase and SpaceX and take pictures of the rocketship. Brownsville is famous in the bird and nature tourism industry, so much so that our City Landfill was featured in a major motion picture starring Owen Wilson and Jack Black ("The Big Year") about birders (our landfill is home to a rare Tamaulipas Crow). An endangered species, the Ocelot, also has it's primary habitat near the Boca Chica area. While I have heard many claims about Starbase "tourism", I must be frank, if any of the hotels/motels here had to choose between losing birders from around the world who arrive consistently and book the place full during the major migratory months, (for which the South Padre Bird Observatory was specifically built) or a few Starbase tourists, we really do not see much revenue from SpaceX. Yet SpaceX threatens a hotel /motels/B&B's key source of revenue when they threaten to fill acres of the Boca Chica birding habitat with concrete. Another less-discussed yet important feature of the Rio Grande Valley, is the incredible amount of human migration both legal and illegal passing through the area. As a B&B owner, I also had several groups of missionaries, immigration lawyers and church groups book stays at my B&B, traveling to Brownsville to assist at the Matamoros refugee camp, during Trump's term and the 'Remain in Mexico' policy. The reason I bring it up is because, the major news outlets don't cover the extent to which these migrants are driven by climate change. Every one of the missionaries and attorneys told me, first of all, the migrants didn't want to leave Honduras or Ecuador, they had homes there and families. They did not come seeking economic opportunity, but in reality about 50% of them were fleeing climate changes that had made the seasons unpredictable. They were simple farmers who had planted their subsistence farms by the seasons for centuries. But lately, they planted seeds and the rain didn't come on time and the seedlings dried up in the sun, or a flood came and wiped everything out, or a drought came and everything died. My point is, the continued use of fossil fuels is driving these migrations. There is a direct link between the fossil fuels we burn and the migration of people northward when weather patterns become violent and unpredictable due to CO2. It isn't happening in some faraway place, we saw the same thing during the Texas freeze this winter where about 90% of the local RGV crops were expected to die and food prices to rise as a result. SpaceX, they promised to show us the future, I was expecting to see ISRU (in situ resource utilization) such as pulling CO2 from the air and using it to make fuel. But slyly trying to sneak an LNG plant smack in the middle of a protected bird nesting and ocelot habitat is just, unspeakable, especially for a company that develops its own solar panels and solar energy

storage systems. I support space because it offers the chance to put the best minds together to solve bigger problems than rushing to Mars, such as, how do we save Earth from ourselves? Furthermore, around the 1990's Brownsville was the location of a rash of extreme birth defects known as anencephaly, caused by industrial pollution. We are poor and Hispanic, and therefore, apparently some companies see us as cheap and disposable dumping ground of toxic waste and dangerous practices. There were three babies born without heads in a 24 hour period as a result of this toxic dumping which entered our water supply. Then more babies without heads or with partially formed brains or skulls were born. The CDC had to get involved to trace the source. A member of my own family lost a baby to extreme birth defects due to pollution in the water supply, and so did one of her neighbors to an extremely rare fetal cancer, both in the same month. But this is what happens when prioritizing profit, speed and "progress" over the environment and safety. Haven't we learned our lesson? There is no rush, but we do need to make sure everyone is safe. But apparently SpaceX did not disclose the LNG plant, or the particulates in the air, or the other chemicals that will be released. Yet again, we are the dumping ground. I am asking the FAA not to grant SpaceX approval. If their original intention all along was to develop the largest rocket ship in existence and launch it, they have not been honest with local residents here, and they keep moving the goalposts. Back in 2012 these same concerns were brought up, and SpaceX brushed it off as, "Hey, we're not trying to build the next Cape Canaveral in Boca Chica, all we're doing is a small operation delivering small payloads of tiny communication/ cell phone satellites a few times a year. Don't worry. Relax. Plus, it will lead to hundreds of local residents being hired, everyone wins." Is my recollection. Then, they decided to start demolition testing and then, to overbuild the starship over 1000% of what their original approval from the FAA. How many raptor engines did they attach to it and why did they make it so grossly and unnecessarily larger than what was approved? Why doesn't SpaceX recognize that they are doing this massive, unpredictable test grossly exceeding the original parameters in the middle of a protected wildlife habitat and why do they keep making things bigger than initially promised, and now Musk is saying they will be launching it this month even though the FAA hasn't given approval yet? I'm not anti-Musk, actually I'm a bit of a space nerd myself. I've won NASA awards and placed as a finalist, I love the idea and the research into space because the need to sustain life with extremely few resources is ultimately, I feel, going to drive the innovations we need to reverse climate change and stabilize our own planet. But I've gone from a huge fan of Musk, to viewing him as a bit out of control. No one ever says "no" to him, apparently. You can be pro-space and anti-dishonesty. I love space, the innovations coming out of it are incredible, new materials, vastly more efficient technologies, a way to teach kids science, engineering, math concepts in an engaging way and produce a more educated generation. The problem is the ass-kissing sycophant attitude people have to Musk. If you question these flatly dishonest statements and promises made by SpaceX, suddenly you become a 'hater.' Yet the original promise and agreement was for a few satellite delivery launches a year. Then it became a full blown rocket demolition and test site. The size and destructive potential of the Starship built, grossly exceeds what was initially proposed to the FAA. Now it is to become a gas plant and demolition test site with road closures every few days? Yet no one is allowed to criticize SpaceX ever, even when they flat-out lie to us, is that it? That is not right nor sane. It's probably very disorienting to Musk himself, to always have everyone saying yes, where "no" quickly becomes "okay" if he shovels some money their way. He's living in a hall of mirrors where reality is hard to grasp. But we have to live in reality. What will happen when they launch the Starship? No one knows. Maybe the vibration will cause homes to collapse in SPI, they were never authorized to build a rocket of that size, yet they did it anyway. Who will pay the price if something goes wrong? Musk chose to appease residents by donating millions yet it seems those monies have largely gone directly into the pockets to city officials with questionable circular investments. And I don't dislike Mr. Musk, I had a kind of schoolgirl crush on him years ago, when he was developing Tesla. Battling the fossil fuel industry to bring much needed electric cars to market, I thought he was brilliant, and was saving the world. He's a visionary, he is brilliant, he's driven but who is driving? Now that he's moved into our backyard I'm honestly not liking what I'm seeing up close. What does he think about us? Is he Gulliver in Gulliver's Travels, and we're the tiny residents of Lilliput, the tiny annoyance who could still manage to tie the giant down, in spite of our relative powerlessness and poverty? Our poverty makes us more malleable than the environmentalists in California, our poverty makes us desperate, and our officials easily bribed. We can support SpaceX and innovation, but call them out when they lie to us and exceed the specifications that were agreed to. In my opinion, they have grossly exceeded the original contract with Cameron county and their application to the FAA was also dishonest. Yet we all remember after the first or second explosion, he wheeled out the rockets on Boca

Chica to form the shape of a middle finger giving the F U sign to the FAA. That seems to be the SpaceX attitude, "F U and anyone who tries to regulate us. Here's some money for your city officials to line their pockets with, now be quiet and stay out of our way." A giant middle finger glittering with diamonds. And yet, the investments he is making here could be transformative for our cities, the poor residents here the beneficiaries like early investors in Tesla. Or we could be leveled flat and killed if Starship goes haywire on it's launch, or on any subsequent launch. And some of these issues are frankly, just dumb. Why build a rocket test facility in a protected wildlife habitat? Was there not a suitable spot in land nearby designated as an industrial zone, like the port of Brownsville or Corpus Christi, some dead zone already polluted to death with fossil fuel and leaked oil rigs? Could the initial demolition tests have taken place at Los Alamos or other already destroyed rocket test wasteland? Then having built the rocket demolition facility in protected wildlife habitat, why then grossly exceed the agreed upon rocket size by a 10 fold factor? Where even the director of NASA is not subtly describing it as dumb and excessive? These are not oversights or accidents. This is being willfully disrespectful, relying on teenage starstruck Twitter sycophants to try to rain out dissenting voices who, rightly, question this. No one is setting limits here, I honestly, we need the FAA to step in to be the rational adult who says no, and puts their foot down. Because it isn't just about the endangered species and the nesting birds, the superfund cleanup site we'll be left with if the superheavy fails on launch, it's the constantly moving goalposts, it's the dishonesty and the mischaracterization of their intent from the beginning that I have a problem with. Frankly, Boca Chica is not equipped to handle a launch of this size, and the location is in a wildlife sensitive area, plus this month is one of the primary months of bird migrations from North to South America. The Starship test launch needs to be moved to Cape Canaveral, which can be done by water, transporting it on a rig from the port of Brownsville to Florida. Cape Canaveral has cooling systems and sound barriers, they are equipped in ways Boca Chica is not. Again, I'm not anti-SpaceX, but they did grossly exceed the limits that were agreed to. Therefore, Boca Chica should not be the site of the initial test. Thank you Laura

From: [REDACTED]
Sent: Tuesday, November 2, 2021 4:20 PM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

SpaceX is embarking on a mission for humanity. Their safety record is impeccable. They have been pioneers for major component reusability. There should be no reason why any upcoming missions are not approved. The FAA should be remembered for how it helped pave the way for space history

From: [REDACTED]
Sent: Monday, November 1, 2021 9:36 PM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

Sirs: The environmental assesment should take into consideration the future possibility of the construction of a nearby city to be inhabited by the workers and engineers that are taking part in SpaceX and its activities, not under negative terms but to ensure the proper development of the area and its surroundings. In my view as an engineer I think that SpaceX is on track of delivering a mostly positive outcome and therefore it is convincing to say that they abide to the rules that are in place.

From: [REDACTED]
Sent: Tuesday, November 2, 2021 4:26 PM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

I believe that the are where SpaceX is launching is safe and what they have built is safe and the launch tower is supported with beams and if something crashes into it it wont cause it to come down. I also think that the vehicle is safe because the vehicle only gases that are safer and don't produce co2 as much. So please let the starship launch and let SpaceX handle what they are doing because I believe those guys are experts.

From: [REDACTED]
Sent: Monday, November 1, 2021 9:34 PM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

I am a resident of the Rio Grande Valley. The opportunity that SpaceX seeks here in the valley is supposedly unsettled land and resources that are supposed to advance the interests of all humanity. I have to speculate why this location was chosen and the fact that the majority of residents here are below the poverty line isn't a surprise to me. I saw comments from people who lived in Cape Canaveral stating they could only see benefits. This is not Cape Canaveral. This is not a completely unspoiled part of the US but we have retained culture and our living environment is obviously better than most or it would not have been seen as such a prime location to launch these experiments. We are not all ignorant in this area. Many of the residents here have extensive genealogy on US soil. It saddens me so much that little thought would be put forth by a government agency towards the well being of the residents of the Rio Grande Valley. I am not against the advancement of humanity or science and technology but I am against outsiders once again disregarding the longtime residents of a location for experimentation. If the FAA can carry out an investigation as to whether or not SpaceX will not affect the land we live in and we hope our children will live in I'm sure we would support a truly beneficial outcome but otherwise you are asking us to possibly give up our home in blind faith. Please carry out your due diligence and in this time where people have such little faith in government please reassure the whole nation the choices made by regulatory bodies are not merely driven by profit. Also, I would very much like my statements heard but on the basis of anonymity.

From: [REDACTED]
Sent: Monday, November 1, 2021 9:10 PM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

Greetings, yesterday I emailed a letter in pdf format to the SpaceXBocaChica@icf.com email address containing a public comment by myself and Dr. Andrew Farnsworth. I am just submitting a note through this online portal as well, to ensure that it was received. If not, please let me know how I can submit that, as it contained material that I would not be able to enter into this comment box. Thank you very much! Sincerely, Michael Schrimpf, Ph.D.

From: [REDACTED]
Sent: Monday, November 1, 2021 9:05 PM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

I wanted to voice my support for SpaceX's continued development. In reviewing the "Draft Programmatic Environmental Assessment" I am glad to read SpaceX is working with Sea Turtle Inc. with plans to minimize their nighttime lighting impacts which also affects our night sky viewing and bird migration. SpaceX donated an industrial generator to the turtle clinic during the blackout and February 2021 freeze. I understand they have lent their ATV's to collect sea turtle eggs and are sharing their drone footage to identify nesting sites and to scout for animal wildlife before launches.

From: [REDACTED]
Sent: Monday, November 1, 2021 9:01 PM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

To be fair: 1.interstellar navigation technology is important for the survival of mankind ; 2. from a national strategic perspective, it can also promote the advancement of military strength; 3 .and it can be transformed into civilian use for many commercial purposes, and humans may be able to achieve rapid migration. Logistics industry More developed; this undertaking is very important, and other undertakings on the earth are also very important, and they do not conflict with each other. It would be great if they also had such efficiency.Baca Chica has already created 2,000 jobs with the potential to create several times more and a \$35B market thanks to Starlink.

From: [REDACTED]
Sent: Tuesday, November 2, 2021 3:31 PM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

big shiny rocket good

From: [REDACTED]
Sent: Tuesday, November 2, 2021 9:27 AM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

Please allow the progress of human kind in space, allow SpaceX to resume their testing in the advance of rocketry.

From: [REDACTED]
Sent: Tuesday, November 2, 2021 10:10 PM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

Inhabit Space healthcare Development of Life Support Systems That Enables Extended Human Presences in Space Here I am going to express my ideas to extend human life presences in Mars, which is an important planet of our solar system. Here are some points are mentioned ; which we will have to do to live on the mars. To increase the temperature of the planet: As the range of the Temperature on the planet is – 17 degree Celsius to -143 degree Celsius with an average temperature of -63 degree Celsius. There is no chance to survive in that condition, so we will have to increase the temperature of the planet. To increase the temperature of the planet, we can do two things: a) By melting the Ice of the Poles: Melting the ice of the poles will increase the temperature of the planet. We can do it by attacking the poles of the planet with the nuclear weapons. This will melt the ice in the list and period, in the comparison of the other activities. b) By expelling the Magma form the four volcanoes: As we can see the four huge volcanoes on the surface of the Mars, we can increase the temperature of the planet by attacking on the volcanoes by nuclear bomb. The excreted SO₂ and other substances will increase the temperature of the planet. Management of the atmospheric pressure: Atmospheric pressure will be an issue for us, in the space ships and the planet; we can over-come with it by wearing hi-tech space suite. On the surface of the Mars, we can make bio bubble on it to overcome the pressure. Atmospheric Control: The atmospheric of the mars mainly contain CO₂, N₂, argon and other gases, with 95.2 % of CO₂, we cannot breathe there. Therefore, we will need O₂ for it, which we can get from the hydrolysis of the water. We can over-come with this thing, by first preparing the soil of the mars and then growing plants on it. We can use SO₂ and NH₃ of the volcanoes in the industrial use Preparation of soil: We will have to change the upper toxic surface of the Mars into good plant growing soil. With water from the poles, we will first grow lichen over the surface, which changes the soil into good plant growing soil. Plantation on Mars: As the atmospheric pressure on the Mars is even less than 1% of the atmospheric pressure on Earth, we will have to make artificial environment inside the glasses to grow the plants. Food Management: As the surface of the Mars is too cold with plenty of Iron Oxides and perchlorates in it, we cannot grow crops there. We have to manage our food requirements by some of the processes given below. A) Hydroponics: It will be an effective method to fulfil our food requirements in the space ships and on the Mars. B) Bio-Capsules: We can use bio-capsules to fulfil our food requirements. This will be costlier but will decrease the mass load on the space ships. C) Kitchen Garden: With some soil of the earth and using some nutrients, we can grow some of vegetables for food by this method. To select an appropriate position on the Mars to establish colony: We will need to select the most suitable place of the planet to establish the colony .We will select the region around the equator of the planet to do so. The area around the equator will receive the most solar light, which we will use for our energy requirements. In addition, there will be more temperature in comparison to any other place of the planet. This will help us to save us from the excess water of the poles, which will melt due to nuclear attack on the poles of the planet. Management of the Water Resources: We can take the molten water of the poles and use it after purifying and testing its quality. We can also make the water by the reaction of the Hydrogen and Oxygen. Management of the Energy Resources: Energy will be required most on the Mars to live and fulfil our other requirements . With energy, we will able to do more exciting things there. To fulfil our energy needs there we can do some important things listed below: a) Solar Panels: We will use solar panels to fulfil our energy requirements. It will be cheaper, wider and renewable resource of energy. First, we will take solar panels with us on the spaceships and then after establishment of the colonies, we can manufacture solar panels from the silicon available in the soil of the Mars

on large scale. b) Helium ion Battery: We can carry helium ion batteries with us from the earth and can use them. c) Hydrogen as a Fuel: It is a complicated thing to say it but we can do it by working on it. First, we can get hydrogen by the electrolysis of the water available on the Mars and then we will use it as a fuel by burning it and by its nuclear fusion. Self-Expansion: To live and grow best on the planet we will need to expand ourselves. We can do it best by using the resources from the planet in comparison to the supply of it from the Earth. The surface of Mars mainly contains Silica with the Oxides of Iron. We can use the extracted Iron in the manufacturing work and us silicon solar cells to fulfil our energy requirements. We can separate Oxygen and Hydrogen from the water and use hydrogen as an energy resource and Oxygen to breathe. Supply of Resources from the Earth: In the starting of the settlements, we will need supply of resources from the Earth. We can do it having a good network of at least 5 to 6 spaceships. By doing these things, Inhabitation of human will extend on the planet Mars. We can make some changes on Mars and some in ourselves to make it suitable to live on.

From: [REDACTED]
Sent: Tuesday, November 2, 2021 10:09 AM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

Let Elon play with his rockets you freaking commies

From: [REDACTED]
Sent: Tuesday, November 2, 2021 10:11 PM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

Inhabit Space healthcare Development of Life Support Systems That Enables Extended Human Presences in Space Here I am going to express my ideas to extend human life presences in Mars, which is an important planet of our solar system. Here are some points are mentioned ; which we will have to do to live on the mars. To increase the temperature of the planet: As the range of the Temperature on the planet is – 17 degree Celsius to -143 degree Celsius with an average temperature of -63 degree Celsius. There is no chance to survive in that condition, so we will have to increase the temperature of the planet. To increase the temperature of the planet, we can do two things: a) By melting the Ice of the Poles: Melting the ice of the poles will increase the temperature of the planet. We can do it by attacking the poles of the planet with the nuclear weapons. This will melt the ice in the list and period, in the comparison of the other activities. b) By expelling the Magma form the four volcanoes: As we can see the four huge volcanoes on the surface of the Mars, we can increase the temperature of the planet by attacking on the volcanoes by nuclear bomb. The excreted SO₂ and other substances will increase the temperature of the planet. Management of the atmospheric pressure: Atmospheric pressure will be an issue for us, in the space ships and the planet; we can over-come with it by wearing hi-tech space suite. On the surface of the Mars, we can make bio bubble on it to overcome the pressure. Atmospheric Control: The atmospheric of the mars mainly contain CO₂, N₂, argon and other gases, with 95.2 % of CO₂, we cannot breathe there. Therefore, we will need O₂ for it, which we can get from the hydrolysis of the water. We can over-come with this thing, by first preparing the soil of the mars and then growing plants on it. We can use SO₂ and NH₃ of the volcanoes in the industrial use Preparation of soil: We will have to change the upper toxic surface of the Mars into good plant growing soil. With water from the poles, we will first grow lichen over the surface, which changes the soil into good plant growing soil. Plantation on Mars: As the atmospheric pressure on the Mars is even less than 1% of the atmospheric pressure on Earth, we will have to make artificial environment inside the glasses to grow the plants. Food Management: As the surface of the Mars is too cold with plenty of Iron Oxides and perchlorates in it, we cannot grow crops there. We have to manage our food requirements by some of the processes given below. A) Hydroponics: It will be an effective method to fulfil our food requirements in the space ships and on the Mars. B) Bio-Capsules: We can use bio-capsules to fulfil our food requirements. This will be costlier but will decrease the mass load on the space ships. C) Kitchen Garden: With some soil of the earth and using some nutrients, we can grow some of vegetables for food by this method. To select an appropriate position on the Mars to establish colony: We will need to select the most suitable place of the planet to establish the colony .We will select the region around the equator of the planet to do so. The area around the equator will receive the most solar light, which we will use for our energy requirements. In addition, there will be more temperature in comparison to any other place of the planet. This will help us to save us from the excess water of the poles, which will melt due to nuclear attack on the poles of the planet. Management of the Water Resources: We can take the molten water of the poles and use it after purifying and testing its quality. We can also make the water by the reaction of the Hydrogen and Oxygen. Management of the Energy Resources: Energy will be required most on the Mars to live and fulfil our other requirements . With energy, we will able to do more exciting things there. To fulfil our energy needs there we can do some important things listed below: a) Solar Panels: We will use solar panels to fulfil our energy requirements. It will be cheaper, wider and renewable resource of energy. First, we will take solar panels with us on the spaceships and then after establishment of the colonies, we can manufacture solar panels from the silicon available in the soil of the Mars

on large scale. b) Helium ion Battery: We can carry helium ion batteries with us from the earth and can use them. c) Hydrogen as a Fuel: It is a complicated thing to say it but we can do it by working on it. First, we can get hydrogen by the electrolysis of the water available on the Mars and then we will use it as a fuel by burning it and by its nuclear fusion. Self-Expansion: To live and grow best on the planet we will need to expand ourselves. We can do it best by using the resources from the planet in comparison to the supply of it from the Earth. The surface of Mars mainly contains Silica with the Oxides of Iron. We can use the extracted Iron in the manufacturing work and us silicon solar cells to fulfil our energy requirements. We can separate Oxygen and Hydrogen from the water and use hydrogen as an energy resource and Oxygen to breathe. Supply of Resources from the Earth: In the starting of the settlements, we will need supply of resources from the Earth. We can do it having a good network of at least 5 to 6 spaceships. By doing these things, Inhabitation of human will extend on the planet Mars. We can make some changes on Mars and some in ourselves to make it suitable to live on.

From: [REDACTED]
Sent: Tuesday, November 2, 2021 3:02 AM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

I Support the work SpaceX is doing in Boca Chica . please allow them to proceed

From: [REDACTED]
Sent: Tuesday, November 2, 2021 10:41 AM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

Please allow SpaceX to launch Starship Boca Chica. Humanity needs to survive. Cape Canaveral has a natural habitat surrounding it as well and is allowed the launch people to orbit. Allow SpaceX to do the same.

From: [REDACTED]
Sent: Tuesday, November 2, 2021 10:19 PM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

Please allow SpaceX to conduct its first Orbital Test flight. Our future depends on it and we look forward to seeing Elon and SpaceX succeed.

From: [REDACTED]
Sent: Tuesday, November 2, 2021 1:58 AM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

Hello, This letter may not be of any great significance but it is to identify what SpaceX does tomorrow will impact teenagers like myself on other side of the globe. Like the many technologies that emerged into our everyday lives as a result of NASA's space expeditions, the wonders that can come out of SpaceX let alone the colonization of mars will be truly remarkable and perhaps game changing to put it to the least. I'm positively sure SpaceX takes and will continue to take the necessary precautions as per your guidelines. Thanking you in advance for hearing me out. Sami

From: [REDACTED]
Sent: Tuesday, November 2, 2021 11:12 AM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

Imperative that Elon is allowed to keep testing his spacecraft!!!!

From: [REDACTED]
Sent: Tuesday, November 2, 2021 10:35 PM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

Inhabit Space healthcare Development of Life Support Systems That Enables Extended Human Presences in Space Here I am going to express my ideas to extend human life presences in Mars, which is an important planet of our solar system. Here are some points are mentioned ; which we will have to do to live on the mars. To increase the temperature of the planet: As the range of the Temperature on the planet is – 17 degree Celsius to -143 degree Celsius with an average temperature of -63 degree Celsius. There is no chance to survive in that condition, so we will have to increase the temperature of the planet. To increase the temperature of the planet, we can do two things: a) By melting the Ice of the Poles: Melting the ice of the poles will increase the temperature of the planet. We can do it by attacking the poles of the planet with the nuclear weapons. This will melt the ice in the list and period, in the comparison of the other activities. b) By expelling the Magma form the four volcanoes: As we can see the four huge volcanoes on the surface of the Mars, we can increase the temperature of the planet by attacking on the volcanoes by nuclear bomb. The excreted SO₂ and other substances will increase the temperature of the planet. Management of the atmospheric pressure: Atmospheric pressure will be an issue for us, in the space ships and the planet; we can over-come with it by wearing hi-tech space suite. On the surface of the Mars, we can make bio bubble on it to overcome the pressure. Atmospheric Control: The atmospheric of the mars mainly contain CO₂, N₂, argon and other gases, with 95.2 % of CO₂, we cannot breathe there. Therefore, we will need O₂ for it, which we can get from the hydrolysis of the water. We can over-come with this thing, by first preparing the soil of the mars and then growing plants on it. We can use SO₂ and NH₃ of the volcanoes in the industrial use Preparation of soil: We will have to change the upper toxic surface of the Mars into good plant growing soil. With water from the poles, we will first grow lichen over the surface, which changes the soil into good plant growing soil. Plantation on Mars: As the atmospheric pressure on the Mars is even less than 1% of the atmospheric pressure on Earth, we will have to make artificial environment inside the glasses to grow the plants. Food Management: As the surface of the Mars is too cold with plenty of Iron Oxides and perchlorates in it, we cannot grow crops there. We have to manage our food requirements by some of the processes given below. A) Hydroponics: It will be an effective method to fulfil our food requirements in the space ships and on the Mars. B) Bio-Capsules: We can use bio-capsules to fulfil our food requirements. This will be costlier but will decrease the mass load on the space ships. C) Kitchen Garden: With some soil of the earth and using some nutrients, we can grow some of vegetables for food by this method. To select an appropriate position on the Mars to establish colony: We will need to select the most suitable place of the planet to establish the colony .We will select the region around the equator of the planet to do so. The area around the equator will receive the most solar light, which we will use for our energy requirements. In addition, there will be more temperature in comparison to any other place of the planet. This will help us to save us from the excess water of the poles, which will melt due to nuclear attack on the poles of the planet. Management of the Water Resources: We can take the molten water of the poles and use it after purifying and testing its quality. We can also make the water by the reaction of the Hydrogen and Oxygen. Management of the Energy Resources: Energy will be required most on the Mars to live and fulfil our other requirements . With energy, we will able to do more exciting things there. To fulfil our energy needs there we can do some important things listed below: a) Solar Panels: We will use solar panels to fulfil our energy requirements. It will be cheaper, wider and renewable resource of energy. First, we will take solar panels with us on the spaceships and then after establishment of the colonies, we can manufacture solar panels from the silicon available in the soil of the Mars

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From: [REDACTED]
Sent: Tuesday, November 2, 2021 1:41 AM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

Hi I'd just like to say I think Space X is doing very important work in Texas. I would like to send them my support with their FAA Approvals. With the current space race with China for space supremacy Space X is our Ace up our sleeve and deserves Americas full support.

From: [REDACTED]
Sent: Tuesday, November 2, 2021 11:40 AM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

The FAA is just much of a tok delay,Ask the public for a time and that time the road will close and SN20 Rise,I want it fast,I wanna see SN20 LAUNCH NOW!

From: [REDACTED]
Sent: Tuesday, November 2, 2021 11:21 PM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

I want the opportunity to go to Mars. Let elon do his thing. If you really care about environment stop fracking oil.

From: [REDACTED]
Sent: Tuesday, November 2, 2021 12:48 AM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

SpaceX is the best!!! Let them FLY to the moon!

From: [REDACTED]
Sent: Tuesday, November 2, 2021 11:49 AM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

As a Texas resident I fully support SpaceX and progress towards space development. Please approve further development.

From: [REDACTED]
Sent: Tuesday, November 2, 2021 11:32 PM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

The rate at which other countries are accelerating their space programs without self-imposed obstacles is going to send the US back to the stone ages in comparison. The environmental concerns in question here should be looked at with a long-term view, we should be finding ways to offset the environmental concerns rather than block progress. The future of American space dominance depends in your hands. The future of humanity among the stars is in your hands. The future of our beautiful human civilization is in your hands.

From: [REDACTED]
Sent: Tuesday, November 2, 2021 12:07 AM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

Dear Sir/Madam, I would like to voice my support for SpaceX and what they are trying to accomplish in Boca Chica with their Starship program. Please grant them permission to proceed. Regards, Jim de Kort

From: [REDACTED]
Sent: Tuesday, November 2, 2021 12:22 PM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

I Dmitri Jeffry Moore support all of SpaceX activities at Boca Chica Texas. I trust their decision making more rocket launches than 5 to unlimited launches. Then a suggestion move the animals out of the immediate area. SpaceX should grow some trees to soak up methane.

From: [REDACTED]
Sent: Wednesday, November 3, 2021 1:16 AM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

I support the construction of the StarBase

From: [REDACTED]
Sent: Monday, November 1, 2021 11:09 PM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

Hi, SpaceX and their Starship program is really necessary and crucial for the US and mankind. Other Space companies and Agency are already working on a Starship clone and if activities at Boca Chica are delayed, the US won't win this race. I'm closing my mail with the moon speech of JFK: We set sail on this new sea because there is new knowledge to be gained, and new rights to be won, and they must be won and used for the progress of all people. For space science, like nuclear science and all technology, has no conscience of its own. Whether it will become a force for good or ill depends on man, and only if the United States occupies a position of pre-eminence can we help decide whether this new ocean will be a sea of peace or a new terrifying theater of war. I do not say that we should or will go unprotected against the hostile misuse of space any more than we go unprotected against the hostile use of land or sea, but I do say that space can be explored and mastered without feeding the fires of war, without repeating the mistakes that man has made in extending his writ around this globe of ours. There is no strife, no prejudice, no national conflict in outer space as yet. Its hazards are hostile to us all. Its conquest deserves the best of all mankind, and its opportunity for peaceful cooperation may never come again. But why, some say, the Moon? Why choose this as our goal? And they may well ask, why climb the highest mountain? Why, 35 years ago, fly the Atlantic? Why does Rice play Texas? We choose to go to the Moon. We choose to go to the Moon...We choose to go to the Moon in this decade and do the other things, not because they are easy, but because they are hard; because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one we intend to win, and the others, too.

From: [REDACTED]
Sent: Tuesday, November 2, 2021 12:40 PM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

I think, feel that SpaceX is doing a fantastic job on their rocket. But only have the reservation that they put ejection seats in this spaceship, as they're able to do that. There should also be a destruct package if ejection seats are successfully installed. Truly Danie J Blatecky USA Wash State.

From: [REDACTED]
Sent: Wednesday, November 3, 2021 1:16 AM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

I support the construction of the StarBase

From: [REDACTED]
Sent: Monday, November 1, 2021 10:40 PM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

I am concerned about the CO2 generated by the program and environmental concern. Also, the gov't should not invest taxpayers dollars and let private sector take the lead on the space exploration.

From: [REDACTED]
Sent: Tuesday, November 2, 2021 2:05 PM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

Please speed up the approval process to keep up with the developments of SpaceX so that their innovation and progress can continue to inspire individuals, competitors, and international observers. It would be a shame to have advancements for the future of humanity hindered by unnecessarily slow regulatory approval.

From: [REDACTED]
Sent: Wednesday, November 3, 2021 5:34 AM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

very important to start somewhere! Lets give this a go! we support the orbital attempt

From: [REDACTED]
Sent: Monday, November 1, 2021 10:34 PM
To: SpaceXBocaChica
Subject: From www.faa.gov: [REDACTED]

This email was sent through the Federal Aviation Administration's public website. You have been contacted via an email link on the following page: https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

Message

Please let Elon launch. SpaceX is the future of humanity.

From: Zee, Stacey (FAA) <[REDACTED]>
Sent: Tuesday, November 2, 2021 1:40 PM
To: SpaceXBocaChica
Subject: FW: NextDecade Comments on FAA's Draft Programmatic Environmental Assessment for SpaceX Starship/Super Heavy Project at the Boca Chica Launch Site
Attachments: PEA_NEXT Comments_(11.1.21) IVDW.pdf

I let him know that I responded his comment

From: Jerry Schafer <[REDACTED]>
Sent: Tuesday, November 02, 2021 3:01 PM
To: Zee, Stacey (FAA) <[REDACTED]>
Subject: FW: NextDecade Comments on FAA's Draft Programmatic Environmental Assessment for SpaceX Starship/Super Heavy Project at the Boca Chica Launch Site

Hi Stacy,

Further to the voicemail I just left you, I wanted to forward the below and attached via email. Please confirm the FAA are in receipt of our Draft PEA comments.

Thanks very much.

Regards,
Jerry Schafer

From: Jerry Schafer
Sent: Monday, November 1, 2021 1:42 PM
To: [REDACTED]
Subject: NextDecade Comments on FAA's Draft Programmatic Environmental Assessment for SpaceX Starship/Super Heavy Project at the Boca Chica Launch Site

To Whom It May Concern,

The attached document is hereby submitted in response to the Federal Aviation Administration's ("FAA") Draft Programmatic Environmental Assessment ("PEA") on the SpaceX Starship/Super Heavy Project at the Boca Chica Launch Site in Cameron County, Texas, and "potential alternatives and impacts ... affecting the quality of the human environment."

Note: The concerns we expressed during the scoping period on January 22, 2021, were not largely incorporated into the Draft PEA. We ask that the FAA give thorough consideration to the concerns raised in the attached document as the final PEA and any follow-on environmental impact statement is developed.

Please acknowledge receipt of this email.

Respectfully,

Jerry Schafer

Director, Regulatory and Permitting

NextDecade Corporation



Office: +

Main: +

Email:

www.Next-Decade.com



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1000 Louisiana Street, 39th Floor
Houston, TX 77002

November 1, 2021

RE: FAA Draft Programmatic Environmental Assessment (PEA) for the SpaceX Starship/Super Heavy Launch Vehicle Program – Rio Grande LNG Comments

To Whom It May Concern:

We are writing in response to the Federal Aviation Administration's ("FAA") Draft PEA on the SpaceX Starship/Super Heavy Project at the Boca Chica Launch Site in Cameron County, Texas, which was signed on September 16, 2021. The public review and comment period has been extended by the FAA until November 1, 2021.

We understand that the FAA has utilized a "Programmatic" Environmental Assessment ("EA") given that the proposed Starship/Super Heavy launch operations from the SpaceX Boca Chica Launch Site will be conducted on a recurring basis and that each launch operation is likely to result in substantially similar impacts. According to guidance issued by the Council on Environmental Quality ("CEQ"), the Programmatic EA "must [therefore] provide sufficient detail to foster informed decision-making that reflects broad environmental consequences from a wide-ranging federal program."¹

NextDecade previously submitted comments on January 22, 2021, in response to the FAA's December 22, 2020, announcement that the agency was holding a public scoping period to determine the scope of issues for analysis in the Draft PEA. In these previous comments, we suggested that particular focus be placed on: (1) frequency and scope of launch operations and consistency with maximum number of launches assessed in the FAA's June 2014 final EIS; (2) Emergency response and planning; (3) offshore area clearing and facility closures; and (4) storage and handling of propellant fuel.

Upon review of the Draft PEA, many of these issues would seem to require further clarification or analysis. In fact, with the exception of the concern stated in Section 1.4, "Closure of public areas such as local roads and Boca Chica Beach," it does not appear that the FAA accounted for NextDecade's expressed concerns in the Draft PEA at all.

Of particular concern, the Chapter 1 Introduction of the Draft PEA includes the statement that "SpaceX does not have the full details of all its planned operations at this time." If the FAA cannot analyze the full environmental impacts because the full details of SpaceX planned operations are not yet known, then it is unclear how this Draft PEA can "foster informed decision-making that reflects broad environmental consequences from a wide-ranging federal program[.]" as required by CEQ. It also is unclear how the FAA can evaluate the scope of impacts in this EA and reach a finding of no significant impact, and presents serious challenges to the safe and efficient construction and operation of critical infrastructure in the region. The frequency and scope of launch operations assessed in the Draft PEA have clearly exceeded those contemplated in the 2014 EIS, illustrating the ineffectiveness to date of "tiering" environmental reviews by the FAA. In effect, the analysis in the 2014 EIS and this draft PEA demonstrate that SpaceX and FAA are improperly and artificially segmenting this Federal action into

¹ https://www.energy.gov/sites/prod/files/2016/05/f31/effective_use_of_programmatic_nepa_reviews_18dec2014.pdf

smaller components to escape the full application of NEPA and a hard look at significant impacts. In light of this, the FAA must complete an EIS and provide complete details of all planned SpaceX operations so that a thorough and meaningful environmental review may be conducted at this stage, upon which stakeholders can base sound decisions.

As stated in our January 22, 2021, comments, the plans and conclusions of multiple federal agencies and community stakeholders as they relate to the safe coexistence of SpaceX with Rio Grande LNG were formulated in reliance on the FAA's statements regarding the "maximum 12 annual launch operations ... including launches of the Falcon 9, a maximum of two Falcon Heavy launches, and/or associated mission rehearsals and static fire engine testing, through the year 2025."² Section 2.1.3.3 of the Draft PEA states that "SpaceX is proposing to conduct up to 20 Starship suborbital launches annually." Section 2.1.3.4 of the Draft PEA states that "SpaceX is proposing to conduct up to five Starship/Super Heavy orbital launches annually." Therefore, launch operations that could potentially hinder the construction and operation of Rio Grande LNG have more than doubled from 12 to 25. In light of this increased activity, we strongly suggest that a launch failure analysis for the Starship/Super Heavy Project should be performed by the FAA.

Of specific concern with the increased annual launch activity is the ambiguity related to the impact on the Brownsville Ship Channel (BSC) (sometimes wrongly referred to in the 2014 FEIS and the Draft PEA as the Brownsville "Shipping" Channel). The 2014 FEIS stated categorically that the BSC "would not be affected by the closure." This has now changed in the Draft PEA. Section 2.1.3.5.1 of the Draft PEA states, "The Brownsville Shipping Channel would be temporarily restricted during orbital launches and some suborbital launches, but not restricted during tank tests, wet dress rehearsals, or static fire engine tests." The Draft PEA arbitrarily concludes without any meaningful analysis that this impact is insignificant.

For instance, by way of comparison, Section 3.8.3.2.1 of the Draft PEA states the following about parks and management areas, including beaches:

The proposed launch activities related to Starship/Super Heavy would have temporary, intermittent impacts on the access and availability of the parks and management areas identified as Section 4(f) properties.

And then goes on to explain:

The closures for Starship/Super Heavy operations would occur on an intermittent basis, up to 500 hours per year, and would be temporary. Additional environmental review will be required should the FAA learn from Cameron County that it will close its roads and beach access in excess of 500 hours. Assuming normal availability of the Section 4(f) property, the proposed closure hours would result in the Section 4(f) property being closed to the public up to 11.4 percent of the year.

Despite these impacts to Section 4(f) properties, FAA concludes:

Based on the temporary and short duration of the closures, the FAA has made a preliminary determination that the scheduled closures associated with launch

² https://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/launch/spacex_texas_launch_site_environmental_impact_statement/

operations of the Proposed Action would not substantially impair the activities, features, or attributes that qualify the state parks, historic resources, and Preserve for protection under Section 4(f) within the study area.

The Draft PEA does not even contain this level of analysis for the BSC, which at least based on the Draft PEA presumably also would be closed for 500 hours annually, which amounts to approximately 11% of the entire year. This is not insignificant for BSC-dependent industries like Rio Grande LNG, and there is no justification for such a conclusion in the Draft PEA.

Even more problematic, however, is the FAA's failure to devote even this level of analysis anywhere in the Draft PEA on the impacts related to the BSC. Nowhere in the Draft PEA does FAA provide a hard look at the impacts to the Port of Brownsville (the "Port"), the fishing, commercial and recreational users in the area, and companies like NextDecade that rely on access to the BSC.

Despite this significant omission, the FAA concludes that "the Proposed Action does not involve activities anticipated to adversely affect existing economic activity, income, employment, population, housing, sustenance, public services, and social conditions." As part of its justification for reaching this arbitrary conclusion, FAA states that "SpaceX operations would not result in the closure of any public airport during the SpaceX operation, nor would it so severely restrict the use of the surrounding airspace as to prevent access to an airport for an extended period of time." Yet the Draft PEA completely ignores the impacts to the Port and other entities that would use the BSC. Certainly, SpaceX would consider it a significant impact if its own operations were impeded. For example, Section 2.1.3.4 of the Draft PEA states "If a Super Heavy landing occurred downrange in the Gulf of Mexico on a floating platform, Super Heavy would be delivered by barge to the Port of Brownsville and transported the remaining distance to the Boca Chica Launch Site over the roadways." If these SpaceX activities and uses of the Port were impacted due to the operation of a nearby facility that caused similar closures of the BSC, SpaceX would demand a thorough analysis.

Additionally, Draft PEA Section 2.1.3.5.2 Waterway Hazard Warnings states the "proposed action would not require shipping lanes to be altered or closed." Given that the previous section states the BSC *would* be temporarily restricted, this suggests the BSC was not treated by the FAA as a waterway or shipping lane in the Draft PEA. Given the potential for up to twenty suborbital launches per year and the uncertainty as to whether the BSC would be restricted or not and for how long, the FAA should work with SpaceX to clarify these impacts. Rio Grande LNG (and the BSC more broadly) stands to suffer an unknown economic burden brought about by SpaceX disruption to shipping in the BSC.

"An environmental assessment that fails to address a significant environmental concern can hardly be deemed adequate for a reasoned determination that an EIS is not appropriate." *Foundation on Economic Trends v. Heckler*, 756 F.2d 143, 154 (D.C. Cir. 1985). As the Court of Appeals for the D.C. Circuit recognized in 1985, "[s]imple, conclusory statements of 'no impact' are not enough to fulfill an agency's duty under NEPA." *Id.* Here, the FAA has made conclusory statements regarding the "nominal" effect of ground closures and restrictions on the BSC without adequately addressing or explaining why these impacts will not be significant.

Moreover, the FAA and SpaceX inappropriately segmented the analysis of the facility from the 2014 EIS to this Draft PEA; and now for any future activities FAA and SpaceX are seeking to do the same in this

Draft PEA by avoiding an analysis of the direct, indirect and cumulative impacts of nominal closures of the BSC. Based on the history of this project since 2014, and the SpaceX statements about future development in the draft PEA, the FAA cannot simply kick down the road the required hard-look analysis, and make a finding of no significant impact “because the full details of SpaceX planned operations are not yet known.”

Rio Grande also notes that conspicuously missing from the draft PEA is a meaningful cumulative impacts analysis. The Council on Environmental Quality has long recognized, and continues to recognize, the importance of analyzing direct, indirect, and cumulative impacts.³ The same can be said of the FAA.⁴ “Cumulative effects are effects resulting from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of who undertakes the other actions.”⁵

The Court of Appeals for the D.C. Circuit has held that

a meaningful cumulative impact analysis must identify (1) the area in which the effects of the proposed project will be felt; (2) the impacts that are expected in that area from the proposed project; (3) other actions—past, present, and proposed, and reasonably foreseeable—that have had or are expected to have impacts in the same area; (4) the impacts or expected impacts from these other actions; and (5) the overall impact that can be expected if the individual impacts are allowed to accumulate.

Del. Riverkeeper Network v. F.E.R.C., 753 F.3d 1304, 1319 (D.C. Cir. 2014) (internal quotations omitted) (citing *Grand Canyon Trust v. FAA*, 290 F.3d 339, 345 (D.C. Cir. 2003)). “To satisfy ‘hard look’ review, an agency’s cumulative impacts analysis must contain ‘sufficient discussion of the relevant issues’ and be ‘well considered.’” *City of Boston Delegation v. F.E.R.C.*, 897 F.3d 241, 253 (D.C. Cir. 2018) (citing *Myersville Citizens for a Rural Community, Inc. v. F.E.R.C.*, 783 F.3d 1301, 1324-25 (D.C. Cir. 2015)).

In *Delaware Riverkeeper*, the D.C. Circuit found that FERC’s cursory statement that the connected pipeline projects were “not expected to significantly contribute to cumulative impacts in the Project area” did not satisfy the cumulative impacts test as enunciated in *Grand Canyon Trust*. *Id.*

The same is true here: the Draft PEA does not satisfy the *Grand Canyon Trust*’s cumulative impacts test. SpaceX estimates 500 hours of closures per year, which amounts to more than twenty full days of closure per year. The BSC and the Port tenants, including Rio Grande LNG and other businesses that critically depend on the BSC, will surely be impacted by over twenty full days of closures due to SpaceX launches. But the Draft PEA does not even acknowledge the presence of Rio Grande LNG or other Port tenants, let alone any impacts on the Port or BSC. Overall, the Draft PEA does not take a “hard look” at the effects of SpaceX’s operations and does not contain a “sufficient discussion” of relevant issues regarding potential impacts to the BSC and Port tenants. Thus, the Draft PEA’s cumulative impacts analysis is inadequate.

³ See, e.g., National Environmental Policy Act Implementing Regulations Revisions, 86 Fed. Reg. 55,757, 55,762 (Oct. 7, 2021), <https://www.govinfo.gov/content/pkg/FR-2021-10-07/pdf/2021-21867.pdf>.

⁴ See, e.g., U.S. DEPT. OF TRANS., FED. AVIATION ADMIN., Order 1050.1F, Environmental Impacts Policies and Procedures (2015), https://www.faa.gov/documentLibrary/media/Order/FAA_Order_1050_1F.pdf.

⁵ 86 Fed. Reg. 55,757 at 55,762.

Also missing from the Draft PEA is NextDecade's concern about the storage and handling of propellant fuel. To repeat the concern from our January 22, 2021, comments: energy infrastructure projects in South Texas have been subjected to appropriate regulatory scrutiny to ensure compliance and consistency with standards maintained by the Pipeline and Hazardous Materials Safety Administration and the National Fire Protection Association ("NFPA"), among others. While it is standard practice that facilities that store and utilize flammable liquids be required to model vapor cloud dispersion and design for blast overpressure, it is unclear to what extent NFPA reviews have been required of the SpaceX facility. It is also unclear what Process Safety Management guidelines have been incorporated in the design of the storage facility to accommodate requisite fuel quantities and conditions. Given the potential for now even larger quantities of fuel to be stored at the Boca Chica Launch Site, further modeling, review, and approval protocols must be applied to ensure the health and safety of the local community.

As set out in the Rio Grande LNG final EIS,⁶ the construction schedule for Rio Grande LNG contemplates carefully integrated and phased interruptions based specifically on information provided by SpaceX to the FAA pertaining to the 2016-2025 period. FERC has approved our project siting, construction and operations, based on these representations by the FAA and SpaceX. It is our continuing expectation that any alterations to the SpaceX launch program will result in no greater impacts to Rio Grande LNG or the community than contemplated in the 2014 SpaceX EIS, including through restrictions to the BSC. Upon review of the Draft PEA, the concerns stated above and repeated from our January 22, 2021, comments suggest the FAA needs to clarify certain aspects of SpaceX's proposed operations and the Final PEA should include indication of the FAA's plan for further analysis in the form of a Notice of Intent to prepare an Environmental Impact Statement ("EIS").

Respectfully submitted,

A handwritten signature in blue ink, appearing to read 'Ivan Van der Walt', with a stylized flourish at the end.

Ivan Van der Walt
Chief Operating Officer

⁶ https://www.ferc.gov/sites/default/files/2020-05/FEIS-volume-I_0.pdf

From: willson mutanda <[REDACTED]>
Sent: Tuesday, November 2, 2021 1:23 PM
Subject: Good Morning

Hi, I'm contacting you for your response regarding the information I submitted earlier.

.....

Hello, I am contacting you to find out your answer!
Contact my email : [REDACTED] Wilson Mutanda.

From: Frank <[REDACTED]>
Sent: Wednesday, November 3, 2021 8:57 AM
To: SpaceXBocaChica
Subject: No Space X Starship Project/Super Heavy

Good afternoon to whom it may concern. My name is Frank Passantino and I am concerned with Space X and the Starship/Super Heavy Project. Boca Chica is the ancestral and sacred site of the Carrizo Comecrudo Tribe of Texas. As these are their lands, they should be consulted about these projects and their leadership should be followed. Especially since the FAA isn't doing their due diligence, not here or the places they are going to.

Elon Musk's obsession with colonizing space is a legacy of his ancestors that has been taking place for over 500 years. These projects and expansion impact the people, the animals, the air, the waters, and the lands. We support the Carrizo Comecrudo Tribe of Texas and allies in our demands to stop Space X and any further colonization of the earth and space.

From: Taylor Snowden <[REDACTED]>
Sent: Monday, November 1, 2021 9:19 PM
To: SpaceXBocaChica
Subject: No Space X Starship Project/Super Heavy

Hello, my name is Taylor Snowden. I was born and raised in the Rio Grande Valley, and I currently study environmental sciences and sustainable agriculture at UTRGV.

I do not agree with the expansion of the SpaceX facility or the Starship/Super Heavy Project at Boca Chica beach near Brownsville Tx, Cameron County. The current site has already littered the lands and important habitat of the area, which should be protected from any further harmful development. Furthermore, Boca Chica is the ancestral and sacred land of the Carrizo Comecrudo Tribe of Texas, and they should be consulted about these projects and expansions if Elon Musk/Space X cares to show respect to the indigenous people of the land they wish to develop/colonize.

Contact Information for the Carrizo Comecrudo Tribe of Texas:

Email: [REDACTED]

Instagram: [REDACTED]

-Taylor Snowden

From: Adriana Hernandez <[REDACTED]>
Sent: Wednesday, November 3, 2021 2:55 AM
To: SpaceXBocaChica
Subject: No TO SPACE X

Hi, my name is Adriana Hernández and I am concerned with Space X and the Starship/Super Heavy Project. Boca Chica is the ancestral and sacred site of the Carrizo Comecrudo Tribe of Texas. As these are their lands, they should be consulted about these projects and their leadership should be followed. Especially since the FAA isn't doing their due diligence, not here or the places they are going to. Elon Musk's obsession with colonizing space is a legacy of his ancestors that has been taking place for over 500 years. These projects and expansion impact the people, the animals, the air, the waters, and the lands. We support the Carrizo Comecrudo Tribe of Texas and allies in our demands to stop Space X and any further colonization of the earth and space.

From: Evan Garcia <[REDACTED]>
Sent: Monday, November 1, 2021 9:05 PM
To: SpaceXBocaChica
Subject: Public Comment - Evan Garca
Attachments: Draft PEA SpaceX Public Comment [Evan Garcia].pdf

For your consideration.

Best,
Evan Garcia

Re: Draft Programmatic Environmental Assessment for the SpaceX Starship/Super Heavy Launch Vehicle Program at the SpaceX Boca Chica Launch Site in Cameron County, Texas

Ms. Stacey Zee

SpaceX PEA

c/o ICF, 9300 Lee Highway

Fairfax, VA 22031

Thank you for the opportunity to comment on the **Draft Programmatic Environmental Assessment for the SpaceX Starship/Super Heavy Launch Vehicle Program at the SpaceX Boca Chica Launch Site in Cameron County, Texas.**

I, Evan Garcia, am a graduate student within the Disaster Studies program at the University of Texas Rio Grande Valley. I am currently conducting research on spacecraft induced disaster mitigation for South Texas based spaceport operations. As a resident of the Rio Grande Valley, and as a researcher in Disaster Sciences, my priority is to ensure that spaceport operations are conducted in a manner that demonstrates best mitigation, preparedness, recovery and response practices to the best extent of the operator.

Specifically, I would like to raise concern regarding the lack of data to adequately outline the individual and collective risks of planned mission types from SpaceX at the Boca Chica launch facility. These mission types are vaguely defined in the PEA, but available information provides enough evidence to classify them within to conduct an Acceptable Level of Risk approach. The following should be conducted and outlined before approval of the final **Draft Programmatic Environmental Assessment for the SpaceX Starship/Super Heavy Launch Vehicle Program at the SpaceX Boca Chica Launch Site in Cameron County, Texas:**

1. Data outlining the calculated *Individual Catastrophic Risk* probability
2. Data outlining the calculated *Collective Catastrophic Risk* probability
3. Risk Contour for an *Expendable Launch Without Fly-Back*
4. Risk Contour for a *Launch Site Fly-Back*
5. A comprehensive data set of a **Monte Carlo Dispersion Simulation** for anomaly scenarios outlined within the Draft PEA
6. A comprehensive **environmental assessment** based on Monte Carlo Dispersion Simulations from anomaly scenarios outlined within the Draft PEA

In summary, an extensive review of these points should be conducted before approval of the Starship launch at the SpaceX Boca Chica Launch Site.

Sincerely,

Evan Garcia, MS

Master of Science in Health Sciences

Master of Arts in Disaster Studies, Masters Candidate

University of Texas Rio Grande Valley (UTRGV)

[REDACTED]

From: Evan Estrada <[REDACTED]>
Sent: Tuesday, November 2, 2021 6:54 AM
To: SpaceXBocaChica
Subject: Regarding SpaceX at Boca Chica

Hi,

My name is Evan Estrada and I am concerned with the Space X/Starship Project. Boca Chica is the ancestral and sacred site of the Carrizo Comecrudo Tribe of so called 'Texas'. It is among my people's homelands and not a neo-colonizers playground.

Inclusion from the Carrizo Comecrudo I feel is necessary to consult with and their leadership followed in this and all endeavors in their lands.

Their lands.

Elon Musk's projects carry with them a history of risk and serious harm to the lands, people, and environments that come under the shadow of his industry. His own peoples ancestral history of continuing this pattern upon the world around them must not be allowed to go further untethered regardless of its benefit to the supposed economy at large.

Space colonization at the expense of those on the ground is a serious threat to everyone on the planet as more and more resources and operations will continue to harm and siphon off life from the environment that supports us.

Something must be done to make this and all space tourist industries more accountable to the world and people they build their launch pads on.

This is one of those moments to do the right thing and rule for the common humanity and dignity of an oppressed people regarded as strangers in our own lands.

Thank you for your attention.

From: [REDACTED]
Sent: Tuesday, November 2, 2021 1:58 PM
To: SpaceXBocaChica
Subject: SHEIN SHEIN

!

We think your YouTube channel is perfect for promoting our store. That is why we would like to work with you. We assure you it will be an unforgettable experience.

We are a new fashion store that suits everyone!

s

Your channel is suitable for us for an advertising campaign, so we decided to order an advertising video from you about the new collection of our collections, which will be released in mid-November.

d

Here are some examples of collaboration with other bloggers:

- 1) https://www.youtube.com/watch?v=UbKxAp8j8PA&ab_channel=LauraLee
- 2) https://www.youtube.com/watch?v=jjmX-C4fU4w&ab_channel=ZaniyaMc
- 3) https://www.youtube.com/watch?v=hFjA2yNqVc8&ab_channel=NiaFeliz
- 4) https://www.youtube.com/watch?v=axZXGunTHD4&ab_channel=JaMyiaTytiana.

If you are interested, you can reply to this message and we will discuss the cost of your work and all the details of cooperation.

Best regards
Shein Team

From: Rebekah Hinojosa <[REDACTED]>
Sent: Monday, November 1, 2021 9:10 PM
To: SpaceXBocaChica
Subject: Sierra Club Comment Letter on the Draft PEA for the Starship / Super Heavy Program by SpaceX
Attachments: SC_SpaceX_Starship_Super Heavy_Comment to FAA 11.1.2021 (1).pdf

To whom it may concern,

Attached please find the comments submitted by the Lone Star Chapter Sierra Club and others.*

Thanks,

Rebekah

COMMENTS ON THE PROGRAMMATIC ENVIRONMENTAL ASSESSMENT FOR THE SPACEX STARSHIP/SUPER HEAVY LAUNCH VEHICLE PROGRAM

Lone Star Chapter Sierra Club, Another Gulf Is Possible Collaborative, Carrizo/Comecrudo Tribe of Texas, South Texas Environmental Justice Network, Las Imaginistas, Voces Unidas, Trucha RGV, Fuera SpaceX, and the 956 Radical Library (collectively, "Commenters") submit these comments regarding the Federal Aviation Administration's ("FAA") draft programmatic environmental assessment ("DPEA") for the SpaceX Starship/Super Heavy Launch Vehicle Program at the SpaceX Boca Chica Launch Site in Cameron County.

Space Exploration Technologies Corporation ("SpaceX") seeks authorization to operate the Starship/Super Heavy launch vehicle at its existing Boca Chica Launch Site in Cameron County, Texas and to conduct launches originating from this site. SpaceX is requesting a vehicle operator licence(s) from the FAA.

As commenters explain below, the DPEA for SpaceX's proposal fails to satisfy the obligations imposed by the National Environmental Policy Act ("NEPA"). The DPEA contains numerous informational gaps. These deficiencies are severe enough that they must be corrected with a comprehensive draft environmental impact statement ("EIS") and a fresh opportunity for public comment. Ultimately, however, it is clear that SpaceX's proposal will have such severe adverse impacts on the local environment and surrounding communities that the proposal is contrary to the public interest and must be denied.

--

Rebekah Hinojosa
Senior Gulf Coast Campaign Representative
Beyond Dirty Fuels Campaign
Brownsville, TX
[REDACTED]
Pronouns: she/her

Represented by Progressive Workers' Union

Federal Aviation Administration

In the Matter of
SpaceX

COMMENTS ON THE PROGRAMMATIC ENVIRONMENTAL ASSESSMENT FOR THE
SPACEX STARSHIP/SUPER HEAVY LAUNCH VEHICLE PROGRAM

Lone Star Chapter Sierra Club, Another Gulf Is Possible Collaborative, Carrizo/Comecrudo Tribe of Texas, South Texas Environmental Justice Network, Las Imaginistas, Voces Unidas, Trucha RGV, Fuera SpaceX, and the 956 Radical Library (collectively, “Commenters”) submit these comments regarding the Federal Aviation Administration’s (“FAA”) draft programmatic environmental assessment (“DPEA”) for the SpaceX Starship/Super Heavy Launch Vehicle Program at the SpaceX Boca Chica Launch Site in Cameron County.

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As commenters explain below, the DPEA for SpaceX’s proposal fails to satisfy the obligations imposed by the National Environmental Policy Act (“NEPA”). The DPEA contains numerous informational gaps. These deficiencies are severe enough that they must be corrected with a comprehensive draft environmental impact statement (“EIS”) and a fresh opportunity for public comment. Ultimately, however, it is clear that SpaceX’s proposal will have such severe adverse impacts on the local environment and surrounding communities that the proposal is contrary to the public interest and must be denied.

I. FAA Has Not Provided Sufficient Opportunity for Public Participation

A. The DPEA Is Missing Extensive Information Precluding the Opportunity For Meaningful Public Comment

The DPEA fails to satisfy NEPA’s basic requirements because it omits analysis of many key issues, citing that SpaceX does not have the full details of all its planned operations at this time. This precludes meaningful public involvement and violates NEPA. NEPA serves to protect the environment by ensuring clarity and transparency to federal decisions affecting the environment. Public participation is a two-way street that requires NEPA to inform the public and to allow the public to play a role in the decision-making process. Enlisting the public serves to develop high quality information on the issues that are truly significant to the action in question, so as to guide agencies to “take actions that protect, restore, and enhance the environment.” 40 C.F.R. §§ 1500.1, 1506.6 (public involvement), 1502.1 (purpose of impact statements).

Public participation cannot serve these purposes unless relevant and accessible information is available to the public for comment. Here, the FAA’s decision to release the DPEA is premature, because analyses of numerous environmental issues are, by the FAA’s own admission, incomplete or missing. By circulating a DPEA without complete information, the FAA has violated NEPA because the DPEA must satisfy the requirements of the final EA to the fullest

extent possible so as to not limit the public's ability to meaningfully review and comment.

A. Complaint to FAA based on violations of Title VI Civil Rights Act of 1964 and US Department of Transportation Regulations

On October 14, 2021, Another Gulf Is Possible Collaborative (AGIP), Sierra Club Lone Star Chapter, Voces Unidas, Las Imaginistas, La Unión del Pueblo Entero, South Texas Environmental Justice Network and Carrizo/Comecrudo Tribe of Texas (collectively, "Complainants") submitted a complaint against the Federal Aviation Administration ("FAA") for violations of Title VI of the Civil Rights Act of 1964, 42 U.S.C. § 2000d *et seq.*, and the U.S. Department of Transportation's ("US DOT's") implementing regulations, DOT Order 5610.2(a). Since the FAA receives funding from US DOT, the agency's public meeting notice rules and public hearing format apply here. As explained in the complaint, the FAA has violated Title VI and US DOT's implementing regulations in its review of permits for the SpaceX proposal sited in the Rio Grande Valley. In particular, the agency has failed to comply with its obligations to provide Spanish language translations for the largely non-English speaking community directly impacted by the proposed SpaceX proposal. As such, the Complainants request that US DOT and FAA's Offices of Civil Rights investigate the claims set forth and take appropriate action to ensure impacted minority communities are provided fair notice and opportunity to participate in the SpaceX permitting processes as prescribed by law.

FAA's Failure to Provide Adequate Notice and Opportunities for Public Participation Violates Agency Mandate

Public notice and public hearings are protected legal rights and integral parts of the permitting decision-making process.¹ Public notice allows members of the public to become aware of permitting actions and gives communities accessible opportunities to assess issues that will affect them. Notice provides the public an opportunity to participate in discussions about permit terms required to protect the health and safety of communities. Notably, there are heightened notice standards for projects and permits sited in minority communities. FAA Order 1050.1F, Paragraph 2-5.2.b., provides that "the responsible FAA official must, to the extent practicable, make every effort to notify potentially affected minority populations and low-income populations of proposed actions and their impacts."² Additionally, US DOT's Environmental Justice Order 5610.2(a), Paragraph 5.b.1., states that "procedures shall be established or expanded, as necessary, to provide meaningful opportunities for public involvement by members of minority populations and low-income populations during the planning and development of programs, policies, and activities."³ The FAA's Community Involvement Policy Statement (April 17, 1995) "affirms the FAA's commitment to make complete, open, and effective public participation an essential part of its actions, programs, and decisions."^{4 5}

¹ FAA, Policies and Procedures for Considering Environmental Impacts, Order 1050.1F, Paragraph 2-5.2. (2015), https://www.faa.gov/documentLibrary/media/Order/FAA_Order_1050_1F.pdf

² FAA, Policies and Procedures for Considering Environmental Impacts, Order 1050.1F, Paragraph 2-5.2.b. (2015), https://www.faa.gov/documentLibrary/media/Order/FAA_Order_1050_1F.pdf

³ Department of Transportation, Final DOT Environmental Justice Order, Order 5610.2(a), Paragraph 5.b.1, (2012) <https://www.transportation.gov/transportation-policy/environmental-justice/departments-transportation-order-56102a>

⁴ FAA, Community Involvement Policy Statement (April 17, 1995), <https://tfmlearning.faa.gov/publications/atpubs/AIR/airapp10.html>

⁵ FAA, Policies and Procedures for Considering Environmental Impacts, Order 1050.1F, Paragraph 2-5.2. (2015), https://www.faa.gov/documentLibrary/media/Order/FAA_Order_1050_1F.pdf

The FAA is an administration of the US DOT charged with implementing and enforcing all aspects of civil aviation in the country as well as over surrounding international waters. Currently, the FAA is evaluating permits for SpaceX's Starship/Super Heavy Project at the Boca Chica Launch Site that would include a proposed massive expansion of rocket launches near Brownsville, TX, located in the Rio Grande Valley region. According to the FAA's draft programmatic environmental assessment (DPEA) for the SpaceX project, the eastern part of the Rio Grande Valley is listed as an area that will be affected by operations.⁶ The Rio Grande Valley is a marginalized region that has both a minority and low-income population identifying them as an environmental justice community. The 2019 US Census Bureau data for Brownsville shows that 29.9% of the population lives in poverty which is higher than the 10.5% national average poverty rate;⁷ ⁸ and 93.8% of the population identifies as Hispanic or Latino.⁹ Moreover, the Rio Grande Valley has a population of 1.4 million and about 80% speaks Spanish.¹⁰

FAA Order 1050.1F, Paragraph 2-5.2.b., recommends that "provisions should be made to ensure that non-English speaking populations receive proper notification of the proposed action and any public hearings, meetings, or workshops that are held."¹¹ Additionally, FAA Order 1050.1F, Paragraph 2-5.3.c. notes that "when holding a public meeting or hearing, accommodations must be made for the needs of the elderly, disabled, non-English speaking, minority, and low income populations in accordance with the Americans with Disabilities Act of 1990."¹² Despite FAA's rules providing for alternative language notice and other accommodations for public meetings concerning proposed actions and permits, no Spanish language notice has been provided for the October 18 and 20 hearings on SpaceX's proposed permits at the Boca Chica site. This means that affected non-English-speaking community members throughout the Rio Grande Valley, and specifically in Brownsville, TX, were not made aware of public meetings nor provided with translations of permit documents, thereby denying them the opportunity to fully participate in the permit decision-making process. Given the high percentage of first-language Spanish speaking residents in the region directly impacted by SpaceX, it is our expectation that the FAA provide both Spanish language interpretation at public hearings as well as Spanish translations of the permitting evaluation process, including meetings, notices, and documents. Also, there is no notice of language interpretation on the FAA's English website or in the draft programmatic environmental assessment for proposed SpaceX operations. Nor has the FAA provided the public with information on whether there will be Spanish or sign-language interpreters assisting at the upcoming SpaceX public hearings. This means that even when non-English speaking residents receive notice, or manage to

⁶ FAA, Draft Programmatic Environmental Assessment for the SpaceX Starship/Super Heavy Launch Vehicle Program at the SpaceX Boca Chica Launch Site in Cameron County, Texas, 3,15,2 Study Area, pg. 134 (September 2021), https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

⁷ U.S. Census Bureau, Brownsville, TX (2019), <https://www.census.gov/quickfacts/fact/table/brownsvillecitytexas/POP060210>

⁸ U.S. Census Bureau, Income and Poverty in the United States (2020), <https://www.census.gov/library/publications/2021/demo/p60-273.html>

⁹ U.S. Census Bureau, Brownsville, TX (2019), <https://www.census.gov/quickfacts/fact/table/brownsvillecitytexas/POP060210>

¹⁰ UCD Health Connect, Population Data for the Region: Rio Grande Valley (2021), <https://ucd.thehcn.net/demographicdata?id=281259§ionId=935>

¹¹ FAA, Policies and Procedures for Considering Environmental Impacts, Order 1050.1F, Paragraph 2-5.2.b. (2015), https://www.faa.gov/documentLibrary/media/Order/FAA_Order_1050_1F.pdf

¹² FAA, Policies and Procedures for Considering Environmental Impacts, Order 1050.1F, Paragraph 2-5.3.c. (2015), https://www.faa.gov/documentLibrary/media/Order/FAA_Order_1050_1F.pdf

otherwise learn of and attend public hearings, the agency does not guarantee the availability of professional language interpretation services at public meetings. Notably, these services were explicitly requested by community members during the January 2021 scoping comment period with information about the high likelihood of Limited English Proficient attendees. Indeed, the burden of this exclusion falls disproportionately on linguistically isolated communities.

US DOT and FAA Offices of Civil Rights must Investigate and Implement Measures to Remedy the Public Notice and Title VI Violations

Title VI of the Civil Rights Act of 1964 provides that “[n]o person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.” 42 U.S.C. § 2000d. Additionally, the FAA receives federal assistance from US DOT and is a federal “program or activity” under Title VI, making it subject to the requirements of Title VI and US DOT’s implementing regulations. As described above, the FAA has violated Title VI of the Civil Rights Act by failing to provide Spanish language notification and other public hearing accommodations that exclude communities of majority Spanish speaking residents from the SpaceX permitting process. As such, Complainants request that US DOT’s Office for Civil Rights (“OCR”) and the FAA’s OCR promptly and thoroughly investigate the claims set forth in this complaint and take all actions necessary to ensure that FAA complies fully with the law, including the adoption of recommendations made by Complainants below. Complainants request that the OCR investigate and ensure that the policies, programs, and activities of FAA comply with Title VI of the Civil Rights Act of 1964.

In light of the above violations, Complainants request that US DOT bring the FAA into compliance by taking the following actions: (1) require FAA to publish notice of public meetings and relevant permitting documents, such as the environmental assessment, in Spanish, and in a manner identical to notices and documents published in English; (2) issue publication of public meeting notices at least 30 days prior to the scheduled meeting date ; and (3) provide professional interpretation services at public meetings where public notice must be provided in alternative languages. Due process requires that notices be reasonably calculated, under all circumstances, to convey all information necessary to apprise interested parties about their rights in a governmental proceeding.¹³ Delivery of such notice must be reasonably structured to assure that the person to whom it is directed receives it.

The FAA must take steps to correct the deficiencies in its public notice of the SpaceX permit proceedings. While developing measures for compliance with Title VI and the US DOT Order, the FAA must engage fully with representatives of the Rio Grande Valley community and be guided by the community’s needs. To this end, Complainants also request that the agency inform and invite them to any stakeholder meetings and other efforts addressing the Civil Rights violations set forth herein. If the FAA does not come into compliance voluntarily, Complainants request that the US DOT and the FAA restart SpaceX’s permitting review process, fully complying with Title VI and agency notice and public participation mandates.

¹³ Mullane v. Central Hanover Bank & Trust Co., 339 U.S. 306, 314-15 (1950); North Alabama Express, Inc. v. U.S., 585 F.2d 783, 787 (5th Cir. 1978); Intercontinental Indus., Inc. v. American Stock Exch., 452 F.2d 935, 941 (5th Cir. 1971) cert. denied, 409 U.S. 842 (1972); see also, e.g., MCI Telecomms Corp. v. FCC, 57 F.3d 1136, 1140-41 (D.C. Cir. 1995) (explaining importance of notice in administrative proceedings).

This complaint was drafted by referencing the Title VI complaint and lawsuit victory by Earthjustice and Texas Environmental Justice Advocacy Services.¹⁴ It is timely and satisfies all other jurisdictional requirements.

B. Amendment to Complaint Under Title VI of the Civil Rights Act of 1964 and US Department of Transportation Regulations

On November 1, 2021, Another Gulf Is Possible Collaborative (AGIP), Sierra Club Lone Star Chapter, Voces Unidas, Las Imaginistas, Trucha RGV, Resource Center Matamoros, South Texas Environmental Justice Network, and Carrizo/Comecrudo Tribe of Texas (collectively, “Complainants”) submit this complaint amendment against the Federal Aviation Administration (“FAA”) for violations of Title VI of the Civil Rights Act of 1964, 42 U.S.C. § 2000d *et seq.*, and the U.S. Department of Transportation’s (“US DOT’s”) implementing regulations, DOT Order 5610.2(a). Since the FAA receives funding from US DOT, the agency’s public meeting notice rules and public hearing format apply here. As explained below, the FAA has violated Title VI and US DOT’s implementing regulations in its review of permits for the SpaceX project sited in the Rio Grande Valley. In particular, the agency has failed to comply with its obligations to provide Spanish language translations for the largely non-English speaking community directly impacted by the proposed SpaceX project. As such, Complainants request that US DOT and FAA’s Offices of Civil Rights investigate the claims set forth herein and take appropriate action to ensure impacted minority communities are provided fair notice and opportunity to participate in the SpaceX permitting processes as prescribed by law.

The FAA has not responded to the initial Title VI complaint that we filed on 10/14/21. The FAA has continued to violate Title VI in its review of permits for the SpaceX project. The FAA required the public to register via Eventbrite to give an oral comment during the two hearings on October 18 and 20, but the EventBrite page was only made available in the English language. This prevented Spanish speakers from being able to register to give oral comments. Additionally, the notice of Spanish interpretation and closed captioning was not posted on their website until October 15th, with notification only going out to those who were able to sign up on the EventBrite page to be added to the email list. It is important to note that October 15 was merely three days before the hearings were set to begin. To our knowledge, the notice of interpretation available at hearings were not promoted in Spanish or English news sources. The slides that were shown at the beginning of the public hearing were not translated into Spanish; they were not translated until five days after the public hearings ended (October 20, 2021) on October 25th; and that is also when they were uploaded on the website and emailed to the mailing list.

Along with the failure to translate slides, only a summary of the DPEA was translated into Spanish. The Spanish interpretation that was available was slow and spotty with interpreters that did not seem to understand how to time their translations. The poorly timed translations made it very difficult to understand what Spanish speakers were trying to say during the hearings. We have also checked a variety of Tamaulipas news sources, none of which reported on this FAA hearing. It seems evident that the FAA may have failed to reach out to Mexican officials or coordinate any outreach to the Matamoros community even though the FAA mentions Mexico as an impacted community in their presentation: the border and Playa Bagdad beach are less than a mile away from the SpaceX expansion project. Matamoros’s beach, Playa

¹⁴ Texas Environmental Justice Advocacy Services (“t.e.j.a.s.”) and Sierra Club (collectively, “Complainants”), and the attorneys Earthjustice, EPA Complaint No. 02 NO-20-R6. (2019)

Bagdad, is also visible from the mouth of the river at Boca Chica Beach¹⁵. This is a direct violation of FAA Order 1050.1F, Paragraph 2-5.2.b., which provides that “the responsible FAA official must, to the extent practicable, make every effort to notify potentially affected minority populations and low-income populations of proposed actions and their impacts.”¹⁶

Additionally, US DOT’s Environmental Justice Order 5610.2(a), Paragraph 5.b.1., states that “procedures shall be established or expanded, as necessary, to provide meaningful opportunities for public involvement by members of minority populations and low-income populations during the planning and development of programs, policies, and activities.”¹⁷ The FAA’s Community Involvement Policy Statement (April 17, 1995) “affirms the FAA’s commitment to make complete, open, and effective public participation an essential part of its actions, programs, and decisions.”¹⁸ ¹⁹ According to the FAA’s draft programmatic environmental assessment (DPEA) for the SpaceX project, the eastern part of the Rio Grande Valley is listed as an area that will be affected by operations.²⁰ The Rio Grande Valley is a marginalized region that has both a minority and low-income population identifying them as an environmental justice community. The 2019 US Census Bureau data for Brownsville shows that 29.9% of the population lives in poverty which is higher than the 10.5% national average poverty rate;²¹ ²² and 93.8% of the population identifies as Hispanic or Latino.²³ Moreover, the Rio Grande Valley has a population of 1.4 million and about 80% speaks Spanish.

In light of the above violations, Complainants request that US DOT bring the FAA into compliance by taking the following actions: (1) require FAA to publish notice of public meetings and relevant permitting documents, such as the environmental assessment, in Spanish, and in a manner identical to notices and documents published in English; (2) issue accessible publication of public meeting notices at least 30 days prior to the scheduled meeting date ; and (3) provide professional interpretation services at public meetings where public notice must be provided in alternative languages. Delivery of such notice must be reasonably structured to assure that the person to whom it is directed receives it and is able to understand it.

The FAA must take steps to correct the deficiencies in its public notice of the SpaceX permit proceedings. While developing measures for compliance with Title VI and the US DOT Order, the FAA must engage fully with representatives of the Rio Grande Valley community and be guided by the community’s needs. To this end, Complainants also request that the agency

¹⁵ <https://www.google.com/maps/@25.9583255,-97.1551116,12z>

¹⁶ FAA, Policies and Procedures for Considering Environmental Impacts, Order 1050.1F, Paragraph 2-5.2.b. (2015), https://www.faa.gov/documentLibrary/media/Order/FAA_Order_1050_1F.pdf

¹⁷ Department of Transportation, Final DOT Environmental Justice Order, Order 5610.2(a), Paragraph 5.b.1, (2012) <https://www.transportation.gov/transportation-policy/environmental-justice/departament-transportation-order-56102a>

¹⁸ FAA, Community Involvement Policy Statement (April 17, 1995), <https://tfmlearning.faa.gov/publications/atpubs/AIR/airapp10.html>

¹⁹ FAA, Policies and Procedures for Considering Environmental Impacts, Order 1050.1F, Paragraph 2-5.2. (2015), https://www.faa.gov/documentLibrary/media/Order/FAA_Order_1050_1F.pdf

²⁰ FAA, Draft Programmatic Environmental Assessment for the SpaceX Starship/Super Heavy Launch Vehicle Program at the SpaceX Boca Chica Launch Site in Cameron County, Texas, 3,15,2 Study Area, pg. 134 (September 2021), https://www.faa.gov/space/stakeholder_engagement/spacex_starship/

²¹ U.S. Census Bureau, Brownsville, TX (2019), <https://www.census.gov/quickfacts/fact/table/brownsvillecitytexas/POP060210>

²² U.S. Census Bureau, Income and Poverty in the United States (2020), <https://www.census.gov/library/publications/2021/demo/p60-273.html>

²³ U.S. Census Bureau, Brownsville, TX (2019), <https://www.census.gov/quickfacts/fact/table/brownsvillecitytexas/POP060210>

inform and invite them to any stakeholder meetings and other efforts addressing the Civil Rights violations set forth herein. If the FAA does not come into compliance voluntarily, Complainants request that the US DOT and the FAA restart SpaceX's permitting review process, fully complying with Title VI and agency notice and public participation mandates.

II. The DPEA Fails to Adequately Assess SpaceX's Impacts on Local Communities

A. Introduction to the National Environmental Policy Act (NEPA)

The National Environmental Policy Act (NEPA) requires an environmental impact assessment (EIS) to examine all potential impacts of a proposal, including "ecological . . . aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative."²⁴ Agencies must consider the environmental justice impacts of their actions on low-income, minority communities in accordance with Executive Order 12898.^{25,26}

B. The DPEA Fails to Consider the Impact of Boca Chica Beach Closures on Nearby Residents and Researchers

Although the mouth of the Rio Grande that empties into the Gulf of Mexico is not listed under the Wild and Scenic Rivers Act, it is still an important local tourist destination and is of cultural significance to the Carrizo/Comecrudo Tribe of Texas that should not be restricted from public beach access by SpaceX. Boca Chica Beach also serves as a food source and important recreation site for many residents who use the beach to fish. The excessive beach closures would also bar essential study of the area by wildlife experts and researchers. According to a non-profit that is tracking the amount of beach closures, SpaceX has exceeded the original 300 hours of beach closures and detailed the need for 800 hours in the DEPA, which they have also exceeded. SpaceX should not restrict residents from a food source. SpaceX is near a neighborhood called Boca Chica Village that is also impacted by road and beach closures. Many of the residents in this neighborhood have expressed concerns with the closures, stating that they are unable to drive to their houses, experience power and internet outages, and feel unsafe because emergency vehicles are often unable to get into the area.²⁷ The FAA should conduct an EIS because of the significant public controversy of current operations.

C. The DPEA Fails to Adequately Consider the Environmental Justice Impacts of Existing and Proposed SpaceX Operations

This proposal will directly and indirectly adversely impact the surrounding city of Brownsville, TX and the Laguna Madre communities which are primarily low-income and majority minority. SpaceX activities already impact locals socially, economically, culturally, and historically, and an approval to expand construction and operations would continue to exacerbate these issues. The community has already seen issues with wildlife being adversely affected, has borne the brunt of the negative impacts from road closures like being denied access to the beach, and has now begun to deal with the cumulative impacts of SpaceX's creation with the influx of newcomers eager to gentrify.

²⁴ 40 C.F.R. § 1508.8.

²⁵ *Coliseum Square, Inc. v. Jackson*, 465 F.3d 215, 232 (5th Cir. 2006).

²⁶ <https://www.epa.gov/laws-regulations/summary-executive-order-12898-federal-actions-address-environmental-justice>

²⁷ <https://www.borderreport.com/hot-topics/exclusive-faa-is-investigating-south-texas-launch-facility-after-change-in-rocket-tests-by-spacex/>

Additionally, Elon Musk announced earlier this year that he plans to incorporate the SpaceX site area to create a city called “Starbase.”²⁸ The FAA should require SpaceX to include plans for Starbase and an analysis in an EIS of the impacts the planned city would have on nearby residents and future operations. The FAA should also consult with the residents of the surrounding communities at the very least, as the renaming of a beach is a negative cultural impact with many having strong cultural and emotional ties to the name Boca Chica.

D. Carrizo/Comecrudo Tribe of Texas

The legacy of Indian displacement in Texas is one of the most thorough examples of land dispossession in the Americas. The disregard for sovereignty, access to land, land rights has been denied to virtually all indigenous peoples throughout Texas history. No existing tribe or nation with ancestral ties to the land in Texas has federal Indian recognition. The three existing federally recognized reservations in the state serve peoples who were forcibly displaced from other homelands. Despite the state-driven erasure of the Native population there exists a thriving indigenous population with histories, languages and culture. One tribe, the Esto’k Gna commonly referred to as the Carrizo/Comecrudo, has ancestral ties to the immediate region of the Lower Rio Grande Valley. The Esto’k Gna recognizes the project area and its surroundings to be an extremely important sacred cultural, ancestral, and historic site. Although the Esto’k Gna have not yet been granted recognition. That does not invalidate Esto’k Gna’s cultural affiliation with the lands of their ancestors, nor their sacred sites, among which are the Mouth of the Rio Grande and the river itself, including access to the river and the area surrounding the mouth of the river. The protection of sacred sites is a Human Rights issue under the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). Expansion of SpaceX would continue this unfortunate colonial legacy of erasure and disregard. Furthermore, neither SpaceX, nor the FAA, and other regulators have respected and secured Free Prior and Informed Consent (FPIC) of the Esto’k Gna people, which is also recognized as a Human Right by the UNDRIP.

While there has been no archeological study in the immediate construction site of SpaceX, patterns of archaic burials in the area show a need for more protections in the area. It is likely that there are burials or artifacts or remains of villages in the construction site of SpaceX. The law has been slow to act for cultural protection. Although the tribe is currently not recognized, the Native American Graves Protection and Registration Action (NAGPRA) still applies, we must not deny that culturally informed archeological studies and cultural data that include direct consultation with the Esto’k Gna need to be conducted and assessed before any more building permits are granted.

There has not yet been a thorough enough archeological survey nor study of the current SpaceX site nor the area proposed for the project’s expansion. There is high probability that archaic and archeological sites may be disturbed by SpaceX expansion and high probability that the current SpaceX project has disturbed and unearthed archeological and historic material significant to the original people of the land, the Esto’k Gna. As previously stated, SpaceX has not consulted with the Esto’k Gna, nor informed them if they have encountered material or human remains in the construction of their projects. Although the Esto’k Gna do not hold Federal recognition currently, it is still a violation of the Native American Graves Protection and Repatriation Act to ignore the responsibility to inform and consult with culturally affiliated tribes, even if they lack Federal recognition.

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<https://www.houstonchronicle.com/news/houston-texas/space/article/Elon-Musk-seeks-to-create-the-city-of-Starbase-in-15995110.php>

The Esto'k Gna (Carrizo Comecrudo Tribe of Texas) would prefer that ancestral human and material remains be undisturbed. However, SpaceX has neither sought nor received free prior and informed consent from the Esto'k Gna, and are thus in violation of NAGPRA, if they have disturbed human remains and/or objects of cultural patrimony, and/or funerary items and have neglected to inform the Esto'k Gna. As there are many ancestral village sites near the river and throughout the so called Rio Grande Valley, it is likely that SpaceX's activity has disturbed and damaged sites in the area. One noted Esto'k Gna village site lies within an area known as Garcia Pasture.

Garcia Pasture, which is noted on the Federal Register of historic sites, includes archeological remains of the indigenous people of the land, including pre-contact material. This area of concern, known as Garcia Pasture, is another sacred site of the Esto'k Gna, the Carrizo Comecrudo. A proposed fracked gas export terminal project known as Texas LNG would destroy this sacred site and the archeological and historic remains still there. From this site, the current SpaceX launch facility and rockets are clearly visible. This has a negative aesthetic impact on the view and surrounding landscape to which the Esto'k Gna did not consent nor were they consulted. The proposed Super Heavy rockets would be an even greater challenge to the aesthetic and view of the landscape, not to mention the danger of the largest rocket ever created exploding, setting off chain explosions in the surrounding gas and oil industries. Again the land and the are sacred to the Esto'k Gna. Any expansion of SpaceX would erase what little sacred and archeological sites left to the Esto'k Gna who are culturally affiliated to the Lower Rio Grande Valley including the areas SpaceX is using and destroying. The permit for expansion should be denied and the Esto'k Gna should be consulted regarding any further expansion projects or any industrial projects planning to colonize the area. .

E. The DPEA Fails to Consider Increases of Vehicular Traffic on State HWY 4

During construction and operations, there will continue to be a significant increase in vehicular traffic, particularly on State HWY 4. This is due to an increase in imported skilled workforce. The DPEA fails to consider the effect that this increased traffic and resulting change in traffic patterns will have on the low-income minority communities closest to the site. This increase in traffic will impact the ability of nearby residents to reach their workplaces, medical services in Brownsville in a timely manner, or visit Boca Chica Beach or recreate nearby.²⁹ The increase in vehicular traffic on the HWY 4 has also negatively impacted wildlife in the area, with residents of Boca Chica Village stating that they have seen many deceased animals, including some endangered species, on HWY 4 clearly from a vehicular impact³⁰. The DPEA fails to include a plan to mitigate increased traffic flows along HWY 4.

F. The Proposal Fails to Account for the Adverse Impacts of High-Paid, Skilled Workers on Low-Income Areas, and Social Costs Incurred by Neighboring Communities

SpaceX and its supporters consistently claim that their existence and expansion will lead to more jobs and economic prosperity for the local population. SpaceX expects a maximum of 450 full-time employees or contractors on site but does not commit to providing employment opportunities to locals, nor does it define a "local hire." If locals are being hired, the DPEA

²⁹ <https://www.expressnews.com/sa-inc/article/Environmentalists-lawsuit-Space-X-beach-closures-16533436.php>

³⁰ <https://www.houstonchronicle.com/news/houston-texas/space/article/Federal-regulators-hear-pros-cons-of-SpaceX-plans-16547020.php>

should assess the capacity of their employment, expected longevity, and opportunity for full-time benefits. The DPEA also needs to address this based on the historical issues SpaceX has had with labor violations and the fact that many local hires are only contracted so the company can avoid paying them adequately or offering benefits³¹. The DPEA itself even admits that the population under the poverty threshold may not directly benefit through employment and income. The Census Block Group, where the launch site is located, has substantially more low-income people than Texas as a whole. This suggests that the economic benefit in the form of “jobs” or “indirect employment” for the Rio Grande Valley region that SpaceX touts is misleading. In fact, Elon Musk used his Twitter account that has 61.4 million followers to invite those who work in relevant fields to move to the Brownsville and South Padre Island, TX area to work for him at SpaceX.³²

The DPEA should address SpaceX’s impact on the region, such as housing due to a large influx of non-local workforce. Residents have already experienced a housing shortage, and there are concerns that there will be rental rate increases and less affordable housing in this low-income community³³. In addition, the DPEA fails to consider how the high number of out-of-state contractors employed during the projects’ construction phases over the estimated multi-year construction span will also add strain to the area’s public services. An expansion would increase these issues and therefore SpaceX’s proposal should not be approved until there is further assessment of the immediate and cumulative adverse impacts of high-paid workers on the low-income area in a draft EIS.

III. The DPEA Does Not Adequately Consider the Adverse Impacts from Related Infrastructure Construction

A. Desalination and Groundwater Withdrawal

SpaceX plans to withdraw substantial amounts of groundwater, in addition to the construction and operation of a desalination plant for the purpose of treating saline groundwater. The DPEA fails to discuss coastal land loss impacts associated with desalination including the subsidence risks associated with coastal groundwater withdrawal. Texas coastlines are some of the earliest to have experienced fluid withdrawal related subsidence impacts: the area surrounding Goose Creek in Houston was converted from upland to open water due to subsidence of about 1 meter of coastal land.³⁴ Additionally, this begs the question of how much unreported coastal land loss could have already occurred in Texas, or could be presently occurring, tied to subsurface fluid withdrawal.

As of 2013, the shoreline in Texas was retreating at an average of 1.6 meters each year.³⁵ Subsidence in the Texas area is exacerbated by long-term industrial groundwater withdrawal from aquifers.³⁶ These subsidence risks include a substantial increase in flood risk. Examples of this increased flood risk include one instance where 200 homes were destroyed in a Baytown neighborhood, as well as wetland loss in the Matagorda Bay area being attributable

³¹ <https://www.theguardian.com/technology/2018/sep/10/tesla-workers-union-elon-musk>

³² <https://www.techrepublic.com/article/elon-musk-hiring-several-thousand-people-to-work-at-spacex-starbase-in-texas/>

³³ <https://www.valleycentral.com/news/local-news/not-enough-houses-experts-respond-as-elon-musk-calls-more-people-to-cameron-county/>

³⁴ R.A. Morton, et al., Evidence of regional subsidence and associated interior wetland loss induced by hydrocarbon production, Gulf Coast region, USA, *Environ Geol* 50, 261 (2006) (<https://doi.org/10.1007/s00254-006-0033-3>).

³⁵ EarthSky, Jeffrey Paine: Retreating shoreline along Texas Gulf coast, (Jan. 21, 2013) (<https://earthsky.org/earth/jeffrey-paine-retreating-shoreline-along-texas-gulf-coast>).

³⁶ Robert A. Morton, U.S. Geological Survey, Role of Human Activities: Hydrocarbon & Groundwater Extraction (<https://pubs.usgs.gov/of/2003/of03-337/extraction.html>) (last visited Sept. 2, 2021).

to over-extracting of subsurface fluids, increasing the frequency of flooding. An increase in flooding around wetland areas specifically increases the frequency of saltwater intrusion, and in turn stresses wetlands to the point of additional loss, creating a positive feedback loop where additional flooding from wetland loss causes ongoing wetland loss.³⁷ Finally, this type of subsidence along the Texas coast is generally irreversible due to the specific properties of the young clay soils.³⁸ The DPEA fails to address potential subsidence and flood risks, nor does it address the further weakening of the coastline that may result.

SpaceX plans to dispose of the brine produced from desalination through either injection wells or containerization for off-site disposal. SpaceX also posits that the brine injection wells are not anticipated to cause significant impacts to the surrounding wetland system because of the wetlands' brackish salinity. There is inadequate analysis to this statement – especially in light of the aforementioned risk that saltwater intrusion from Gulf saltwater could cause harm. If saltwater intrusion from elevated flood risks pose a threat to surrounding wetlands, brine with salinity substantially higher than that of Gulf waters would clearly pose a risk as well. The DPEA does not address the risk of brine impacts in any depth aside from this one statement.

Finally, SpaceX relies on modeled available groundwater information from the Texas Water Development Board (TWDB), noting that this area in Cameron County is without a Groundwater Conservation District (GCD). The desired future conditions adopted by TWDB through groundwater management areas and modeled available groundwater in the state of Texas are not required by law to incorporate climate change impacts.³⁹ Relying solely on the State's modeled available groundwater when there is neither a groundwater conservation district nor a state statutory requirement to evaluate the impacts of climate change on groundwater resources is essentially planning to incorporate a new groundwater withdrawal without regard to climate change at all. In fact, the DPEA acknowledges that this area along the Texas Coast is more likely to be subject to climate change impacts – yet the DPEA does not consider climate change in the context of either groundwater availability nor the risks associated with the groundwater withdrawal itself.

B. Power Plant and Natural Gas Pretreatment System

SpaceX plans to build and operate a gas-fired power plant that would emit harmful air pollutants and industrial light pollution into the adjacent Lower Rio Grande Valley wildlife refuge. In addition, SpaceX does not give enough details about the proposed plan for the gas plant, including whether the plant will use ground flares or flare stacks. SpaceX claims that industrial lighting would be minimal but doesn't provide adequate details of the Lighting Management Plan for the public to comment. The DPEA does not include an analysis of the cumulative air quality pollution from the gas plant and other SpaceX industrial operations that would impact wildlife and nearby residents recreating at the beaches or wildlife refuges.

Furthermore, The DPEA does not adequately explain how SpaceX would receive and transport gas to its power plant and the pretreatment site and the risks associated with transporting the gas. These details should be included so that the public can be informed of an

³⁷ Robert A. Morton, U.S. Geological Survey, Role of Human Activities: Hydrocarbon & Groundwater Extraction (<https://pubs.usgs.gov/of/2003/of03-337/extraction.html>) (last visited Sept. 2, 2021); Thomas A. Tremblay and Thomas R. Calnan, Tex. Gen. Land Office, STATUS AND TRENDS OF INLAND WETLAND AND AQUATIC HABITATS, MATAGORDA BAY AREA, (Mar. 2010) (https://www.glo.texas.gov/coastal-grants/_documents/grant-project/09-046-final-report.pdf).

³⁸ Id; Kerry Halladay, A Sinking Situation In Houston, Texas Gulf Coast, Texas A&M Today (Feb. 8, 2021) (<https://today.tamu.edu/2021/02/08/a-sinking-situation-in-houston-texas-gulf-coast/>).

³⁹ Texas Water Code §36.1081

increase in traffic of hazardous materials on State HWY 4 or could result in the construction of rail systems or highly flammable pipelines. We request that a comprehensive environmental impact statement include the methods that will be used such as truck, train, rail, or pipeline to transport the gas to the project site. Additionally, the DPEA does not address SpaceX's plans to drill for gas adjacent to the SpaceX launch pad and the risks associated with drilling.⁴⁰

C. Liquefier

The DPEA does not consider the risks associated with liquefying gas that could include potential toxic chemical spills, flammable vapor clouds, or more. The DPEA should provide details of any storage tanks or containment systems they plan to use to store the liquefied gas that could reduce the risks of spills, and any plans to mitigate air pollution and the contribution of flammable vapor clouds that could occur when liquefying gas.

IV. The DPEA Does Not Adequately Consider How the Environmental Degradation Caused by SpaceX Operations Will Likely Adversely Impact Local Industries

A. The DPEA Does Not Adequately Consider Adverse Impacts to Tourism

The expansion of SpaceX, along with two other major LNG export terminals, will increase air pollution, large vessel traffic, and noise to an area where tourism, especially nature oriented tourism like bird watching and fishing, is a major source of employment and income. In addition, many low-income residents are employed in jobs related to tourism, such as the hospitality and food service industry. Adverse impacts of the area's ability to draw nature-oriented tourists would significantly affect local businesses in the tourism industry and low-income populations that are employed by them.

The Rio Grande Valley is one of the top bird watching destinations in the country. "Texas is the number one birdwatching state/province in North America, and the Texas Rio Grande Valley is often considered the number two bird watching destination in North America. The four counties of the Valley, Hidalgo, Starr, Willacy, and Cameron, together have recorded almost 500 bird species, more than all but four states."⁴¹ Ecotourism brought \$25.4 billion to the state, based on estimates from the Texas Comptroller's office.⁴² Ecotourism in the Rio Grande Valley brings in "between \$100 million and \$170 million annually and employs *several thousand people*."⁴³ The SpaceX is sandwiched between two National Wildlife Refuges that are within 5 miles from the project site. There are many designated birding spots near SpaceX, including Boca Chica State Park, South Bay Coastal Reserve and locations on the Great Texas Birding Trail. In addition to the designated birding spots, there are innumerable unofficial birding sites within the parks and nature reserves. Part of what makes the area a unique birding site and major tourist attraction is its position within the Central Flyway, a major migratory route, for over 380 species travel.⁴⁴ The area surrounding the proposed terminal project is where birds make their first landfall after crossing the Gulf of Mexico.⁴⁵ The Lower Rio Grande Valley Wildlife

⁴⁰ <https://www.businessinsider.com/elon-musks-spacex-plans-to-drill-natural-gas-in-texas-2021-1>

⁴¹ Mathis & Matisoff, Houston Advanced Research Center, *A Characterization of Ecotourism in the Texas Lower Rio Grande Valley* (March 2004), p. 1, attached as Exhibit 25.

⁴² *Id.* at 14.

⁴³ *Id.* at 17. (emphasis added).

⁴⁴ "Central Americas Flyway: Fact Sheet," Bird Life International, attached as Exhibit 27, available at http://datazone.birdlife.org/userfiles/file/sowb/flyways/2_Central_Americas_Factsheet.pdf.

⁴⁵ Tim Harris, "RSPB Migration Hotspots: The World's Best Bird Migration Sites," 2013, p. 48, attached as Exhibit x.

Refuge, immediately adjacent to the proposed site, serves as a sanctuary for migratory birds.⁴⁶ Habitat destruction, like the expansion of SpaceX, as well as the construction of a major pipeline and LNG terminals, is a rising threat to migratory birds.⁴⁷

In addition, South Padre Island draws \$370 million each year to Cameron County and “approximately \$266 million to Brownsville, Port Isabel/Laguna Vista, and Los Fresnos.”⁴⁸ For Port Isabel and Laguna Vista, nearly 36% of their employment is related to economic activity on South Padre Island.⁴⁹ Recreational fishing in the Lower Laguna Madre System contributed an estimated 479 jobs and \$45.3 million in the sales of goods and services.⁵⁰

The DPEA fails to acknowledge a number of impacts of SpaceX constructions and operations on the tourism industry. The DPEA fails to acknowledge that noise and visual impacts will affect some birdwatching sites, and therefore impact the birdwatching tourism industry in Cameron County. Nature tourism at the Lower Rio Grande Valley Wildlife Refuge and Boca Chica State Park would be exposed to noise during construction and during operations with the site operating “24 hours a day, 7 days a week.” The DPEA does not provide any evaluation of how noise and visual impacts will impact tourism. It does not acknowledge that SpaceX may alter “visitation patterns,” and does not address how these visitation patterns might look. Not to mention, it fails to account for the motivations behind nature tourism, which is steeped in admiration for nature that is or perceived to be undisturbed. The DPEA ignores that the proposal will affect the gross number of tourists that visit the area.

Even a relatively minor impact to the tourism industry can result in huge repercussions for the region. A 2011 Texas A&M University study on nature tourism in the Rio Grande Valley documented a \$344 million dollar economic benefit.⁵¹ Further, based on data from the Bureau of Labor Statistics, there are 671 tourism businesses and 12,296 tourism jobs in Cameron County.⁵² And due to its pristine beaches and clean water, South Padre Island draws about a million overnight visitors yearly, adding an estimated \$370 million to the Valley’s economy in 2011 alone.⁵³ Thus, even a small dent in economic impact could result in tens of millions of dollars of lost revenues for the region, which is especially harmful in the case of South Padre

⁴⁶ *Id.*

⁴⁷ Paul A. Johnsgard, “Wings Over the Great Plains: Bird Migrations in the Central Flyway,” (2012), p. 21, attached as Exhibit 29.

⁴⁸ South Padre Island Economic Development Corporation, “Economic Impact of South Padre Island,” p. 3, attached as Exhibit 30, available at <http://southpadreislandedc.com/sites/default/files/files/Resources%20%26%20Studies/SPI%20Economic%20Impact%20Analysis%20Summary.pdf>.

⁴⁹ *Id.* at 2.

⁵⁰ Andrew Ropicki et al., “The Economic Impacts of Recreational Fishing in the Lower Laguna Madre Bay System,” Nov. 9, 2016, p. 2, attached as Exhibit 31, available at [http://texasseagrant.org/assets/uploads/resources/16-](http://texasseagrant.org/assets/uploads/resources/16-512-The-Economic-Impacts-of-Recreational-Fishing-in-the-Lower-Laguna-Madre-Bay-System.pdf)

[512-The-Economic-Impacts-of-Recreational-Fishing-in-the-Lower-Laguna-Madre-Bay-System.pdf](http://texasseagrant.org/assets/uploads/resources/16-512-The-Economic-Impacts-of-Recreational-Fishing-in-the-Lower-Laguna-Madre-Bay-System.pdf).

⁵¹ Kyle M. Woosman, Rebekka M. Dudensing, Dan Hanselka, Seonhee An, “An Initial Examination of the Economic Impact of Nature Tourism on the Rio Grande Valley.” Texas A&M Univ. 1 Sept 2011, attached as Exhibit 32.

⁵² See Shawn Stokes and Marcy Lowe, “Wildlife Tourism and the Gulf Coast Economy,” Jul. 9, 2013, p. 8, attached as Exhibit 33, available at https://www.mmc.gov/wp-content/uploads/Stokes-and-Lowe-2013-Wildlife-Tourism-and-the-Gulf-Report_FINAL.pdf.

⁵³ “Economic Impact of South Padre Island,” South Padre Island Economic Development Corporation, 2012, attached as Exhibit 30, available at <http://southpadreislandedc.com/sites/default/files/files/Resources%20%26%20Studies/SPI%20Economic%20Impact%20Analysis%20Summary.pdf>.

Island, where tourism is by far the dominant industry. In addition, a decrease in economic impact from the tourism industry can translate to an uptick in unemployment of local residents who may not have the skills to staff the new industries. Even if the number of jobs created by the SpaceX would be enough to supplant the loss of thousands of tourism industry jobs, much of the permanent jobs created by the proposal will be staffed by out-of-towners and/or by workers with specific skills. This could exclude workers that may have lost their jobs as a result of any damage to the tourism industry. These workers may also reside in low income areas, such as Laguna Heights, which in turn magnifies the impact of the proposal on low income, minority communities. Lastly, tourism workers may not have the skills to staff the influx of incoming, construction-related jobs. The creation of jobs is not really helpful if the community that lives here is conveniently excluded from the requirements for these positions.

A further risk is whether the presence of SpaceX and the two LNG terminals and other industrial projects will discourage future investment in the area that would be consistent with the tourism industry or, conversely, attract more high polluting projects. The proposal area has a natural, comparative advantage to other communities because of its low cost of living, many recreational opportunities, and unique natural beauty. Quality of life and recreational activities are important factors that companies consider when choosing where to invest in office operations.⁵⁴ The proposal area will lose that comparative advantage if it instead caters to industrial activity such as rocket testing that degrades the very things that make it an attractive place to live.

A study from the University of Indiana shows that high concentrations of certain industries tend to attract investment in the same industries.⁵⁵ Industries tend to cluster to take advantage of the benefits of proximity to related industries and infrastructure.⁵⁶ The PEA fails to consider that this project and others will attract similar investments in other industrial projects to the continued detriment of the local population.

B. The DPEA Fails to Adequately Analyze the Proposal's Existing and Future Impact on the Recreational Fishing and Shrimping Industries

The DPEA fails to acknowledge that current and future SpaceX operations will have adverse impacts on recreational fishing. Fishing at Boca Chica Beach has already been inhibited significantly more than it was pre-SpaceX due to excessive beach closures which would only increase with the proposal. In addition, construction noise will likely be audible at local fishing sites, making it more difficult and uncomfortable to fish. The DPEA fails to provide in-depth consideration of the cumulative impacts the proposal will have on recreational fishing. For example, there is no analysis on the cumulative impact of the rocket testing and launches restricting access to the Brownsville Ship Channel and the effect it will have on recreational fishing or vital shrimping businesses in the channel. The DPEA states that "the Brownsville Shipping Channel would be temporarily restricted during orbital launches and some suborbital launches." While the rocket launches at the site may just be 500 hours a year, the total number of closures due to any anomalies could be an additional 300 hours. This negative impact will not be "temporary" or "short-term," since it will continue so long as SpaceX is operating and

⁵⁴ See Parks and Recreation's Role in Economic Development," The George Mason University Center for Regional Analysis, May 2018, attached as Exhibit 34, available at <https://www.nrpa.org/siteassets/nrpa-economic-development-report.pdf>.

⁵⁵ Timothy Slaper and Ping Zheng, "Why Invest There?", Center for International Business Education and Research, Sept. 2018, attached as Exhibit 35, available at <http://www.ibrc.indiana.edu/studies/why-invest-there-2018.pdf>.

⁵⁶ *Id.*

other industrial projects impacting the Brownsville Ship Channel like the LNG terminals may move forward. By failing to acknowledge the interdependent nature of recreational fishing and the tourism industry, the DPEA fails to adequately address the immediate and cumulative impacts the project will have on the tourism industry. The Brownsville Economic Development Council describes recreational fishing as “a major attraction for locals and tourists.”⁵⁷ Recreational fishing is a significant portion of wildlife tourism in Texas, accounting for 29% of wildlife tourists.⁵⁸ In 2011, about 7,769,000 people participated in wildlife activities in Texas, and 2,253,010 of those people participated in recreational fishing.⁵⁹ Recreational fishing in the Lower Laguna Madre System alone contributed an estimated 479 jobs and \$45.3 million in the sales of goods and services.⁶⁰ By failing to consider the adverse impacts recreational fishing will have on the tourism industry, the DPEA fails to adequately consider the adverse impact that current and future SpaceX operations will have on the local economy.

The DPEA fails to adequately consider impacts to area residents who shrimp and fish for their livelihood and to others who rely on the local fishing and shrimping industry for their livelihoods. It also fails to include mitigation for the harms to this vitally important industry. Between 2009 and 2014, Cameron County accounted for 31% of the Texas shrimp harvest.⁶¹ Including processing facilities, the shrimping industry has a \$145 million impact per year on Cameron County.⁶² With 178 shrimping vessels, shrimping is a significant part of the local economy.⁶³ In 2019, there are 106 permits for Gulf Royal Red Shrimp issued to Texas shrimpers. Thirty-five of those permits were issued to people in Port Isabel, and 45 of those permits were issued to people in Brownsville.⁶⁴ There are 542 permits for Gulf of Mexico Shrimp issued to Texas shrimpers. Seventy-one of those permits were issued to people in Port Isabel, and 84 of those permits were issued to people in Brownsville.⁶⁵ The proposed SpaceX expansion would be located next to the Bay, Brownsville Ship Channel, and Gulf of

⁵⁷ See Brownsville Economic Development Council website, attached as Exhibit 36, available at <http://www.bedc.com/sports-recreation>.

⁵⁸ See Shawn Stokes and Marcy Lowe, “Wildlife Tourism and the Gulf Coast Economy,” Jul. 9, 2013, p. 8, attached as Exhibit 33, available at https://www.mmc.gov/wp-content/uploads/Stokes-and-Lowe-2013-Wildlife-Tourism-and-the-Gulf-Report_FINAL.pdf.

⁵⁹ See *id.*

⁶⁰ Andrew Ropicki et al., “The Economic Impacts of Recreational Fishing in the Lower Laguna Madre Bay System,” Nov. 9, 2016, p. 2, attached as Exhibit 31, available at http://texasseagrant.org/assets/uploads/resources/16-512_The_Economic_Impacts_of_Recreational_Fishing_in_the_Lower_Laguna_Madre_Bay_System.pdf.

⁶¹ See Andrew Ropicki et al., “Economic Impacts of the Cameron County Shrimp Industry,” Jun. 2016, attached as Exhibit 37, available at http://cameron.agrilife.org/files/2015/06/Cameron-County-Shrimp-Industry-Economic_Impacts.pdf.

⁶² See *id.*; see also Rod Santa Ana, “Experts: Shrimp imports depress market prices and pose health risks,” AgriLife Today, Aug. 27, 2015, attached as Exhibit 38, available at <https://today.agrilife.org/2015/08/27/shrimp-imports-depress-market-prices/>.

⁶³ Tony Reisinger and Andrew Ropicki, Ph.D., *2016 Cameron County Shrimp Industry Best Management Practices Outreach*, “Extension Education in Cameron County: Making a Difference,” (2016), p. 40, attached as Exhibit 39, available at <http://counties.agrilife.org/cameron/files/2011/04/2016-Making-a-Difference-Cameron-County.pdf>.

⁶⁴ National Oceanic and Atmospheric Administration, Gulf Royal Red Shrimp Permit Records, attached as Exhibit 40, available at <https://portal.southeast.fisheries.noaa.gov/reports/foia/GRRS.htm> (accessed Nov. 20, 2018).

⁶⁵ National Oceanic and Atmospheric Administration, Gulf of Mexico Shrimp Permit Records, attached as Exhibit 41, available at <https://portal.southeast.fisheries.noaa.gov/reports/foia/SPGM.htm> (accessed Nov. 20, 2018).

Mexico where approximately numerous shrimping trawlers and fishing boats traverse.

V. The DPEA Fails to Adequately Assess Impacts on Sensitive Species

The DPEA does not adequately address the significant environmental, habitat, or the significant wildlife impacts from the proposed expansion. Additionally, it does not outline potential alternatives to mitigate wildlife impacts for the public to consider. Since the start of operations, there have been numerous examples of damages to wildlife habitat and species by SpaceX. These include:

- November 2018 - During the Federal Government shutdown and furlough, SpaceX announced they would change activity from a launch facility to a testing facility which eventually resulted in increased explosions and debris into habitat.
- April 21, 22 - 2019 - SpaceX test caused a large wildfire into nearby habitats
- November 20, 2019 - MK 1 explosion resulted in a Nose cone north into HW 4
- February 28, 2020 - SN1 explosion sent debris north of HWY 4
- December 9, 2020 - SN8 explosion send debris into nearby habitat resulting in damaged flats
- March 30, 2021 - explosion resulting in more debris into nearby habitat

Increased construction and operations at the site could result in SpaceX employees, related personnel, and outside visitors trampling into unauthorized areas of protected habitat. The DPEA fails to acknowledge past occurrences of unauthorized entry and has not provided plans to prevent further occurrences.

A. The DPEA Fails to Adequately Assess the Proposal's Significant Effects on Listed Species

SpaceX operations impact adjacent wildlife habitats including the Lower Rio Grande Valley Wildlife Refuge, Boca Chica Beach State Park, and the Laguna Atascosa Wildlife Refuge which are home to a number of species listed under the Endangered Species Act (ESA). This includes the federally Threatened Piping Plover and Red Knot, and the Endangered Northern Aplomado Falcon, the ocelot, and several species of sea turtle. The FAA should require SpaceX to provide as many future plans as possible for an EIS because operations are constantly changing, and experts/researchers need the opportunity to analyze effects on ESA-listed species and critical habitats.

1. Endangered Ocelot

The ocelot (*Leopardus pardalis*) is an endangered species with nearby U.S. populations, at the Laguna Atascosa National Wildlife Refuge which is approximately 5 miles from the SpaceX site. The ocelot also has been sighted 25 miles north of the refuge on private ranchland in Kenedy and Willacy Counties, and at the adjacent Lower Rio Grande Valley Wildlife refuge. According to the DPEA, The Lower Rio Grande Valley Wildlife refuge, which is in the vicinity of the SpaceX site, has had numerous ocelot sightings over the past 25 years. FWS and NGOs have been working for decades to protect and restore the ocelot in the U.S., but the DPEA states that the Proposal “is likely to adversely affect” the ocelot due to “construction activities, daily operations, and launch and test operations.”⁶⁶

⁶⁶ 3.10.4.3 Protect Species and Habitat, draft programmatic environmental assessment https://www.faa.gov/space/stakeholder_engagement/spacex_starship/media/Draft_PEA_for_SpaceX_Starship_Super_Heavy_at_Boca_Chica.pdf

The DPEA understates the impact of the project on the north-south ocelot movement corridor. For decades, FWS and partner organizations have been purchasing land and arranging easements including habitat north and south of the Brownsville Ship Channel (BSC) with the goal of protecting habitat and wildlife corridors that would maintain connections between ocelot populations in the U.S. with the ultimate vision of connectivity to the population in Tamaulipas, Mexico.⁶⁷ The cumulative effects of the proposed SpaceX expansion and the Rio Grande LNG and Texas LNG projects along the channel would be to greatly reduce the width of the existing corridor to lighted, noisy LNG terminals and SpaceX rocket launches that ocelots are likely to avoid. Once SpaceX launches increase and LNG plants are under construction, an ocelot has to approach the lighted, noisy plants via a narrow easement on either side of the BSC, swim the channel, and then exit via another easement. In addition, ocelots would have to use culverts to cross access roads. It is unlikely that ocelots would successfully run this gauntlet and therefore it is probable that the plants would permanently cut connection between ocelots north and south of the BSC. The DPEA fails to adequately acknowledge the large role it would play in cutting this vital corridor and proposes nothing to offset this loss of connectivity that may jeopardize long-term viability of the U.S. ocelot population by substantially deterring ocelots from available surrounding wildlife habitat and ending hope of eventual gene flow from the Mexican population. The DPEA also fails to acknowledge the already existing vehicular deaths to not only ocelots in the area, but other wildlife as well that are directly related to the influx of traffic and road closures.⁶⁸ The FAA should conduct a comprehensive environmental impact statement to disclose and evaluate the cumulative effects of SpaceX's operations including the power plant, drilling for gas, desalination plant, and other nearby industrial projects like the LNG terminals. This failure to fully disclose and analyze impacts on the ocelot violates NEPA's "hard look" requirement and prevents the public from "understand[ing] and consider[ing] the pertinent environmental" effects of RG Developers' proposed terminal and pipeline.⁶⁹

Additionally, SpaceX has not provided information specific as to what off-site mitigation acres they would create, restore, or protect, so it is impossible to evaluate whether mitigation actions would avoid, eliminate, or minimize the significant impacts to the ocelot. Given the disastrous effect this proposal would have on long-term plans for ocelot recovery, if sufficient mitigation is even possible, it should be substantial. To be sufficient, ocelot mitigation should offset degradative effects: (1) loss of ocelot habitat *per se*, primarily thorn scrub, and (2) loss of connectivity between existing and/or potential ocelot habitat north and south of the BSC.

Regarding the second issue, the DPEA fails to explain what measures may be taken to compensate for loss of connectivity; these measures should be included in a draft EIS. As described above, blocking connectivity would effectively end the long-term FWS and NGO plan of ensuring connectivity north and south of BSC, as well as ensuring connectivity with ocelots in Mexico.⁷⁰ The EIS must evaluate both these effects and should include, at minimum, population viability assessments for scenarios that would include connection with Mexico. Additionally, mitigation of lands to protect the the corridor between Laguna Atascosa, the Lower Rio Grande Valley Wildlife Refuge, and the corridor to the north on private ranches must also be addressed. The DPEA fails, however, to adequately consider or address any mitigation that would provide reasonable and sufficient offset for lost connectivity. Based on this failure, the Commission has not taken the "hard look" at ocelot impacts necessary to comply with NEPA.⁷¹

⁶⁷ See, e.g., Exhibit 52, available at <https://www.kveo.com/news/local-news/-11-million-for-conservation-projects/1614349403>).

⁶⁸ <https://www.texasstandard.org/stories/spacex-prepares-to-launch-largest-rocket-ever-despite-ongoing-faa-review/>

⁶⁹ *Davis Mountains*, 116 Fed. Appx. at 8-9; see also 18 C.F.R. §§ 380.12(e) & 380.13(b)(5)(ii)(C).

⁷⁰ U.S. Fish and Wildlife Service. 2016. Recover Plan for Ocelot (*Leopardus pardalis*), attached as Exhibit x.

⁷¹ See, e.g., *Davis Mountains*, 116 Fed. Appx. at 8-9.

2. Threatened Piping Plover, Red Knot, and other Migratory Birds

The habitat surrounding the SpaceX site is vital for migrating bird species to rest and refuel so they can successfully complete their journeys. The website eBird lists 262 bird species⁷² that thrive on Boca Chica Beach and 178 bird species⁷³ that can be found at Boca Chica State Park. SpaceX construction and operations has increased over the past three years resulting in damage to federal and state wildlife lands. Additionally, SpaceX has “increased traffic on State HWY 4 and has led to mortality of wildlife, with carcasses of Piping Plover, Common Nighthawk, Harris’s Hawk, Rose-breasted Grosbeak, and Eastern Meadowlark.”⁷⁴ All of these bird species are designated as Birds of Concern by the U.S. Fish and Wildlife Service.⁷⁵

Certain species of bird populations are declining in the habitat surrounding the SpaceX site. According to a recent analysis conducted by the Coastal Bend Bays & Estuaries Program, the Piping Plover population has decreased by 54% over the past three years (2018 - 2021) since SpaceX began construction and rocket testing operations.⁷⁶ The failure to fully analyze potential impacts to the piping plover, and the absence of any proposed mitigation measures in the DEIS again violates NEPA’s “hard look” requirement.⁷⁷

3. Endangered and Threatened Sea Turtles

The DPEA contains insufficient information to determine whether there are sufficient mitigation measures to minimize the proposed impacts on listed sea turtles. Sea turtle species that may be present within the project’s general area include Kemp’s ridley, hawksbill, leatherback, loggerhead, and green sea turtles. All these species are endangered except for the green, whose population off the Texas coast is classified as threatened. Critical habitat for the loggerhead turtle has been mapped offshore. The critical habitat surrounding the SpaceX site has been identified as an aquatic resource of national importance (ARNI).

Turtles are vulnerable because they surface to breathe; often bask, feed; and mate near the surface; and are more vulnerable during cold spells when they are unable to move as well. Turtles are known to be present in high density in this area, as shown in the map below, so rocket debris affecting turtle habitat is likely.⁷⁸

⁷² eBird <https://ebird.org/hotspot/L128923>

⁷³ eBird <https://ebird.org/hotspot/L4664966>

⁷⁴ <https://www.texasstandard.org/stories/spacex-prepares-to-launch-largest-rocket-ever-despite-ongoing-faa-review/>

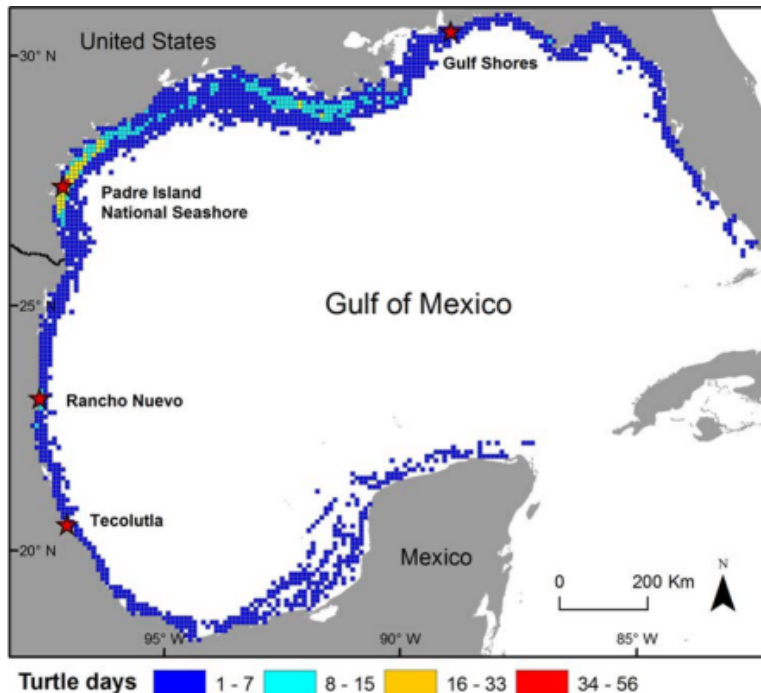
⁷⁵ <https://www.fws.gov/migratorybirds/pdf/management/birds-of-conservation-concern-2021.pdf>

⁷⁶ Coastal Bend Bays & Estuaries Program

<https://www.utrgvrider.com/wp-content/uploads/2021/04/SpaceX-404-Comments-from-ABC.pdf>

⁷⁷ *Davis Mountains*, 116 Fed. Appx. at 8-9.

⁷⁸ Shaver D. et al. 2016. Migratory corridors of adult female Kemp’s ridley turtles in the Gulf of Mexico. *Biological Conservation*, Vol. 194, pp 158-167, attached as Exhibit 58.



SpaceX operations that produce significant noise and industrial lighting would impact sea turtle populations. This may especially negatively impact nesting areas for the Kemp's Ridley, which nest along Boca Chica beaches in South Padre island. The DPEA documentation fails to quantify the increased vulnerability of the sea turtles as a result of cumulative impacts from LNG terminals, the Jupiter oil refinery operations, and the uptick of SpaceX operations.

Additionally, increased beach closures could prevent volunteers with sea turtle rescue non-profits from reaching and providing aid to turtles, especially cold-stunned turtles in a timely manner. Essentially, excessive beach closures contribute to more unnecessary sea turtle deaths and a further decline in the already threatened and endangered sea turtles.

VI. The DPEA Fails to Take a Hard Look at Potential Wetland Mitigation

The mudflats, estuarine, and non-tidal wetlands within the project area are considered Aquatic Resources of National Importance pursuant to CWA Section 404q. SpaceX's proposed expansion would fill 17.16 acres of wetlands, including vital habitat for the Piping plover. The DPEA could violate NEPA because it fails to take a hard look at reasonable alternatives regarding reduction and mitigation of alternatives to filling additional acres of wetlands.⁷⁹

VII. The DPEA Fails to Adequately Consider Reliability and Safety of the SpaceX Proposal

Residents are expressing concerns about the magnitude of debris from rocket testing and launches. In light of the most recent explosion on March 30, 2021, that sent debris over 8 KM away and landed on Isla Blanca Park's jetties, the residents' concerns for their safety are

⁷⁹ <https://www.texasstandard.org/stories/spacex-prepares-to-launch-largest-rocket-ever-despite-ongoing-faa-review/>

significant and should not be ignored.⁸⁰

A. The Public Risk Impacts Analysis Related to SpaceX is Grossly Inadequate
1. The DPEA Does Not Consider the Risks Associated With the Nearby Proposed Rio Grande LNG, Texas LNG, and Rio Bravo Pipeline Projects, and the Existing Valley Crossing Pipeline

In the DPEA, SpaceX's plan for anomalies, including an explosion on the launch pad that would spread debris, does not include mention of impacts of debris to existing and proposed oil & gas infrastructure or to nearby communities. These existing sites include the Valley Crossing Pipeline and proposed sites include Texas LNG, Rio Grande LNG, Rio Bravo Pipeline, and Jupiter oil refinery. The draft environmental impact statements (DEIS) for Texas LNG and Rio Grande LNG and the Rio Bravo Pipeline recognizes potential impacts to and from the Projects and the nearby SpaceX Commercial Spaceport Project, which is located approximately 5.4 miles southeast of the proposed Terminal DEIS 4-337. During the LNG terminal review, the Federal Energy Regulatory Commission (FERC) staff concluded that there would be debris above a threshold of $3e-5$ years, the failure rate level used to evaluate the potential for cascading damage and the failure rate used by FAA in space launch failure prior to 2017,¹⁸⁰ but that the cascading damage at the terminal site would not impact the public. *Id.* FERC staff concluded that rocket launch failures could impact onsite construction workers and plant personnel. *Id.*

The discussion of the unique risks posed by the SpaceX launch site on Rio Grande's LNG Terminal, and the cumulative risks posed to the public as a result of this launch site on the three currently proposed LNG terminals along the Brownsville Ship Channel, is grossly inadequate. The LNG DEIS by FERC includes a mere two paragraphs discussing potential impacts from the SpaceX launch facility; does not reference, discuss, or incorporate the March 2017 ACTA Technical Report entitled "Rio Grande LNG Facility Hazard Predictions Due to Launch Vehicle Failures at the SpaceX Boca Chica Texas Spaceport" or any other SpaceX-related impacts analyses; and includes only a single 2014 SpaceX article as a referenced article in Appendix Q. As part of the impact analysis, SpaceX and the FAA must quantify risk from future space launch missions to existing and proposed infrastructure. Given the fact that FERC staff concluded debris would occur above a regulatory threshold, the lack of further analysis or disclosure in the DEIS, and especially in the FAA's DEPA, fails to satisfy the need to inform the public about serious impact risks.

2. The DPEA Provides Insufficient Information Regarding Debris Impacts to the Brownsville Ship Channel and Hazard Warnings Are Not Adequately Defined

The DPEA does not include a plan for retrieving SpaceX debris when a Starship/ Super Heavy Launch vehicle is used over open ocean. Although the DEPA states that SpaceX may enter into a Letter of Intent (LOI) with appropriate USCG Districts to operate the Starship/Super Heavy vehicle launch, the mere mention of a LOI is inadequate information for the public. The USCG should be required to provide more information in the DPEA or in a draft environmental assessment because of the size and scope of SpaceX operations and their broad impact to open water and the Brownsville Ship Channel.

VIII. The DPEA Fails to Adequately Consider Air Pollution and Associated Impacts

⁸⁰ <https://www.portisabelsouthpadre.com/2021/10/01/pi-to-address-spacex-faa-analysis/>

Cameron County ranks 227 out of 242 counties in Texas for its poor physical environment (air, water quality, etc.).⁸¹ Air pollution can worsen symptoms of respiratory diseases like asthma.⁸² Cumulative impacts from multiple nearby Port of Brownsville industries, as well as SpaceX operations, such as power plant, rocket explosions, and supporting industry will likely exacerbate the health problems affecting these communities. The DPEA fails to provide adequate analysis on whether the increase in pollutants is likely to increase health problems and hospital visits.

The DPEA has no analysis on whether a decrease in air quality will lead to an increase in demand for medical services, such as asthma treatments. Additionally, the DPEA acknowledges that the nearest TCEQ air monitoring stations on Isla Blanca State Park does not check for volatile organic compounds (VOCs) nor ozone, which the DPEA states would be emitted during construction and operations. The lack of nearby air monitoring for VOCs and ozone pollutants will result in SpaceX gaps in understanding of the overall impact to nearby Laguna Madre area communities. The DPEA fails to adequately consider the proposal's impacts on health and public services. The people closest to the site would likely rely on the medical facilities in neighboring Brownsville. In the event of a disaster requiring evacuation or causing trauma and hospitalization, locals, SpaceX staff, and outside visitors would be required to travel to one of Brownsville's two medical centers with trauma centers. While the DPEA acknowledges these risks and requires the SpaceX to establish procedures, there is no analysis on whether the hospitals can handle such a disaster. Further, in the event of a disaster requiring evacuation, there is no analysis on routes visitors closest to the site will be able to take to reach safety or medical services. Additionally, there is no analysis of whether the high traffic volume on State HWY 4 or potential beach closures and checkpoints will result in the inability for people to reach emergency services in time. The most direct route to Brownsville and its medical services passes directly adjacent to the SpaceX facility.

The DPEA failed to include the Environmental Protection Agency to participate in the NEPA process as a cooperating agency to review the 250-megawatt power station that should qualify as a major new source of air pollution under the Clean Air Act. Depending on the type of fossil fuel burned in the 250 megawatt power plant, it could be a major source under the Clean Air Act of one or more of the following criteria: air pollutants, including nitrogen oxides, carbon monoxide, sulfur dioxide, particulate matter, and volatile organic compounds. Since Cameron County is classified by the EPA as an attainment area for criteria pollutants, the FAA needs to review whether the power plant emissions require the 250 megawatt power plant to apply for a Prevention of Significant Deterioration (PSD) air quality permit. PSD permits are intended to maintain the air quality in attainment areas at levels below the EPA's National Ambient Air Quality Standards for all criteria pollutants. Such large power plants are typically granted authorization to operate 24/7/365 or 8,760 hours a year at 100%.

1. Construction Air Quality Impacts

The DPEA acknowledges that the construction phases of the Proposal will include "increases in emissions of regulated air pollutants," and "include PM10, PM2.5, SO2, nitrogen oxides, and others." With impacts like these in mind, the DPEA should calculate the ratio of residents to hospital beds, and additionally, the DPEA determine whether a decrease in air

⁸¹ "Cameron County: County Health Rankings," attached as Exhibit X.

⁸² Asthma and Allergy Foundation of America, *Asthma Capitals 2018: The Most Challenging Places to Live With Asthma*, (2018), p. 18, attached as Exhibit 16, available at <http://www.aafa.org/media/2119/aafa-2018-asthma-capitals-report.pdf>.

quality could lead to an increase in demand for medical services. Even minor damage to, for instance, the area's air quality, must be seen in conjunction with the existing environmental conditions of Cameron County. The County already ranks 227 out of 242 counties in Texas for its poor air quality, water quality, and other environmental metrics.⁸³ Cumulative impacts from SpaceX, as well as the proposed Texas LNG, Rio Grande LNG, and Jupiter refinery, and supporting industries, e.g., freight, could exponentially increase environmentally-influenced health issues. This could, in turn, also exponentially increase the demand for medical services.

If a scenario such as this one plays out during the construction phases of the Proposal, communities closest to the site would have to travel to medical facilities in Brownsville in case of health emergencies, since Port Isabel and Laguna Madre have no hospitals.⁸⁴ Brownsville medical facilities that may not be equipped to handle increased foot traffic.

IX. Conclusion

In conclusion, the DPEA for SpaceX's proposal is entirely inadequate and fails to meet the standards set by the National Environmental Policy Act on multiple accounts. This DPEA has numerous informational gaps that are so severe they must be corrected with a fully comprehensive draft environmental impact statement and a new, equitable opportunity for public comment that is actually accessible to the community. However, we maintain that not only SpaceX's proposal, but their existence as well, has had such critical and adverse impacts on the local environment and surrounding communities that this proposal is contrary to the public interest and public safety and must be denied.

The Commenters, submit these comments regarding the draft programmatic environmental assessment for the SpaceX Starship/Super Heavy Launch Vehicle Program at the SpaceX Boca Chica Launch Site in Cameron County to oppose the approval of any permits for this expansion project as it goes against public interest with far too many adverse cumulative effects to be in the best interest of public safety.

Sincerely,

Neil Carman
Clean Air Director

[REDACTED]
Sierra Club Lone Star Chapter

Rebekah Hinojosa
Member

[REDACTED]
Another Gulf Is Possible Collaborative

Juan Mancias
Tribal Chairman

⁸³ <https://www.valleycentral.com/news/local-news/cameron-county-leads-the-state-in-poor-air-quality-report-says/>

⁸⁴ <http://www.ushospitalfinder.com/hospitals-by-city/hospitals-in-LAGUNA-VISTA-TX>

[REDACTED]
Carrizo/Comecrudo Tribe of Texas

Emma Guevara
Member

[REDACTED]
South Texas Environmental Justice Network

Michelle Serrano
Las Imaginistas and Voces Unidas
Media Mage
Communications Specialist

[REDACTED]
Nansi Guevara
Co-founder

[REDACTED]
956 Radical Library

Xandra Treviño
Member
Fuera SpaceX

[REDACTED]
Josue Ramirez
Cultural Organizer
Trucha RGV

[REDACTED]

From: Will Dziuban <[REDACTED]>
Sent: Monday, November 1, 2021 10:41 PM
To: SpaceXBocaChica
Subject: SpaceX Starbase Public Comments

To whom it may concern,

I am writing to express my concerns regarding the plans for SpaceX's Starbase facility in Boca Chica, TX. I believe that their plans do not provide adequate evidence that they are taking appropriate care in mitigating potential environmental impacts.

As an aerospace engineer myself, I believe strongly in the importance of space exploration for the future of humanity. However, of equal importance is our ethical responsibility to society and the world. There are many unanswered questions surrounding various potential environmental impacts of Starbase, to a point that seems grossly negligent at best, if not intentionally vague.

For example, they will require large amounts of natural gas for rocket fuel. They have also announced plans for a 250-megawatt power plant on-site. Where will all this gas come from? Will pipeline construction be required? How much greenhouse gas emissions will there be as a result of these operations? 250 MW of power could easily be obtained through means other than natural gas, so why haven't any potential alternatives been explored in the PEA documents?

Of additional concern is the potential impact on local wildlife populations, several of which are endangered. The Biological Assessment made mention of several ways in which Starbase is likely to adversely affect endangered species. However, it made no mention of potential habitat flooding caused by water displaced during rocket launches. Has this possibility been investigated at all? What's more, Elon Musk has made public comments that launches will begin this month; how is this possible when a formal consultation and opinion is required from the US Fish and Wildlife Service due to the likely adverse effects mentioned above?

Due to the abundance of questions still surrounding the project, it is my belief that Starbase should be put on hold until its full implications are quantified and reckoned with. Space exploration in the vein of SpaceX and other private companies is all but inevitable at this point in human history. What's not inevitable is whether or not we choose to do it ethically.

Thank you for your time and attention.

Regards,
William Dziuban

From: Gary Itano <[REDACTED]>
Sent: Monday, November 1, 2021 10:08 PM
To: SpaceXBocaChica
Subject: SpaceX Starship Super Heavy Project at the Boca Chica Launch Site

To: Ms. Stacey Zee, SpaceX PEA
c/o ICF, 9300 Lee Highway
Fairfax, VA 22031

Re:
Draft Programmatic Environmental Assessment Public Review and Comment

My name is Gary Itano, currently residing in Newport Beach, where I am semi-retired from a career in various aspects of information technology. That includes, programming with Computer Sciences Corporation (and before) from 1978-1980 where my innovations in automating the DoD to ASCII COBOL project caused my introduction to COBOL inventor, Grace Hopper. Also, developing and managing cybersecurity solutions, since 1983, for City National Bank (the "Banker to the Stars"), Pinkertons (past bodyguard of President Lincoln), Verizon Wireless, and Southern California Edison (SCE) through 2014. My work, since 2000, with SCE included responding to numerous malware attacks and 9/11, and leading the design, development, and implementation of cybersecurity for SCE's "Greenfield" SCADA replacement response to the 2003 NE America electrical grid blackout. I performed similarly for SCE's Advanced Metering Infrastructure (aka, smart meters) and San Onofre Nuclear Generating Station (SONGS) projects. Due to the size and scope of those endeavors, environmental impacts were a common concern, which stood me in good stead for my actions as an environmental activist while not involved in cybersecurity. In that regard, I have attended and provided testimony at numerous California Coastal Commission and local county supervisory and city council meetings regarding our local Bolsa Chica (Huntington Beach), Banning Ranch (Newport Beach), and Orange County River Park environments. As a lifelong surfer, I've also participated in Surfrider.org actions, such as protecting Trestles Beach from unnecessary and damaging freeway buildouts. I am also deeply concerned with civil rights issues, particularly of indigenous peoples, and have served as Japanese American Citizens League (JACL), Los Angeles (JACL oldest) chapter president, and have received recognition from the California Legislature and JACL Southwest District for my contributions to the community. As a participant in the filming of Loni Ding's "The Color of Honor" documentary on Japanese American involvement in the WWII military, I attended that movie's premier at the Smithsonian National History Museum's exhibit opening in recognition of our Constitution's Bicentennial.

Based on those and related experiences, I feel confident that the efforts of SpaceX to responsibly deploy rocket travel infrastructures and operations at Boca Chica, TX, are being accomplished by an assembly of the best engineers, administrators, managers, and work teams, possibly ever assembled in all of human history. Having closely followed Elon Musk's career and having observed his acumen in setting out and achieving highly technical and challenging goals, for the betterment of humanity and in the best interests of our national security, including doing so with the utmost of responsibility and transparency, I conclude that the project should be approved, post haste.

Nonetheless, I do believe that there is always room for oversight on such matters as potential impacts on minority and low-income residents and lands of cultural importance of which large organizations may not have sufficient on-staff expertise (though I have no evidence of that conjecture, in terms of SpaceX). Of somewhat less concern to me is SpaceX's ability to protect the environment from degradation, as evidenced by mitigations described in their proposal.

Thank you for your giving the public a voice on these important matters.

Respectfully submitted,

Gary Itano



From: Kimberly Walsdorf <[REDACTED]>
Sent: Tuesday, November 2, 2021 1:25 PM
To: SpaceXBocaChica
Subject: Support of SpaceX Starship

To Whom it May Concern,

Having SpaceX choose the Lower Rio Grande Valley, the Boca Chica Beach location, has been a gift for the community as a whole. SpaceX has provided hundreds of jobs to the citizens of Cameron County and they have also brought in new residents to the county. Local contractors have been hired to do some of the site work as well as other services required by SpaceX. SpaceX has added many dollars to local communities for miles around. The opportunity provided by these jobs, and the boost to the local economy, is something that Cameron County was in need of. That this economic boost comes from Space Technology is amazing and an advance towards everyone's future.

SpaceX is a American company that works to design, manufacture and launch advanced rockets and space craft. They work with the community and their surroundings to minimize any negative affects to the environment and their surrounding areas. They are also a company willing to mitigate land for any land that they may disturb.

I have heard, and I have also read, negative comments by some who are against SpaceX being at the Boca Chica Beach location. For someone reading those articles, it may sound like Boca Chica Beach was a deserted beach paradise. In my opinion, it was a poorly maintained, littered and not a heavily used beach. Many people abused the beach by leaving trash, including bottles, plastics, cans, and a number of other discarded items strewn among the beach and surrounding dunes. The housing area directly behind the SpaceX facility had many homes and buildings that were run down or in disrepair. SpaceX has cleaned up much of the beach area and they have purchased most of the run down homes and reconditioned them. The area is now clean. The area also brings in tourists interested in the possibility of seeing a Space Ship rocket into space or at least to see a rocket up close as they make a trip out to the site.

No were on planet earth is any government or company able to make advances in space technology without some disturbance to someone, or something. We should be proud to have a American Company so willing to work with the community and the surrounding areas as they build the future of Space Technology in our community.

Respectfully,

Kimberly Walsdorf

From: Sharon Wilcox <[REDACTED]>
Sent: Monday, November 1, 2021 9:29 PM
To: SpaceXBocaChica
Subject: [1/5] Defenders of Wildlife Comments on SpaceX Draft Programmatic Environmental Assessment for Starship/Super Heavy Program
Attachments: Defenders SpaceX EA Comments.pdf; Attachments B-E.pdf; Attachment A.pdf

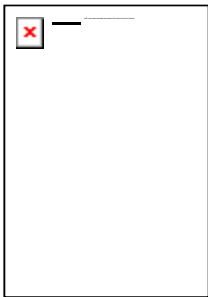
Dear Ms. Zee,

On behalf of the 2,146,000 million members and supporters of Defenders of Wildlife we submit these comments on the Draft Programmatic Environmental Assessment for the SpaceX Starship/Super Heavy Launch Vehicle Program at the SpaceX Boca Chica Launch Site in Cameron County, Texas.

The PDF is attached, please note that this is part 1 of our email. (It is necessary for us to send this in parts due to the size of the supporting attachments.)

Sincerely,
Sharon

--



Sharon Wilcox, Ph.D.

Senior Texas Representative

Pronouns: She/Her/Ella

[DEFENDERS OF WILDLIFE](#)

Southwest Program, Austin, Texas

TEL: [REDACTED] FAX: [REDACTED]

[Facebook](#) | [Twitter](#) | [Instagram](#) | [Medium](#)

Visit <https://defenders.org/>!

From: Sharon Wilcox <[REDACTED]>
Sent: Monday, November 1, 2021 9:29 PM
To: SpaceXBocaChica
Subject: [2/5] Defenders of Wildlife Comments on SpaceX Draft Programmatic Environmental Assessment for Starship/Super Heavy Program
Attachments: Attachments F-O.pdf

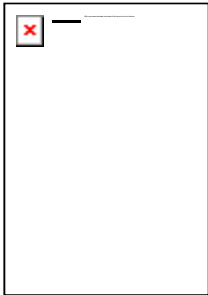
Dear Ms. Zee,

On behalf of the 2,146,000 million members and supporters of Defenders of Wildlife we submit these comments on the Draft Programmatic Environmental Assessment for the SpaceX Starship/Super Heavy Launch Vehicle Program at the SpaceX Boca Chica Launch Site in Cameron County, Texas.

The PDF is attached, please note that this is part 2 of our email. (It is necessary for us to send this in parts due to the size of the supporting attachments.)

Sincerely,
Sharon

--



Sharon Wilcox, Ph.D.

Senior Texas Representative

Pronouns: She/Her/Ella

[DEFENDERS OF WILDLIFE](#)

Southwest Program, Austin, Texas

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From: Sharon Wilcox <[REDACTED]>
Sent: Monday, November 1, 2021 9:30 PM
To: SpaceXBocaChica
Subject: [3/5] Defenders of Wildlife Comments on SpaceX Draft Programmatic Environmental Assessment for Starship/Super Heavy Program
Attachments: Attachment Y.pdf; Attachments P-X.pdf

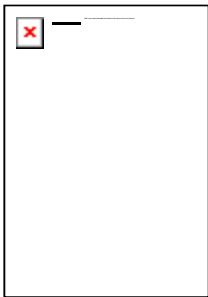
Dear Ms. Zee,

On behalf of the 2,146,000 million members and supporters of Defenders of Wildlife we submit these comments on the Draft Programmatic Environmental Assessment for the SpaceX Starship/Super Heavy Launch Vehicle Program at the SpaceX Boca Chica Launch Site in Cameron County, Texas.

The PDF is attached, please note that this is part 3 of our email. (It is necessary for us to send this in parts due to the size of the supporting attachments.)

Sincerely,
Sharon

--



Sharon Wilcox, Ph.D.

Senior Texas Representative

Pronouns: She/Her/Ella

[DEFENDERS OF WILDLIFE](#)

Southwest Program, Austin, Texas

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From: Sharon Wilcox <[REDACTED]>
Sent: Monday, November 1, 2021 9:30 PM
To: SpaceXBocaChica
Subject: [4/5] Defenders of Wildlife Comments on SpaceX Draft Programmatic Environmental Assessment for Starship/Super Heavy Program
Attachments: Attachments Z and BB-EE.pdf

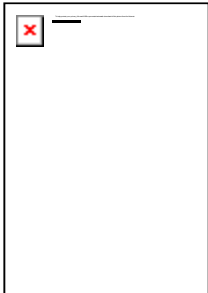
Dear Ms. Zee,

On behalf of the 2,146,000 million members and supporters of Defenders of Wildlife we submit these comments on the Draft Programmatic Environmental Assessment for the SpaceX Starship/Super Heavy Launch Vehicle Program at the SpaceX Boca Chica Launch Site in Cameron County, Texas.

The PDF is attached, please note that this is part 4 of our email. (It is necessary for us to send this in parts due to the size of the supporting attachments.)

Sincerely,
Sharon

--



Sharon Wilcox, Ph.D.

Senior Texas Representative

Pronouns: She/Her/Ella

DEFENDERS OF WILDLIFE

Southwest Program, Austin, Texas

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From: Sharon Wilcox <[REDACTED]>
Sent: Monday, November 1, 2021 9:31 PM
To: SpaceXBocaChica
Subject: [5/5] Defenders of Wildlife Comments on SpaceX Draft Programmatic Environmental Assessment for Starship/Super Heavy Program
Attachments: Attachment AA.pdf.zip

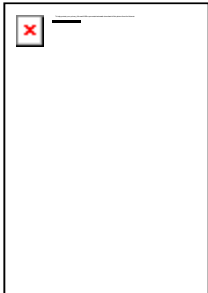
Dear Ms. Zee,

On behalf of the 2,146,000 million members and supporters of Defenders of Wildlife we submit these comments on the Draft Programmatic Environmental Assessment for the SpaceX Starship/Super Heavy Launch Vehicle Program at the SpaceX Boca Chica Launch Site in Cameron County, Texas.

The PDF is attached, please note that this is part 5 of our email. (It is necessary for us to send this in parts due to the size of the supporting attachments.)

Sincerely,
Sharon

--



Sharon Wilcox, Ph.D.

Senior Texas Representative

Pronouns: She/Her/Ella

DEFENDERS OF WILDLIFE

Southwest Program, Austin, Texas

TEL: [REDACTED] FAX: [REDACTED]

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Visit <https://defenders.org/>!



National Headquarters

1130 17th Street, N.W. | Washington, D.C. 20036-4604 | tel 202.682.9400 | fax 202.682.1331
www.defenders.org

November 1, 2021

Ms. Stacey Zee
SpaceX PEA, c/o ICF
9300 Lee Highway
Fairfax, VA 22031

Transmitted via electronic mail to [REDACTED]

RE: Comments on SpaceX Draft Programmatic Environmental Assessment for Starship/Super Heavy Program

Dear Ms. Zee,

On behalf of the 2,146,000 million members and supporters of Defenders of Wildlife (“Defenders”), including 124,600 members and supporters in the State of Texas, we submit these comments on the Draft Programmatic Environmental Assessment for the SpaceX Starship/Super Heavy Launch Vehicle Program at the SpaceX Boca Chica Launch Site in Cameron County, Texas (“DPEA”).¹ The National Environmental Policy Act (“NEPA”) is a procedural statute intended to ensure that “unquantified environmental amenities and values may be given appropriate consideration in [federal] decision-making.”² The statute is invoked during the planning stages for a federal agency action. Pursuant to NEPA, a federal agency must take a “hard look” at the environmental impacts of its proposed action.³ NEPA is not designed merely to provide the government with information about the environmental effects of plans. Instead, it is intended to make that information available to the public, as well. We have no opposition to space exploration more generally, but it must be conducted in an environmentally responsible manner and in compliance with existing laws. We therefore have serious concerns about the environmental impacts of SpaceX’s current operations, and these adverse impacts will only be intensified by the addition SpaceX Starship/Super Heavy Launch Vehicle Program (“Proposed Project” or “Project”). Indeed, the Proposed Project will have significant impacts on the affected area, on listed species, on critical habitat, and on other wildlife. It will also result in the violation of multiple laws. These significant impacts necessitate the preparation of an Environmental Impact Statement (“EIS”). We moreover have serious concerns about the adequacy of the DPEA, itself, which failed to account for scores of environmental impacts and did not consider any alternatives other than a “no action” alternative and the Proposed Project. Thus, it would be indefensible for the Federal Aviation Administration (“FAA”) to conclude its NEPA analysis with a Finding of No Significant Impact (“FONSI”), and the FAA must instead develop an EIS to meaningfully evaluate the Proposed Project’s significant impacts.

¹ Federal Aviation Administration, *Draft Programmatic Environmental Assessment for the SpaceX Starship/ Super Heavy Launch Vehicle Program at the SpaceX Boca Chica Launch Site in Cameron County, Texas* (Sept. 2021) (“DPEA”).

² 42 U.S.C. § 4332(B).

³ *Nat’l Audubon Soc’y v. Dep’t of the Navy*, 422 F.3d 174, 184 (4th Cir. 2005).

I. Factual Background

The SpaceX launch site in Boca Chica is adjacent to and surrounded by national wildlife refuge land, state park land, tidal flats that host many wading bird species, and beaches used by nesting sea turtles. During the facility's initial planning stages in 2013 and 2014, it was understood that the site ("Vertical Launch Area" or "VLA") would host launch activities. Since that time, however, the company has expanded to engaging in testing activities, which are inherently more dangerous and have caused numerous explosions that have destroyed sensitive habitat. SpaceX now intends to expand its operations with its SpaceX Starship/Super Heavy Launch Vehicle Program, with even larger equipment and even more testing.

A. Project Location

The SpaceX site is situated near the Lower Rio Grande Valley National Wildlife Refuge ("LRGV NWR"), Boca Chica State Park, Boca Chica Beach, the South Bay Coastal Preserve, Brazos Island State Park, Isla Blanca Park, Las Palomas Wildlife Management Area, and Palmito Ranch Battlefield National Historic Landmark.⁴ This is an ecologically diverse area with a remarkable community of wildlife unlike any other place in the United States. The site is located in a hemispheric meeting place of tropical and subtropical species on a unique matrix of terrestrial, coastal, and marine environments, representing one of the greatest diversity of plants and animals found in one place in North America. This area is a unique flyway for western hemisphere avian species, and more than 250 different bird species have been identified in Boca Chica Village and Boca Chica Beach in recent years. The ecological sensitivity and vulnerability of this area cannot be overstated, and activities in this area must be carefully managed to reduce, avoid, and mitigate impacts to resident and migrant wildlife.

LRGV NWR, which abuts the VLA, "is considered one of the most biologically diverse regions in North America."⁵ According to the refuge's Comprehensive Conservation Plan, the number one goal of the Lower Rio Grande Valley National Wildlife Refuge Complex is to "restore, enhance and protect the natural diversity of the Lower Rio Grande Valley including threatened and endangered species on and off refuge lands."⁶ The Refuge's Boca Chica branch is comprised of "saline flats, mangrove marshes, shallow bays and unique dunes of wind-blown clay known as 'lomas.'"⁷ Birders are drawn to the area, where they can observe species such as reddish egrets, American oystercatchers, peregrine falcons, mangrove warblers, piping plovers, and brown pelicans.⁸ Other public lands in the area also are of immense ecological value. Laguna Atascosa NWR, too, is a "premier bird-watching destination."⁹ Remarkably, more bird species have been recorded in Laguna Atascosa NWR than in any other refuge in the National Wildlife Refuge System.¹⁰ The refuge is also

⁴ DPEA at 76–78, 121.

⁵ *Lower Rio Grande Valley, About the Refuge*, U.S. Fish & Wildlife Serv., https://www.fws.gov/refuge/Lower_Rio_Grande_Valley/about.html (last visited Nov. 1, 2021).

⁶ U.S. Fish & Wildlife Serv., *Final Lower Rio Grande Valley and Santa Ana National Wildlife Refuges: Comprehensive Conservation Plan* at 6 (Sept. 1997) (Attachment A).

⁷ *Lower Rio Grande Valley, Boca Chica Beach*, U.S. Fish & Wildlife Serv., https://www.fws.gov/refuge/Lower_Rio_Grande_Valley/visit/boca_chica_beach.html (last visited Nov. 1, 2021).

⁸ *Id.*

⁹ *Laguna Atascosa, About the Refuge*, U.S. Fish & Wildlife Serv., https://www.fws.gov/refuge/Laguna_Atascosa/about.html (last visited Nov. 1, 2021).

¹⁰ *Id.*

“the center for conservation and recovery efforts” for the endangered ocelot and hosts the only population of the species in the entire United States.¹¹ Established in 1984 and managed by the Texas Parks and Wildlife Department, the South Bay Coastal Preserve offers habitat that serves as “an integral part of the organic production and fertility of South Bay.”¹² Indeed, “South Bay and its wind-tidal flats, shallow depths, associated vegetation, and unique location provides excellent feeding, resting and wintering habitat for numerous types of migratory bird species, such as the White Pelican, Brown Pelican, cormorants, Gadwall, Green-winged Teal, and Redhead.”¹³

The VLA is also located within both the Rio Grande Valley Wildlife Corridor and South Texas Coastal Corridor. The Rio Grande Valley Wildlife Corridor was created as a part of “a long-standing program aimed at preserving, restoring, and managing habitat for wildlife, including threatened and endangered species.”¹⁴ This corridor is a joint initiative that began in the 1970s and over the years has been supported by the U.S. Fish and Wildlife Service (“Service”), the Texas Parks and Wildlife Department (“TPWD”), Valley Land Fund, The Nature Conservancy, Conservation Fund, and Audubon, among other organizations.¹⁵ According to TPWD, the Boca Chica tract of the Rio Grande Valley Wildlife Corridor is a large anchor tract of the corridor and is “managed to conserve biological material to safeguard gene pools and replenish wildlife populations throughout the corridor.”¹⁶ The South Texas Coastal Corridor has similar aims. The Service has made habitat connectivity for wildlife in the region a priority, investing over \$90 million over the past 40 years to acquire lands that create a wildlife corridor throughout the refuge complex. The collection of protected wildlife lands in the South Texas Coastal Corridor aims to preserve what small amount of native habitat remains in the area and to create a travel corridor for a variety of species, including the endangered ocelot. The ultimate goal of the acquisition of properties and easements within this corridor is to eventually connect the main Laguna Atascosa NWR tracts, the Bahia Grande Unit of the Laguna Atascosa NWR, Lower Rio Grande Valley NWR units, and Boca Chica State Park.

Areas that are—and will continue to be—impacted by SpaceX’s activities in South Texas include habitat that supports at least twelve listed species. Indeed, the FAA identified in an analysis separate from the NEPA analysis at issue that twelve listed species may be affected by the project: the northern aplomado falcon (endangered), the piping plover (threatened) and its critical habitat, the red knot (threatened), the eastern black rail (threatened), the West Indian manatee (threatened), the Gulf Coast jaguarundi (endangered), the ocelot (endangered), the Kemp’s ridley sea turtle (endangered), the loggerhead sea turtle (threatened), the green sea turtle (threatened), the hawksbill sea turtle (endangered), and the leatherback sea turtle (endangered) sea turtles.¹⁷ Proposed red knot critical habitat also appears in the vicinity.¹⁸

¹¹ *Id.*

¹² *Texas GEMS – South Bay Coastal Preserve*, Texas Parks & Wildlife, <https://tpwd.texas.gov/landwater/water/conservation/txgems/southbay/index.phtml> (last visited Nov. 1, 2021).

¹³ *Id.*

¹⁴ Texas Parks & Wildlife, Scoping Comments for Draft Environmental Assessment at 4 (Jan. 27, 2021) (Attachment B) (“TPWD Scoping Comments”).

¹⁵ *Id.* at 4.

¹⁶ *Id.* (internal citation omitted).

¹⁷ DPEA at 116.

¹⁸ Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Rufa Red Knot (*Calidris canutus rufa*), 86 Fed. Reg. 37,410, 37,493–94 (July 15, 2021).

B. Existing SpaceX Activities

SpaceX currently engages in testing and launches of its Falcon launch vehicles at its Boca Chica site, along with continual experimentation related to the Starship/Super Heavy proposal. These operations are accompanied by construction, noise, light, increases in traffic, and area-wide closures. They have also been marked by repeated anomalies, i.e., explosions, which have resulted in habitat destruction due to falling debris, debris retrieval efforts, and wildfires. Problematically, although SpaceX's activities at its Boca Chica site have expanded since the FAA and the Service engaged in environmental analyses of its initial operations, these expansions have never been accompanied by a supplemental or new EIS. Moreover, SpaceX has failed to engage in actions to lessen its environmental impacts, such as ignoring the mitigation efforts it once committed to and rescinding its offer of financial support for new positions at LRGV NWR that are necessary to address challenges that SpaceX has imposed on the refuge.

SpaceX has also caused an increased amount of noise, lighting, and traffic in the area. The company is already supported by existing construction, such as a solar farm, a production and manufacturing area, and a separate processing, production, and manufacturing area. According to Service personnel, “[m]any days of construction and testing have occurred at night.”¹⁹ The Service has also remarked on ongoing “extensive construction” and “the appearance of significantly increased highway traffic 24 hours per day all week.”²⁰

SpaceX operations, such as tests and launches, have also spurred forced closures of the surrounding area, which have been poorly implemented and are at times chaotic. In 2019, Service staff “conservatively quantified more than 1,000 closure hours and noted a significant disparity in accounting between SpaceX’s reported total of 158 hours” for that year.²¹ According to recent TPWD scoping comments, “[c]losure notifications continue to be provided either the same day or as little as one to four days prior to closures, and notification of closure extensions have occurred after the extension period has begun. Also, revocation of closures occur well into the authorized closure window after landowners and the general public may have abandoned their plans for the day.”²² At other times, dangerous operations have proceeded without adequate notice of closures, putting the public at risk.

SpaceX’s activities have also resulted in recurring explosions, which agencies at times refer to as “failures” or “anomalies.” Note that “testing, rather than launches, [are] inherently more inclined to result in a failure.”²³ Since 2019, SpaceX operations have caused repeated explosions, including on:

- April 21–22, 2019,
- July 25, 2019,
- August 2019,
- November 18, 2019,
- February 28, 2020,

¹⁹ Letter from Charles Ardizzone, Field Supervisor, U.S. Fish and Wildlife Service to Stacey M. Zee, Office of Commercial Space Transportation, Federal Aviation Administration at 3 (Mar. 4, 2020) (Attachment C).

²⁰ Letter from Manuel “Sonny” Perez III, South Texas Refuge Complex Manager, U.S. Fish & Wildlife Serv. to James R. Repchek, Federal Aviation Administration at 2 (Aug. 23, 2021) (Attachment D) (“August 2021 Service Letter”).

²¹ *Id.*

²² TPWD Scoping Comments at 11 (Attachment B).

²³ Email from Bryan Winton (Nov. 29, 2019, 09:32 CST) (Attachment E).

- April 2, 2020,
- May 29, 2020,
- June 23, 2020,
- December 9, 2020, and
- March 30, 2021.²⁴

These explosions have resulted in environmental destruction from fallen debris, debris retrieval operations, and wildfires. A Service employee has interpreted the likelihood of debris exploding into LRGV NWR to be a “regular reoccurring risk of their activity.”²⁵ When explosions occur, the debris field can span for miles, which has happened as recently as this year.²⁶ Exploded rocket debris, along with its removal operations involving heavy machinery such as high-capacity tow trucks and construction dump trucks, have been known to damage sensitive habitat in the area.²⁷ SpaceX’s explosions have also caused wildfires, such as two 2019 incidents that “resulted in wildfires of 130-acres and 10-acres respectively burned through coastal prairie and dune habitats on refuge managed land.”²⁸ The harms to these areas are compounded by area-wide closures and other barriers to access. For example, the night of a July 25, 2019 SpaceX fire, the “Brownsville Fire Dept. showed up but did not pursue putting out the fire due to its location and lack of access.”²⁹ Moreover, because Service personnel are barred from the refuge following explosions, they have been unable to assess the full extent to which refuge wildlife are harmed.³⁰

Of grave concern is the fact that SpaceX’s ongoing activities have never been appropriately addressed in a NEPA analysis or through consultation pursuant to Section 7 of the Endangered Species Act (“ESA”). When SpaceX first proposed operating in the region, it was widely understood—at least by regulators—that its activities would only include launches, rather than testing, which is inherently more dangerous and increases the likelihood of explosions. Accordingly, federal agencies almost exclusively analyzed the impacts of launch activities when they prepared NEPA and ESA analyses for SpaceX.

Although the FAA has asserted that it revisited the 2014 EIS on multiple occasions and confirmed that SpaceX’s activities continued to fall within the scope of the actions covered by the newest licenses, it is abundantly clear that they do not. The 2014 EIS “addressed only 12 launches per year, not continual experimentation related to the Starship/Super Heavy proposal as is currently being

²⁴ Email from Mary Orms (Jan. 21, 2021, 13:07 CST) (Attachment F); Email from Bryan Winton (Jan. 21, 2021, 10:33 CST) (Attachment F); Email from Bryan Winton (Mar. 30, 2021, 21:25 CST) (Attachment G); Tariq Malik, *Boom! SpaceX Pops Huge Starship SN7 Test Tank on Purpose in Pressure Test (videos)*, Space.com (June 23, 2020), <https://www.space.com/spacex-starship-sn7-test-tank-destroyed-videos.html>.

²⁵ Email from Bryan Winton (Apr. 24, 2020, 12:55 CST) (Attachment H).

²⁶ Email from Bryan Winton (Mar. 30, 2021, 21:25 CST) (Estimating that a March 2021 explosion resulted in a 2–3-mile debris field) (Attachment G).

²⁷ See, e.g., Email from Randy Reese (Nov. 23, 2019, 17:09 CST) (Attachment E); see also Email from Bryan Winton (Jan 21, 2021, 10:33 CST) (“April 21,22 -2019 - Space X employee(s) get stuck with 2 vehicles and a forklift in tidal flats. Causes significant damage to tidal flats.”) (Attachment F).

²⁸ Letter from Manuel “Sonny” Perez III, Complex Refuge Manager, South Texas Refuges Complex, U.S. Fish & Wildlife Serv. & Charles Ardizzone, Project Leader, Texas Coastal Ecological Service Office, U.S. Fish & Wildlife Serv. to Daniel P. Murray, Manager, Safety Division, Federal Aviation Administration at 2 (Jan. 22, 2021) (Attachment I).

²⁹ Email from Mary Orms, Ecological Services Field Office, U.S. Fish and Wildlife Service (July 26, 2019 15:43 CST) (Attachment J).

³⁰ Email from Bryan Winton (Jan 21, 2021, 10:33 CST) (Attachment F).

carried out.”³¹ According to the Service, “[c]urrent activities, such as large explosions and falling debris from SpaceX flight test activities, the appearance of significantly increased highway traffic 24 hours per day all week, and extensive construction, have not been adequately analyzed nor addressed.”³² In the words of one Service employee, “[a]lthough the experimental aspects of their program were ‘causally’ mentioned in the 2014 EIS, that document addressed the impacts of launches, not continual experimentation and construction going on out there.”³³

Similarly, SpaceX’s ongoing activities exceed the scope of the Section 7 analyses conducted by the Service pursuant to the ESA. Service documents have remarked that the FAA and SpaceX are violating Section 7 of the ESA and that SpaceX is violating Section 9 of the ESA. The Service issued a biological opinion and Incidental Take Statement (“ITS”) covering original SpaceX operations in 2013 and reinitiated consultation after the red knot was listed in 2015. Service records have stated that SpaceX’s current operations exceed the scope of the original consultations and ITS. In one record an employee noted:

I need to say one more time that neither SpaceX nor FAA have take authorization under the Endangered Species Act for the testing activities they are engaging in, whether there is an anomaly or not. It is good to do the best we all can for listed species and SpaceX/FAA needs either a new/amended biological opinion asap or to stop and get an HCP before we find a carcass or get sued by a third party.³⁴

SpaceX has also failed to act on several promises that would have decreased the severity of environmental impacts. According to TPWD:

[t]o date, several of the avoidance and minimization measures associated with the 2014 Final EIS and Rod have not been fully implemented, including: mitigating noise impacts by scheduling construction activities to occur between 8 a.m. and 5 p.m.; avoiding lateral light spread and uplighting per the Lighting Management Plan; maintaining cleared shoulders along SH 4; and observing speed limits not to exceed 25 miles per hour between the Control Center Area (CCA) and VLA. Also, to our knowledge, construction of vehicle barriers along SH 4 and monitoring of vegetation changes in piping plover critical habitat has not occurred.³⁵

Finally, according to LRGV NWR management, SpaceX committed to make funding available to hire additional refuge staff members to support the increased need for refuge personnel caused by SpaceX.³⁶ These employees were needed to “maintain integrity of the refuge.”³⁷ Although disputed

³¹ January 2021 Service Letter at 2 (Attachment I).

³² August 2021 Service Letter at 2 (Attachment D).

³³ Email from Chris Perez, (Jan. 6, 2021 08:53 CST) (Attachment K).

³⁴ Email from Dawn Gardiner (Dec. 17, 2020, 13:59 CST) (Attachment L); *see also* Email from Dawn Gardiner (Dec. 10, 2020, 16:23 CST) (“Also I’m having Mary draft a dear SpaceX letter with a copy to you reminding them about section 9 and piping plovers and that they don’t [sic] have coverage for the activities right now that could look like harm and harass.”) (Attachment M).

³⁵ TPWD Scoping Comments at 2 (Attachment B).

³⁶ Email from Bryan Winton (Apr. 4, 2019, 13:45pm CST) (Attachment N).

³⁷ *Id.*

by SpaceX, according to refuge staff “there has been no commitment [from SpaceX] to follow through with arrangements made/agreements made.”³⁸

C. Proposed Project Background

According to the DPEA, SpaceX intends to obtain an experimental permit and/or a vehicle operator license to begin operating new equipment, its Starship/Super Heavy launch vehicles.³⁹ The project will consist of testing and launches and will almost certainly be accompanied by a number of environmental stressors, including construction, excess noise, unnatural lighting, explosions, and wildfires.

1. Construction

SpaceX’s proposal would require a significant amount of construction in addition to the already-existing construction at its sites. According to the DPEA, expected future construction includes a redundant launch pad, a redundant landing pad, trenching and pull-offs along SH 4, support buildings, a payload processing center, parking lots, a power plant, a liquid natural gas pretreatment system, a liquefier, a cooling tower, a desalination plant, injection wells, tank structural test stands, an expanded solar farm, and two integration towers.⁴⁰ The VLA, is expected to be roughly 40 acres in size,⁴¹ the power plant is expected to be 5.4 acres in size,⁴² and the solar farm is expected to expand from 2 acres in size to 7 acres.⁴³ Although the DPEA notes that “all construction related noise impacts would be of short duration,”⁴⁴ there are no foreseeable limits on the extent to which construction will occur. Use of the site has continued to expand since the original EIS and the DPEA is programmatic in nature, specifically because future, not-yet-planned activities are nonetheless expected to occur. Although, according to the DPEA, SpaceX intends to engage in most construction during the day, the company is not precluding construction at night.⁴⁵

2. Noise

Noise will result from SpaceX’s proposed Project. Indeed, it will cause an “[i]ncreased frequency of noise from general operations, launches, landings, and static fire tests.”⁴⁶ Sonic booms will be generated during landings.⁴⁷ The use of heavy equipment during the construction and modification processes will also generate noise,⁴⁸ as will traffic to, from and between the sites.⁴⁹ Moreover, SpaceX flies drones over the refuge to determine whether any humans are present during testing and launches.⁵⁰ Additionally, operations would include the use of a sonic pulse every 15 minutes to

³⁸ *Id.*

³⁹ DPEA at 8.

⁴⁰ DPEA at 26, 131; Federal Aviation Administration, *Biological Assessment, SpaceX Starship/Super Heavy Launch Vehicle Program at the SpaceX Boca Chica Launch Site* at 19 (June 2021) (“BA”).

⁴¹ DPEA at 26.

⁴² *Id.* at 32.

⁴³ *Id.* at 33.

⁴⁴ *Id.* at 50.

⁴⁵ *Id.* at 50.

⁴⁶ *Id.* at 113.

⁴⁷ *Id.*

⁴⁸ *Id.* at 50.

⁴⁹ *Id.* at 49.

⁵⁰ Email from Bryan Winton (Oct. 16, 2019 16:43 CST) (Attachment O).

collect weather data.⁵¹ Noises generated by SpaceX will not be limited to daytime hours. Starship suborbital launches, Super Heavy launches, Starship land landings, and Super Heavy land landings are expected to occur during the day or at night.⁵² Although the FAA provides that this is a conservative estimate, the DPEA assumes that “20 percent of annual operations involving engine ignition (i.e., static fire engine tests, suborbital launches, and orbital launches) would occur at night.”⁵³ Some construction, which generates noise, would also be conducted during nighttime hours.⁵⁴ Anomalies would also be accompanied by increased noise levels. For instance, noise would result from explosions, wildfires, and debris plummeting to the ground. Debris reconnaissance, which at times involves the use of all-terrain vehicles (“ATV”) and other times involves SpaceX employees walking through sensitive public lands, would also contribute to noise in the area. Finally, debris removal, which can involve heavy machinery or helicopters, would also generate noise.

3. Lights

The Project is also expected to increase the amount of unnatural lighting in the area, much of which would be at night. Launches are accompanied by bright, fiery heat plumes and will also require bright spotlighting for days to illuminate the launch vehicle on the launch pad.⁵⁵ “In addition to nighttime launch activity, SpaceX would need to perform ground support operations 24 hours a day, 7 days a week, throughout the year,” which would involve the use of white lighting.⁵⁶ The power plant, too, is expected to operate all day, every day and expected to emit light at night.⁵⁷ Moreover, construction occurring at nighttime hours would also lighting.⁵⁸ Finally, because more employees are expected to travel to, from, and between SpaceX’s two sites throughout the night, the project will be accompanied by additional lighting emitted by the headlights of cars.

4. Anomalies

The Project will also result in anomalies. The area surrounding the site has already suffered from repeated explosions. Now, even more testing, such as experimental launches, tank tests, and static fire engine tests, is likely to occur than under current operations. Testing is inherently more likely to result in failure than executing more polished launch operations.⁵⁹ In fact, SpaceX intends to conduct approximately 10 tank tests per month and estimates that 10 percent of those tests may result in an explosion and the spread of debris, which could include to areas outside of SpaceX property.⁶⁰ In other words, SpaceX estimates there will be one explosion per month resulting from tank testing, alone. Even SpaceX has acknowledged that “[d]ebris from anomalies could impact

⁵¹ DPEA at 14.

⁵² *Id.*

⁵³ *Id.*

⁵⁴ *Id.* at 50.

⁵⁵ *Id.* at 14.

⁵⁶ *Id.*

⁵⁷ *Id.* at 32. Note that the DPEA states that lighting at the plant would be “minimal,” it provides no explanation as to why.

⁵⁸ *Id.* at 112.

⁵⁹ For example, a Service employee cautioned that “[n]ow that the site is for testing . . . it is now apparent that given the changes to Space-X project/activity and constructed infrastructure, there is a likelihood we will have a fire, and maybe more to come, given Space X plans for more engines, bigger rockets, higher hops, etc.” Email from Bryan Winton, Manager, Lower Rio Grande Valley National Wildlife Refuge (July 31, 2020, 15:13 CST) (Attachment P)

⁶⁰ DPEA at 15–16.

habitat in the vicinity of the VLA. Debris may cause ruts in the unvegetated salt flats or depressional wetlands upon impact or during recovery.”⁶¹

5. Closures

SpaceX now anticipates even more closures than prior estimates. The surrounding area, including neighboring state and federal lands, would purportedly be closed for 500 hours per year during testing and launches and purportedly up to another 300 hours per year for debris cleanup in the event of certain explosions.⁶²

II. The FAA Must Prepare an EIS Because the Project’s Impacts Will Be Significant

Because the Project’s impacts will be significant, the FAA must prepare an EIS to analyze its environmental impacts. NEPA is intended to ensure that “unquantified environmental amenities and values may be given appropriate consideration in [federal] decision making.”⁶³ The statute is crucial because, when properly executed, it allows federal agencies and members of the public to weigh the environmental consequences of proposed federal actions before agencies reach a final decision regarding the best path forward. Under NEPA, an agency must prepare a detailed statement, referred to as an EIS, if it plans to undergo a “major Federal action[] significantly affecting the quality of the human environment.”⁶⁴ NEPA regulations include guidance for determining the significance of a projects’ impacts, requiring agencies to consider “the potentially affected environment and degree of the effects of the action.”⁶⁵ The potentially affected environment includes “the affected area (national, regional, or local) and its resources, such as listed species and designated critical habitat under the Endangered Species Act.”⁶⁶ When analyzing the degree of an action’s effect, agencies must consider, among other factors, adverse effects and effects that would violate other laws.⁶⁷

Agencies must also consider connected actions,⁶⁸ such as actions that “[c]annot or will not proceed unless other actions are taken previously or simultaneously” or “[a]re interdependent parts of a larger action and depend on the larger action for their justification.”⁶⁹ SpaceX’s prior and existing operations at the Project sites are connected actions to the Proposed Project. This is because the Project will rely on previous actions taken at the site. For instance, the Starship/Superheavy project would utilize infrastructure that has already been developed by SpaceX at the site.⁷⁰ The Program also relies on testing at the site that is ongoing. SpaceX’s prior operations and the proposed Project are also interdependent parts of SpaceX’s larger action at the site to further commercial space exploration.

⁶¹ *Id.* at 113.

⁶² *Id.* at 9.

⁶³ 42 U.S.C. § 4332(B).

⁶⁴ *Id.* § 4332(C).

⁶⁵ 40 C.F.R. § 1501.3(b).

⁶⁶ *Id.* § 1501.3(b)(1).

⁶⁷ *Id.* § 1501.3(b)(2), (b)(2)(ii), (b)(2)(iv).

⁶⁸ *Id.* § 1501.3(b).

⁶⁹ 40 C.F.R. § 1501.9(e)(1)(ii)–(iii).

⁷⁰ *See, e.g.*, DPEA at 34 (“Starship/Super Heavy test and launch operations conducted during the program development and operational phases must be able to use, to the maximum extent practicable, existing infrastructure at one of SpaceX’s launch sites.”)

Among other harms, SpaceX's activities are likely to adversely affect the surrounding area, at least ten listed species, designated critical habitat, and other wildlife. Moreover, the Project's effects will result in multiple legal violations. Thus, the SpaceX Project is likely to have significant environmental impacts, and the FAA must prepare an EIS before moving forward with any approvals.

A. Significant Impacts to the Area

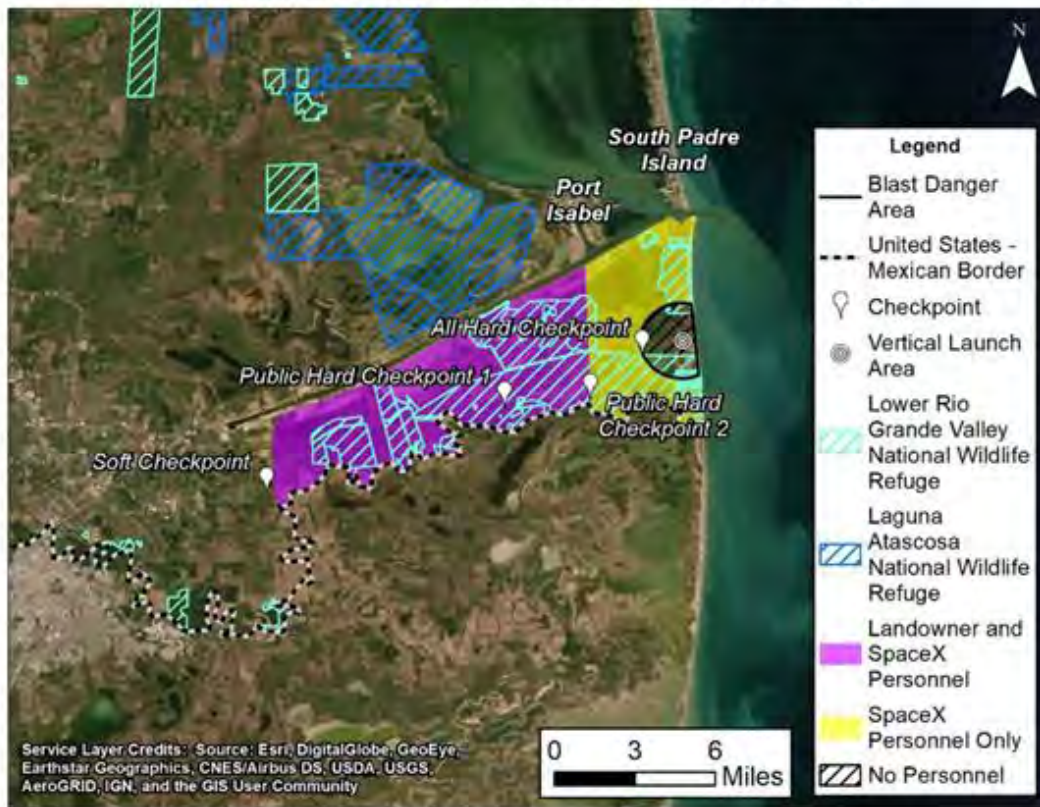
1. Impacts to LRGV NWR

The Project will have significant environmental impacts because it will have numerous adverse impacts on the affected area, including LRGV NWR. The FAA must consider impacts to LRGV NWR because, when determining a project's significance, NEPA regulations require agencies to consider the affected regional and local area.⁷¹ The Project will cause routine, major shutdowns of the refuge, precluding refuge staff and visitor access for more than a month every year. Moreover, recurring explosions resulting from SpaceX's testing activities will likely result in harmful debris pummeling the refuge, causing wildfires and spurring removal operations that will further damage refuge habitat. Finally, the project is likely to cause an increased amount of sound, light, and traffic in the refuge.

LRGV NWR has been repeatedly forced to shut down operations during SpaceX's testing and launch activities, which prevents the Service from adequately managing the refuge and precludes visitors from enjoying these public lands. The newest proposal assessed in the DPEA anticipates 800 hours of annual closures—500 for testing and 300 for debris retrieval. During closure times, LRGV NWR staff are not allowed to access the refuge, but SpaceX personnel would be. Below is a map that was included in the Biological Assessment, which shows the launch site and closure areas:

⁷¹ 40 C.F.R. § 1501.3(b)(1).

Figure 5-4. Road Closures and Checkpoints in Relation to National Wildlife Refuges



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This map depicts what areas of LRGV NWR (represented by turquoise hashes) will be closed to refuge staff but open to SpaceX staff (represented by yellow). The Service, rightfully, anticipates that SpaceX will exceed its number of requested closure hours, given that in 2019 the closure hours resulting from SpaceX's activities were more than six times as large as the number of hours reported by SpaceX for that year.⁷³

These closures are harmful because they prevent the Service from managing the refuge and they prevent visitors from enjoying it. In fact, the Service has explicitly stated that its

ability to maintain the biological integrity, diversity and environmental health of Refuge resources, as well as our ability to ensure the viability of the six wildlife-dependent recreational uses, has been significantly diminished at the Boca Chica tract [of LRGV NWR]. This occurs by preventing or constraining public access year-round, hampering biological and monitoring studies including sea turtle patrols, sea turtle cold-stunning responses, [and] hampering refuge management and law enforcement patrol⁷⁴

⁷² BA at 56.

⁷³ August 2021 Service Letter at 2 (Attachment D).

⁷⁴ January 2021 Service Letter at 2 (Attachment I).

In the past, closures have impeded other day-to-day activities at the refuge, such as the collection of milkweed and yucca seed.⁷⁵ It would be irrational to assume that future closures will not have similar impacts on refuge management activities.

These closures, moreover, will prevent members of the public from exercising their right to enjoy the refuge and its wildlife, a fact that is of deep concern to the Service. According to the Service, “[t]he protected activities of the Refuge that are being substantially impaired include fishing, wildlife observation, photography, environmental education, and interpretation.”⁷⁶ The Service attempted to quantify the number of recreational hours that were lost from a “mere” 158 hours of refuge closures by accounting for the number of individuals who would have otherwise visited during that time.⁷⁷ The agency determined that 158 closure hours resulted in a loss of 9,900,000 recreational hours.⁷⁸ Accordingly, refuge staff have concluded that “the purposes of the refuge are substantially impaired even with the estimation of only one hour of visitation.”⁷⁹ This also invokes environmental justice concerns. Indeed, most of the refuge’s visitors are from the surrounding area, and the surrounding area is occupied by a higher rate of individuals who are below the poverty line and a higher rate of individuals who are Hispanic compared to the national average.⁸⁰

LRGV NWR has also been harmed by repeated explosions during testing, which have caused wildfires and resulted in debris removal operations that have damaged habitat. As can be seen in the above map, portions of the refuge appear in the “Blast Danger Area.” According to the Service:

Two SpaceX incidents on July 25, 2019 and again in August 2019 resulted in wildfires of 130-acres and 10-acres respectively burned through coastal prairie and dune habitats on refuge managed land. Anomalies resulting in explosions on November 20, 2019, February 28, 2020, and December 9, 2020 resulted in debris scattered onto refuge managed lands.⁸¹

There has also been at least one explosion in 2021 that scattered debris on the Refuge.⁸² According to the Service, “debris that has fallen onto the Refuge has damaged sensitive wind tidal flats.”⁸³ Operations to retrieve the debris have further damaged the refuge. SpaceX employees use ATVs, or otherwise walk through LRGV NWR to locate debris that has been scattered throughout the area.⁸⁴ In the past, SpaceX has used high-capacity tow trucks and a construction dump truck to drag the

⁷⁵ Email from Bryan Winton, Wildlife Refuge Manager, Lower Rio Grande Valley National Wildlife Refuge, U.S. Fish & Wildlife Serv. (Mar. 25, 2019, 12:17 CST) (Attachment Q).

⁷⁶ August 2021 Service Letter at 2 (Attachment D).

⁷⁷ January 2021 Service Letter at 3 (Attachment I).

⁷⁸ *Id.*

⁷⁹ Email from Sonny Perez, Acting Complex Refuge Manager, South Texas Refuges Complex (Dec. 3, 2020, 11:22 CST) (Attachment K).

⁸⁰ August 2021 Service Letter at 1–2 (Attachment D).

⁸¹ January 2021 Service Letter at 2 (Attachment I).

⁸² *See* Email from Bryan Winton, Refuge Manager, Lower Rio Grande Valley National Wildlife Refuge, U.S. Fish & Wildlife Serv. (Mar. 30, 2021, 21:22 CST) (Attachment G); *see also* Email from Stacey Zee, FAA (Mar. 3, 2021) (debris found and collected from LRGV, which was within the “ground hazard area”) (Attachment R).

⁸³ August 2021 Service Letter at 2 (Attachment D).

⁸⁴ Email from Randy Rees, Environmental Health and Safety Manager, Chief of Emergency Operations, Space Exploration Technologies (SpaceX) (Feb. 29, 2020, 22:10 CST) (Attachment S).

debris through what we understand to be parts of the refuge.⁸⁵ Below are photographs of impacts that debris retrieval has had on habitat, which were included in a Service FOIA response:



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Unsurprisingly, “[t]he vehicles or machinery used to retrieve debris have created rutting and damage that interrupts tidal water sheet flow across [the refuge’s sensitive wind tidal] flats.”⁸⁷ Service personnel have also noted that botched retrieval efforts have further damaged the refuge.⁸⁸ For example, a Service employee noted that in April 2019 “SpaceX employee(s) [got] stuck with 2 vehicles and a forklift in tidal flats. [This] [c]ause[d] significant damage to tidal flats.”⁸⁹ Retrieval methods have also damaged refuge cable fencing installed to protect the area from disturbance.⁹⁰ In August 2021, the Service asserted that “none of the damage to the sensitive tidal flats from debris pickup and motorized equipment and human access has been adequately addressed.”⁹¹ These harmful impacts are likely to continue when SpaceX implements its newest Project. Although the

⁸⁵ Email from Randy Rees, Environmental Health and Safety Manager, Chief of Emergency Operations, Space Exploration Technologies (SpaceX) (Nov. 23, 2019, 17:09 CST) (Attachment E).

⁸⁶ *Id.*

⁸⁷ August 2021 Service Letter at 2 (Attachment D).

⁸⁸ Email from Bryan Winton (Jan 21, 2021, 10:33 CST) (Attachment F).

⁸⁹ *Id.*

⁹⁰ January 2021 Service Letter at 2 (Attachment I).

⁹¹ August 2021 Service Letter at 3 (Attachment D).

DPEA asserts that areas can be restored by regrading,⁹² it fails to account for the loss of important habitat values in the meantime, it fails to provide any evidence demonstrating that regrading can actually restore habitat, and it fails to demonstrate why and how SpaceX would now follow through with its commitment to restore the area in light of the companies' ongoing, chronic failures to comply with environmental measures that it previously promised.

The refuge is also vulnerable to explosion-induced wildfires. Wildfires resulting from SpaceX activities have already scorched at least 140 acres of refuge-managed land. The DPEA underplays the severity that a future wildfire may have, noting that “[v]egetative land cover in [susceptible nearby areas] is classified as barren or grasslands, both of which would recover quickly post-fire.”⁹³ However, as noted by a Service employee, “[m]y concern is that this sensitive area does not normally burn (lightning strikes), and by starting to burn an area that usually does not have fire can change the vegetation or cause more damage than good especially with the types of sand and salty soils which will lose protection once vegetation is removed, and change the ecology of the area.”⁹⁴ Similar harms are likely to persist if SpaceX implements the Proposed Project.

LRGV NWR has been—and will continue to be—harmed by the impacts of noise, light, traffic, and human presence generated by SpaceX. LRGV NWR is described in the DPEA as being a “noise sensitive area”, which is “an area where noise interferes with normal activities associated with its use.”⁹⁵ Debris retrieval and removal operations are also harmful to LRGV NWR because they can disturb refuge wildlife, such as nesting birds,⁹⁶ in light of the loud noises and human presence resulting from these efforts. Moreover, SpaceX flies drones over the refuge to determine whether any humans are present during testing and launches.⁹⁷ The Service has “biological concerns” regarding the use of drones because birds can be reactive to these during nesting season.⁹⁸ There also have been “increased observations of road mortality of wildlife at all hours of daytime and nighttime.”⁹⁹ Furthermore, according to the LRGV NWR Refuge Manager, LRGV NWR is “being negatively impacted” because trash discarded by SpaceX employees “is being blown into the refuge due to high winds, and negligence.”¹⁰⁰ He further noted that “[t]he refuge has never experienced this level of trash visible from the road ever. It is readily apparent that the trash is related to Space-X and the motorists driving to-from the site daily.”¹⁰¹ LRGV NWR would likely face similar or more severe environmental impacts if the Proposed Project is implemented.

Finally, it is our understanding that Service staff, which include law enforcement personnel and biologists, are needed to address at least some of SpaceX's impacts to the refuge.¹⁰² In 2019, the Refuge Manager has stated that three new employees “are needed to oversee the refuge during

⁹² DPEA at 113.

⁹³ *Id.* at 112.

⁹⁴ Email from Ernesto Reyes, Alamo Ecological Service Sub-Office, U.S. Fish & Wildlife Service (Aug. 20, 2019, 08:01 CST) (Attachment T).

⁹⁵ DPEA at 49.

⁹⁶ Email from Bryan Winton (Mar. 9, 2020, 14:16 CST) (Attachment U).

⁹⁷ Email from Bryan Winton (Oct. 16, 2019, 16:43 CST) (Attachment O).

⁹⁸ *Id.*

⁹⁹ January 2021 Service Letter at 2–3 (Attachment I).

¹⁰⁰ Email from Bryan Winton (Mar. 9, 2020, 14:16 CST) (Attachment U).

¹⁰¹ *Id.*

¹⁰² Email from Bryan Winton (Apr. 4, 2019, 13:45pm CST) (Attachment O).

Space-X closures, so we can maintain integrity of the refuge when everyone else is closed out of the place except SpaceX.”¹⁰³

Overall, based on what we already know about SpaceX’s existing impacts, the Project and other connected actions will have significant, adverse impacts on LRGV NWR.

2. Impacts to Other Nearby Habitat

The Project, both independently and in combination with connected actions, is also likely to have significant, adverse impacts on nearby habitat other than LRGV NWR. First, habitat in the area will be destroyed to accommodate new construction. The project is expected to be accompanied by filling jurisdictional waters, including 10.94 acres of salt flats, 0.28 acres of depressional areas, and 5.94 acres of high marsh areas for 17.16 acres of wetland impact.¹⁰⁴ Because they will be converted to uplands, they “would not retain any of the previous wetland functions or values.”¹⁰⁵ 14.5 acres of uplands are also expected to be destroyed.¹⁰⁶

According to the Environmental Protection Agency, (“EPA”) SpaceX’s operations have caused “substantial and unacceptable adverse impacts to aquatic resources of national important (ARNI),” due to the impacts to mudflats, estuarine and non-tidal wetlands, which “support benthic invertebrate communities which make them essential foraging habitats for wintering and migrating shorebirds, including the threatened piping plover and red knot.”¹⁰⁷ The wetland complex at issue “was designated by the Western Hemisphere Shorebird Network as a Site of International Importance,” and is “critical to the survival of many species of shorebirds and waterfowl.”¹⁰⁸ The EPA has concerns over the “direct, secondary, and cumulative impacts associated with destruction of the rare and valuable aquatic habitats within the project area,” and questioned “whether adequate compensatory mitigation will be provided for project impacts.”¹⁰⁹

Areas outside of LRGV NWR that are near the Proposed Project location are similarly vulnerable to the harmful impacts associated with explosions. Debris can cause rutting in nearby salt flats and wetlands,¹¹⁰ a problem worsened by the fact that the debris field can span for miles.¹¹¹ In fact, some of the rocket pieces from at least one explosion were lodged in wetlands near the Project location.¹¹² Following a different explosion that was onset by engine failure, debris was observed [REDACTED] meters into state lands and included small, medium, and large pieces of debris.¹¹³ According to TPWD, at least one explosion has scattered debris onto the Boca Chica Wildlife Management Area.¹¹⁴ In addition to LRGV NWR, other areas are susceptible to explosion-induced wildfires. The

¹⁰³ *Id.*

¹⁰⁴ DPEA at 95.

¹⁰⁵ *Id.*

¹⁰⁶ *Id.* at 111.

¹⁰⁷ Letter from Maria L. Martinez, EPA, to Joe McMahan, U.S. Army Corps (April 7, 2021).

¹⁰⁸ *Id.*

¹⁰⁹ *Id.*

¹¹⁰ DPEA at 113.

¹¹¹ Email from Bryan Winton (Mar. 30, 2021, 21:25 CST) (estimating that a March 2021 explosion resulted in a 2–3-mile debris field) (Attachment G).

¹¹² Letter from Charles Ardizzone, Field Supervisor, U.S. Fish and Wildlife Service to Stacey M. Zee, Office of Commercial Space Transportation, Federal Aviation Administration at 1 (Mar. 4, 2020) (Attachment C).

¹¹³ Email from Sonny Perez (Mar. 30, 2021, 10:47 CST) (Attachment V).

¹¹⁴ Email from Eric Schroeder (Mar. 12, 2021, 11:38am CST) (Attachment W).

DPEA characterizes areas that may receive wildfires as being small,¹¹⁵ yet 140 acres of TPWD property were burned in July and August 2019 as a result of SpaceX test launches.¹¹⁶ More than 100 acres from only two fires can hardly be considered small. Moreover, “[n]ighttime activities also hinder efforts to extinguish fires, evacuate people, remove trespassers, and delays debris removals.”¹¹⁷ Again, although the DPEA downplays the severity of impacts resulting from explosions, stating that rutting can be regraded and vegetative land cover can “recover quickly post-fire,” it fails to demonstrate the viability of restoration, fails to demonstrate that it would follow through on promised mitigation, and fails to account for any lost habitat values in the meantime. For instance, listed species—the threatened piping plover and the threatened red knot—use tidal flats in the area for foraging.¹¹⁸

Finally, many of the areas near the launch site that will be impacted by the Proposed Project have been categorized by the FAA as “noise sensitive areas,” including Boca Chica State Park, Brazos Island State Park, and Boca Chica Beach.¹¹⁹ These areas, therefore, will be adversely impacted by noises resulting from construction, daily operations, traffic, testing, and launches at the SpaceX site.

B. Significant Impacts to Listed Species and Critical Habitat

The Project will have significant impacts to at least ten listed species, including the piping plover, the red knot, the northern aplomado falcon, the Gulf Coast jaguarundi, the ocelot, and the Kemp’s ridley, hawksbill, leatherback, loggerhead sea turtle, and green sea turtle.

1. Impacts to Piping Plovers

As admitted by the FAA in its Biological Assessment (“BA”), this project is likely to adversely affect piping plovers (*Charadrius melodus*), a threatened species of shorebird, along with their critical habitat, which is located on the project site and in surrounding areas. The Service first added piping plovers to the endangered and threatened species lists in 1985, in large part due to the disturbance and destruction of their habitat.¹²⁰ Piping plovers can be sensitive to human disturbances.¹²¹ They spend more time alert and less time foraging in areas that are disturbed.¹²² This can lead to reduced time spent feeding and increased stress levels, resulting in lower body mass in members of the species.¹²³ Disturbances to piping plovers from human presence can reduce the overall value of piping plover critical habitat.¹²⁴

¹¹⁵ DPEA at 112.

¹¹⁶ Texas Parks and Wildlife Scoping Letter at 12 (Attachment B).

¹¹⁷ Letter from Charles Ardizzone, Field Supervisor, U.S. Fish and Wildlife Service to Stacey M. Zee, Office of Commercial Space Transportation, Federal Aviation Administration at 4 (Mar. 4, 2020) (Attachment C).

¹¹⁸ January 2021 Service Letter at 3 (Attachment I).

¹¹⁹ DPEA at 49.

¹²⁰ Endangered and Threatened Wildlife and Plants; Determination of Endangered and Threatened Status for the Piping Plover, 50 Fed. Reg. 50,726 (Dec. 11, 1985).

¹²¹ U.S. Fish & Wildlife Serv., *Piping Plover (Charadrius melodus): 5-Year Review: Summary and Evaluation* 17 (Mar. 2020), https://ecos.fws.gov/docs/five_year_review/doc6378.pdf.

¹²² *Id.* at 16.

¹²³ *Id.*

¹²⁴ 66 Fed. Reg. 36,079 Endangered and Threatened Wildlife and Plants; Final Determination of Critical Habitat for Wintering Piping Plovers, 66 Fed. Reg. 36,038, 36,069 (July 10, 2001).

Piping plovers have already felt serious impacts resulting from the SpaceX project, which are likely to continue or intensify. As previously stated, the Service concluded that SpaceX was likely causing such a blatant take of this threatened species that the company was vulnerable to a lawsuit under the ESA.¹²⁵ Moreover, research has shown that the piping plover population at Boca Chica has experienced a rapid and significant population decline.¹²⁶ The timing of the decline became severe in 2019,¹²⁷ right when SpaceX's operations in the area began to ramp up. Indeed, the area is functioning as a population sink due to the piping plover's historic reliance on the area,¹²⁸ coupled with the increased harm from SpaceX activities.

Even the FAA has acknowledged some—although not all—of the harms that SpaceX can cause to piping plovers. For instance, the FAA admitted in its BA that piping plovers can be displaced due to noises generated by SpaceX.¹²⁹ As previously discussed, some of the noises resulting from SpaceX operations include those resulting from construction, daily operations, traffic, testing, launches, sonic booms, explosions, and increased human activity. SpaceX is expected to generate both noise and light all day, every day. Given the piping plover's sensitivity to disturbances, the Project is likely to cause piping plovers in the area to spend less time foraging, experience increased stress levels, and suffer from reduced body mass. The BA also states piping plovers could be killed if they appeared within the heat plume created by engine ignition during testing and launches, which can run as hot as 212 degrees Fahrenheit within a .3 mile radius of the launch area. The FAA has failed to offer any valid explanation regarding how these impacts could or would be mitigated.

Inevitable explosions, along with resulting debris and wildfires, are also likely to harm piping plover critical habitat. According to the Service, there is “documented evidence that the debris and its removal has impacted and scarred various habitats in the area, including tidal flats which are foraging habitat for the threatened piping plover.”¹³⁰ Finally, according to the BA, the facility expansion would fill 11.03 acres of piping plover critical habitat.¹³¹

Thus, the Proposed Project will seriously harm piping plovers and their designated critical habitat, resulting in significant environmental impacts.

2. Impacts to Red Knots

The Proposed Project is also likely to adversely affect threatened red knots (*Calidris canutus rufa*), as admitted by the FAA in its BA, along with proposed red knot critical habitat. The Boca Chica area “contains a high concentration of rufa red knots during the spring and fall migration periods, serving as an important northbound and southbound stopover site on the northern Gulf coast.”¹³² The Service listed the red knot as threatened under the ESA in 2015.¹³³ Red knot populations were

¹²⁵ Email from Dawn Gardiner (Dec. 17, 2020, 13:59 CST) (Attachment L); *see also* Email Dawn Gardiner (Dec. 10, 2020, 16:23 CST) (Attachment M).

¹²⁶ D. Newstead and B. Hill, *Piping Plover Population Abundance, Trend and Survival at Boca Chica 2018-2021: Report by Coastal Bend Bays & Estuaries Program* (Oct. 22, 2021) (Attachment X).

¹²⁷ *Id.*

¹²⁸ *Id.*

¹²⁹ BA at 65.

¹³⁰ Service January 2021 Letter (Attachment I).

¹³¹ BA at 64.

¹³² Red knot CH proposal at 37,493.

¹³³ Endangered and Threatened Wildlife and Plants; Threatened Species Status for the Rufa Red Knot, 79 Fed. Reg. 73,706 (Dec. 11, 2014).

decimated in the late 1800s and early 1900s by commercial hunting for sport and food.¹³⁴ More recently the species' population has declined from threats to its habitat and prey species.

As acknowledged by the FAA in its BA, red knots can be disturbed, displaced, or killed by SpaceX's operations. Red knots can be sensitive to disturbances. Disturbances during the peak migration months of May and August can drive red knots to reject foraging habitats that would have otherwise been preferred.¹³⁵ Research shows that human disturbances can cause a decline in shorebirds' food intake and the amount of time spent foraging.¹³⁶ Disturbances "negatively affect the birds' energy balances."¹³⁷ As summarized by the Service in its red knot "Threats Assessment," which it developed during the species' listing process, one study "found that disturbed shorebird flocks often did not return to the same place or even general location along the beach once they were disturbed, with return rates at one site of only 8 percent for monospecific red knot flocks. Even when flocks returned, not all shorebirds did so, with half or less of the birds returning after a disturbance."¹³⁸ Moreover, according to the Threats Assessment, lighting on tall structures is known to cause avian collisions and "birds can become disoriented and entrapped in areas of artificially lighted airspace."¹³⁹ In addition to human presence, red knots can also be disturbed by aircraft.¹⁴⁰ Moreover, red knots could be killed if they are located within the heat plume created by engine ignition during testing and launches. Finally, according to the BA, the number of red knots in the area has declined over the years.¹⁴¹

The Project will also harm red knot habitat in the area, which will likely soon be designated as critical habitat. In its proposal to designate critical habitat for red knots, including in Boca Chica, the Service stated that one of the identified threats to the species was "habitat modification resulting from space exploration development."¹⁴² Although the BA did not address the Proposed Project's impacts to red knot critical habitat, it did state that the facility expansion would fill 11.03 acres of piping plover critical habitat. It is likely that this same area that will be filled will soon be designated as red knot critical habitat, as well. Moreover, red knots use mud and salt flats surrounding the Project area,¹⁴³ portions of which have been destroyed by debris and debris retrieval efforts following rocket explosions.

¹³⁴ Endangered and Threatened Wildlife and Plants; Proposed Threatened Status for the Rufa Red Knot, 78 Fed. Reg. 60,024, 60,028 (Sept. 30, 2013).

¹³⁵ 78 Fed. Reg. 60,076–77.

¹³⁶ 78 Fed. Reg. 60,078.

¹³⁷ U.S. Fish and Wildlife Service, *Rufa Red Knot Background Information and Threats Assessment: Supplement to Endangered and Threatened Wildlife and Plants; Final Threatened Status for the Rufa Red Knot (Calidris Canutus Rufa)*: Docket No. FWS-R5-ES-2013-0097; RIN AY17, at 266 (Nov. 2014) (Attachment Y) ("Threats Assessment")

¹³⁸ *Id.* at 269-270 (internal citations omitted).

¹³⁹ U.S. Fish and Wildlife Service, *Rufa Red Knot Background Information and Threats Assessment: Supplement to Endangered and Threatened Wildlife and Plants; Final Threatened Status for the Rufa Red Knot (Calidris Canutus Rufa)*: Docket No. FWS-R5-ES-2013-0097; RIN AY17, at 297 (Nov. 2014) (citing Kuvlesky, W.P., Jr., L.A. Brennan, M.L. Morrison, K.K. Boydston, B.M. Ballard, and F.C. Bryant. 2007. Wind energy development and wildlife conservation: Challenges and opportunities. *Journal of Wildlife Management* 71(8):2487-2498.).

¹⁴⁰ U.S. Fish and Wildlife Service, *Rufa Red Knot Background Information and Threats Assessment: Supplement to Endangered and Threatened Wildlife and Plants; Final Threatened Status for the Rufa Red Knot (Calidris Canutus Rufa)*: Docket No. FWS-R5-ES-2013-0097; RIN AY17, at 266 (Nov. 2014).

¹⁴¹ Although the BA makes the conclusory assertion that this decline is "not significant," it fails to provide evidence in support of this assertion.

¹⁴² Red Knot CH proposal at 37,493-94.

¹⁴³ Texas Scoping Letter at 5 (internal citation omitted).

Thus, the Project will harm red knots and their proposed critical habitat.

3. Impacts to Northern Aplomado Falcons

The FAA also admitted in its BA that endangered northern aplomado falcons (*Falco femoralis septentrionalis*) are likely to be adversely affected by the project. Northern aplomado falcons have been observed foraging and nesting in the action area.¹⁴⁴ Habitat loss and degradation of breeding and wintering grounds of migratory birds, including those in the action area, negatively impacts important avian prey species for aplomado falcons. They also could be attracted to nest and perch on proposed infrastructure, such as towers. As with red knots and piping plovers, northern aplomado falcons could be startled and displaced due to noise impacts from SpaceX's operations. If northern aplomado falcons flush off their nests during disturbances, it would expose their eggs or small young to inclement weather and predators. This can result in the destruction of their eggs and the death of their chicks. Moreover, even the FAA admits in its BA that disturbances may also reduce foraging efficiency and feeding time for the species. Finally, northern aplomado falcons and their eggs could be killed by heat plumes during engine testing and launches. Thus, the Project will likely cause serious adverse effects to endangered northern aplomado falcons.

4. Impacts to Ocelots and Gulf Coast Jaguarundis

Endangered ocelots (*Leopardus pardalis*) and endangered Gulf Coast jaguarundis (*Herpailurus yagouaroundi cacomitli*) are also likely to be adversely affected by the project. Laguna Atascosa NWR and adjacent lands support the only known U.S. breeding population of the ocelot.¹⁴⁵ While this refuge is not as close to the danger site as LRGV NWR, portions of it are within the action area. Furthermore, areas of the LRGV NWR within the action area contain lomas covered in Taumalipan thornscrub, ideal habitat for ocelots. An ocelot was observed and trapped traveling along SH 4 in the LRGV NWR within the action area in 1998 and there have been additional reports of ocelot sightings in this portion of the refuge in the past 25 years.¹⁴⁶ The jaguarundi is an endangered cat with a recent documented history in South Texas and an active recovery plan with site-specific management actions in Texas. The last known record of a jaguarundi in the United States was a roadkill along SH 4, the road leading into and through the action area.¹⁴⁷

The area near the launch site is within a broader corridor of lands encompassing Laguna Atascosa NWR, and LRGV NWR as well as the habitat between them. This coastal corridor on the eastern boundary of the Rio Grande delta supports a matrix of Taumalipan thornscrub (ideal habitat for ocelots and jaguarundis) as well as native rangeland wetlands and upland communities that may be suitable for movement of both cat species.¹⁴⁸ SpaceX employees traveling through the area could expose ocelots and jaguarundis to the increased potential for vehicle collisions. Vehicular collisions are the leading known cause of mortality for ocelots in Texas, and the 2013 Jaguarundi Recovery Plan similarly identified mortality from vehicle collisions as a threat to this species.¹⁴⁹ According to SpaceX there will be an extra 505 vehicles per day through potential travel corridors for the Gulf

¹⁴⁴ BA at 37.

¹⁴⁵ BA at 42.

¹⁴⁶ *Id.*

¹⁴⁷ *Id.* at 41.

¹⁴⁸ *Id.* at 42.

¹⁴⁹ *Id.* at 41.

Coast jaguarundi and the ocelot: 55 construction vehicles and 450 SpaceX staff vehicles. Moreover, according to TPWD:

several hundred employees and contractors travel to the Boca Chica Launch Site and between the CCA and VLA throughout the day and night, resulting in an increase in traffic along SH 4 TPWD continues to be concerned that the increase in traffic has resulted and will continue to result in an increase in wildlife-vehicle collisions. Roadkill observations have been documented along SH 4 and include state-listed and SGCN species including Texas tortoise, Texas indigo snake, snowy plover, and Harris' hawk.¹⁵⁰

There have been numerous incidents stemming from SpaceX involving traffic safety. Dump trucks importing dirt to the SpaceX site have been known to violate speed limits in the area, and at least one such truck even crashed in 2016.¹⁵¹ Although the driver involved in that incident was fired, vehicle crashes involving SpaceX agents and employees have persisted in the area. Unfortunately, a family's vehicle crashed with an eighteen-wheeler commercial trailer that was delivering products to and from the SpaceX facility in the middle of the night, killing one of the family members.¹⁵² According to the victim's family, the eighteen-wheeler had backed up unsafely and stopped in the middle of the dark road.¹⁵³ Service staff have expressed concern regarding SpaceX traffic's impacts to "public safety, wildlife mortality increasing due to high speed trucks, and damage to [refuge] property (vegetation and fence) from accidents."¹⁵⁴ Protecting additional north-south travel corridors is essential to offset the impacts of the proposed increase in vehicle traffic, yet SpaceX does not appear to have taken any steps to provide for adequate protections.

Gulf Coast jaguarundis and ocelots may also be impacted by the Proposed Project because it could cause them to avoid lit areas and seek other north-south travel corridors, expending additional energy, pushing them into unfamiliar territory, and increasing the potential for vehicular mortality. Moreover, the rocket heat plume may injure or kill individual cats exposed to the plume. More likely, accidental explosions could start a wildfire and, in the words of the BA, burn "many acres of suitable cat habitat."¹⁵⁵ This could result in the loss of individual cats or directly impact their movement on the landscape and potentially affect species migration corridors.

Moreover, it is our understanding that SpaceX agreed to fund ocelot monitoring in the area and subsequently rescinded its offer. SpaceX's refusal to honor this agreement for funding for ocelot monitoring is particularly impactful at a time when Laguna Atascosa NWR's budget shortages have compelled refuge management to significantly reduce ocelot monitoring on and near the refuge, specifically citing that they were no longer receiving funding for ocelots. Ocelot monitoring in other areas near the refuge is shifting to a third party and the population residing on federal lands is no longer being monitored by remote camera and live trap and release as they have been over the past decade. This raises concerns regarding the Service's knowledge in near-real time of the health of a

¹⁵⁰ TPWD Scoping Comments at 9 (Attachment B).

¹⁵¹ Email from Ernesto Reyes (Feb. 25, 2016 07:39 CST) (Attachment Z).¹⁵¹

¹⁵² Aristos Georgiou, *Family Sues SpaceX for Negligence After Texas Crash Kills Man, Seeking \$20M*, Newsweek, (Apr. 30, 2021), <https://www.newsweek.com/family-sue-spacex-negligence-texas-crash-1587758>

¹⁵³ *Id.*

¹⁵⁴ Email from Ernesto Reyes (Feb. 25, 2016 07:39 CST) (Attachment Z).¹⁵⁴

¹⁵⁵ BA at 67.

population numbering at only 15 known individuals. This lack of monitoring activity impedes the survival and recovery of the species.

Finally, according to the Service, limiting launch activities to hours between dawn and dusk would minimize impacts to ocelots and jaguarundis,¹⁵⁶ but this recommendation has gone ignored. Thus, by increasing the likelihood of traffic mortalities, likely impeding their movement along migratory corridors, creating a serious risk of habitat destruction from wildfires, and establishing the possibility that cats can die in rockets' heat plumes, the Project will have serious, adverse impacts on endangered ocelots and jaguarundis.

5. Impacts to Sea Turtles

Kemp's ridley (*Lepidochelys kempii*), loggerhead (*Caretta caretta*), green (*Chelonia mydas*), hawksbill (*Eretmochelys imbricata*), and leatherback (*Dermochelys coriacea*) sea turtles have all been identified nesting in the area of the SpaceX launch site, and Kemp's ridley sea turtles nest there with regularity. Noise and vibrations generated by rocket testing, launches, and landings could cause turtles to abandon their nesting attempts by frightening them.¹⁵⁷ However, there are no mitigation measures currently available to reduce the chances of noise-induced startle responses.¹⁵⁸ Vibrations from rocket launches could also damage incubating eggs not collected by Sea Turtle Inc., either because they were overlooked during patrols or because they were laid during times when public access is prohibited.¹⁵⁹ As previously discussed, in 2019 SpaceX caused more than 1,000 closure hours and 800 closure hours are now being proposed. Indeed, the Service has expressed concerns with closure activities "hampering biological and monitoring studies including sea turtle patrols [and] sea turtle cold-stunning responses."¹⁶⁰

Moreover, lighting could be visible from the beach, which could cause females to false crawl and could disorient emerging hatchlings.¹⁶¹ Hatchlings are known to crawl toward artificial light sources, "following the same instinctive response that leads them seaward."¹⁶² Construction is expected to occur both at day and night and the DPEA assumes that 20% of launches will occur at night. According to the Service, limiting launch activities to hours between dawn and dusk would minimize impacts to sea turtles,¹⁶³ but this recommendation has gone ignored. Bright spotlights are expected to illuminate the launch pad, at times for multiple days.¹⁶⁴ Although the BA notes that low pressure sodium lights could be used, "to the extent practicable," during sea turtle nesting season, it qualifies this by saying that brighter, white lights would be necessary "for ground support operations performed 24/7 throughout the year," negating the efficacy of its proposed mitigation measure. Finally, sea turtles and hatchlings present near the site at the time of engine ignition could be injured or killed by the rocket heat plume, and their eggs could be destroyed. Kemp's ridley sea turtles at

¹⁵⁶ Letter from Charles Ardizzone, Field Supervisor, U.S. Fish and Wildlife Service to Stacey M. Zee, Office of Commercial Space Transportation, Federal Aviation Administration at 1 (Mar. 4, 2020) (Attachment C).

¹⁵⁷ BA at 68.

¹⁵⁸ DPEA at 113-114.

¹⁵⁹ BA at 68.

¹⁶⁰ January 2021 Service Letter at 2 (Attachment I)

¹⁶¹ BA at 69.

¹⁶² DPEA at 112.

¹⁶³ Letter from Charles Ardizzone, Field Supervisor, U.S. Fish and Wildlife Service to Stacey M. Zoo, Office of Commercial Space Transportation, Federal Aviation Administration at 1 (Mar. 4, 2020) (Attachment C).

¹⁶⁴ *Id.*

times nest as part of mass aggregation events, or “arribadas,” in which a mass of turtles suddenly appears. If an arribada occurs shortly before launch events and the eggs are not removed, or the aggregating turtles are caught in the heat plume, the result could be catastrophic.

Overall, this project is likely to cause significant, adverse effects to five different species of listed turtles, threatening disrupt and kill turtles and destroy their eggs. Despite these alarming consequences, no adequate mitigation measures, such as appropriately managing noise and lighting, have been proposed.

The Proposed Project is likely to adversely affect at least 10 listed species, yet includes little to no meaningful mitigation measures to address these effects. It is abundantly clear that the Project will have significant impacts, and the FAA must prepare an EIS.

C. Significant Impacts to Other Resources in the Affected Area

Finally, the Project will adversely affect other wildlife, another resource in the Proposed Project area.¹⁶⁵ According to TPWD,

Areas surrounding the project area are managed or preserved as high-quality wildlife habitat that provide foraging, loafing, and nesting sites for birds. Additionally, the project area occurs in the middle of the Central Flyway Migration Corridor through which millions of birds pass during spring and fall migration. More than 250 bird species have been documented within the Boca Chica Village and Boca Chica Beach areas in recent years. The mud and salt flats surrounding the proposed construction areas are used by numerous shorebirds.”¹⁶⁶

Indeed, some of the birds that use the area include reddish egrets, American oystercatchers, peregrine falcons, red knots, mangrove warblers, piping plovers, and brown pelicans.¹⁶⁷ In fact, 58 of the 88 species of birds that have been identified as Species of Greatest Conservation Need in Texas’s Gulf Coast Marshes and Prairie Ecoregion have been documented in the vicinity of the Project site.¹⁶⁸ Snowy plovers have been documented nesting directly adjacent to the Proposed Project site:

¹⁶⁵ See *id.* § 1501.3(b)(1) (significance should be assessed based on the effects of the action to the affected area and its resources).

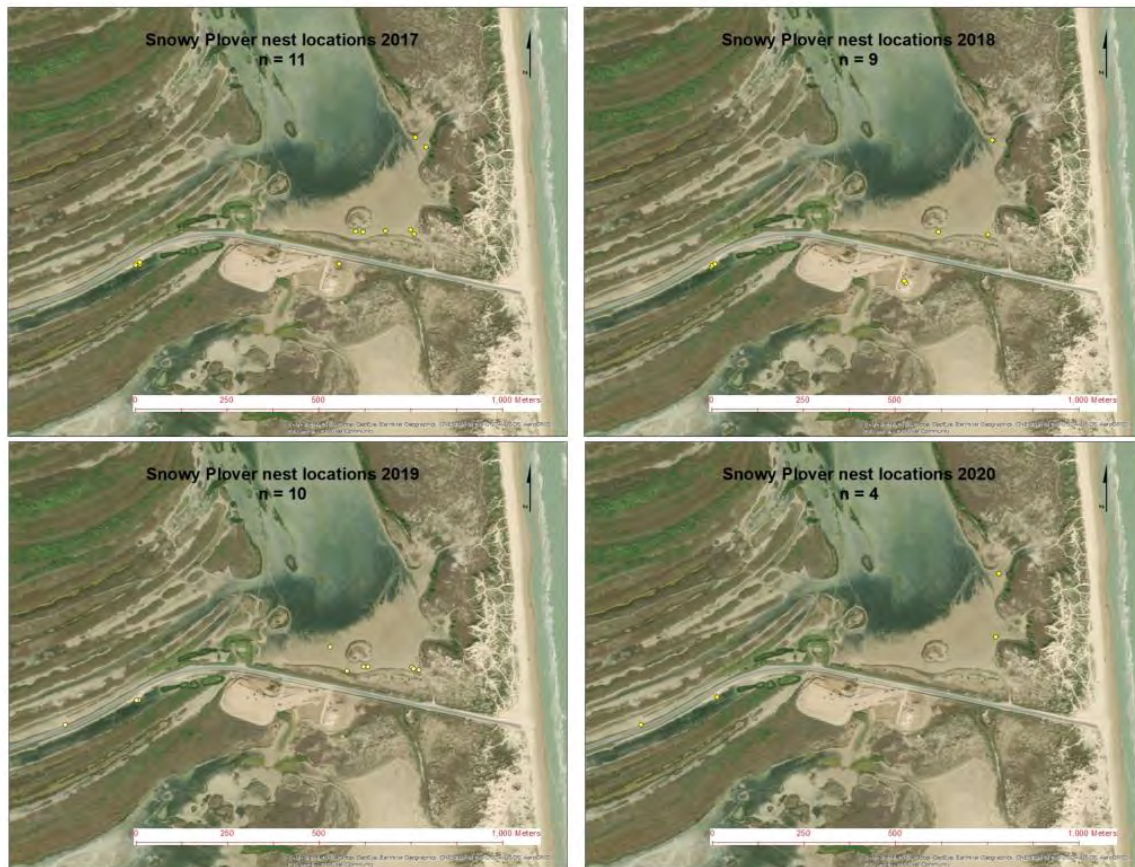
¹⁶⁶ Texas Scoping Letter at 5. (internal citation omitted).

¹⁶⁷ https://www.fws.gov/refuge/Lower_Rio_Grande_Valley/visit/boca_chica_beach.html

¹⁶⁸ Letter from Clayton Wolf, Chief Operating Officer, Texas Parks & Wildlife to Stacy M. Zee, Office of Commercial Space Transportation, Federal Aviation Administration at 7 (Jan 27, 2021) (Attachment X – Texas Parks and Wildlife Scoping Letter)

Nest locations of Snowy Plovers in vicinity of SpaceX launch site – Boca Chica, Cameron County, Texas





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As previously discussed, SpaceX will cause serious disturbances to the area resulting from human presence, construction, traffic, lighting, sonic booms, the use of ATVs, and the use of drones. “Disturbance of shorebirds can cause behavioral changes resulting in less time roosting or foraging, shifts in feeding times, decreased food intake, and more time and energy spent in alert postures or fleeing from disturbances.”¹⁷⁰ As the Service has noted:

At two sites on the Atlantic coast of New Jersey, [researchers] found that disturbed shorebird flocks often did not return to the same place or even general location along the beach once they were disturbed, with return rates at one site of only 8 percent for monospecific red knot flocks. Even when flocks returned, not all shorebirds did so, with half or less of the birds returning after a disturbance.¹⁷¹

Moreover, according to the Service, researchers:

found the abundance of shorebirds declined with increased [off road vehicle (“ORV”)] frequency, as did the number and size of roosts. [One study] found that disturbance from ORVs decreased shorebird abundance and altered shorebird habitat use. In

¹⁶⁹ Email from David Newstead, (Jan. 8, 2021 11:13 CST) (Attachment AA).

¹⁷⁰ Threats Assessment at 270 (internal citations omitted).

¹⁷¹ *Id.* at 269-270 (internal citations omitted).

experimental plots, shorebirds decreased their use of the wet sand microhabitat and increased their use of the swash zone in response to vehicle disturbance.”¹⁷²

Disturbances, such as those caused by SpaceX, also impede birds’ ability to successfully reproduce. When disturbed, nesting birds can flush off of their nests, exposing their chicks and eggs. This can result in predators eating the vulnerable chicks and eggs or them overheating in the sun. Startle responses can also “result in broken eggs or cause immature young that are not flight-capable to flee the nest.”¹⁷³ Inappropriate light can also cause nesting and roosting birds to abandon areas, as can repeated nest failures.¹⁷⁴

The Project’s threats to area wildlife are not limited to disturbances. According to the Service, traffic from SpaceX has resulted in the death of migratory birds.¹⁷⁵ As the agency has pointed out, traffic near the site was already killing birds even before it began to “exponentially increase.”¹⁷⁶ Moreover, as the FAA admits, “[t]he presence of newly constructed structures, such as the integration towers and natural gas pretreatment system, could pose a potential collision impact to birds.”¹⁷⁷ Artificial lighting is also dangerous to bird species in the area. Artificial night lighting is a cause of mortality among migratory birds,¹⁷⁸ lighting on tall structures is known to cause avian collisions, and “birds can become disoriented and entrapped in areas of artificially lighted airspace.”¹⁷⁹ SpaceX’s excessive and unpredictable area-wide closures have also interfered with wildlife monitoring efforts that can be used to support species conservation. For example, the closures have placed undue burdens on scientists from the Coastal Bend Bays & Estuaries Program, who are charged with conducting critical surveys of birds in the area, including piping plovers, along with nesting snowy and Wilson’s plovers.¹⁸⁰

Anomalies also threaten birds in the project area. According to the Service, videos of rocket launch failures “show evidence of different species of birds being impacted by the blast.”¹⁸¹ Snowy plovers have been documented as nesting near areas where exploded rocket debris landed.¹⁸² Moreover, TPWD has remarked that sand flats are “essential to shorebirds in general and critical to species with relatively short legs and bills, like plovers, that are physically limited to shallow water habitats.”¹⁸³ However, debris and debris retrieval operations have been known to damage tidal flats

¹⁷² *Id.* at 270 (internal citations omitted).

¹⁷³ DPEA at 113.

¹⁷⁴ *Id.* at 112-13.

¹⁷⁵ Email from Bryan Winton (Sept. 17, 2020 22:13 CST) (Attachment BB). *See also* Email from Bryan Winton (Sept. 28, 2020 15:32 CST) (Attachment CC) (“We know for sure there is a direct loss of wildlife due to increased traffic serving Space-X.”)

¹⁷⁶ *Id.*

¹⁷⁷ DPEA at 111.

¹⁷⁸ TPWD Scoping Comments at 4 (internal citation omitted) (Attachment B).

¹⁷⁹ U.S. Fish and Wildlife Service, *Rufa Red Knot Background Information and Threats Assessment: Supplement to Endangered and Threatened Wildlife and Plants; Final Threatened Status for the Rufa Red Knot (Calidris Canutus Rufa)*; Docket No. FWS-R5-ES-2013-0097; RIN AY17, at 297 (Nov. 2014) (citing Kuvlesky, W.P., Jr., L.A. Brennan, M.L. Morrison, K.K. Boydston, B.M. Ballard, and F.C. Bryant. 2007. Wind energy development and wildlife conservation: Challenges and opportunities. *Journal of Wildlife Management* 71(8):2487-2498.).

¹⁸⁰ Pers. comms. David Newstead (Oct. 31, 2021). Although the Coastal Bend Bays & Estuaries Program monitoring was successfully accomplished, the closures nevertheless placed a strain on scientists’ time and resources.

¹⁸¹ January 2021 Service Letter (Attachment I).

¹⁸² Letter from Charles Ardizzone, Field Supervisor, U.S. Fish and Wildlife Service to Stacey M. Zoo, Office of Commercial Space Transportation, Federal Aviation Administration at 2 (Mar. 4, 2020) (Attachment C).

¹⁸³ TPWD Scoping Comments at 7 (Attachment B).

and will almost certainly continue to do so. Wildfires can also kill and displace birds and destroy nests and eggs. When commenting on a recent wildfire, a Service employee noted that it “could have as easily been devastating to nesting shorebird and resident species during their reproductive period.”¹⁸⁴

Thus, the Proposed Project will adversely affect wildlife, a resource in the Project Area, causing the Proposed Project to have significant environmental impacts.

D. Resulting Legal Violations

When analyzing the degree of an action’s significance, agencies must consider effects that would violate other laws.¹⁸⁵ Among other legal violations, the Project will absolutely result in violations of the National Wildlife Refuge System Improvement Act of 1997 (“Refuge Improvement Act”) and will likely result in violations of the Migratory Bird Treaty Act (“MBTA”), as well.

1. Violations of the Refuge Improvement Act

The National Wildlife Refuge System is managed pursuant to the Refuge Improvement Act, which Congress passed to “help protect species large and small, beautiful and not-so-beautiful, endangered and common alike.”¹⁸⁶ The primary mission of the National Wildlife Refuge System is:

to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.¹⁸⁷

The Refuge Improvement Act was intended “to establish clearly the conservation mission of the System.”¹⁸⁸ However, SpaceX’s actions are resulting—and will continue to result—in violations of the Refuge Improvement Act, including from (1) SpaceX using the refuge without the Service engaging in a compatibility determination, (2) SpaceX engaging in incompatible uses of the refuge, (3) SpaceX failing to obtain a special use permit for engaging in commercial activities in the refuge, (4) SpaceX’s operations interfering with the Service’s mandate to promote the biological integrity, diversity, and environmental health of the refuge system, (5) SpaceX’s operations interfering with the Service’s mandate to provide for wildlife conservation in the refuge, and (6) SpaceX’s operations interfering with the Service’s mandate ensure that the refuge’s purposes are carried out.

a. Failure to Engage in a Compatibility Determination

It is our understanding that the Service has never engaged in a compatibility determination of all of SpaceX’s activities in the refuge and has no future plans to do so. To ensure that refuges carry out the System’s mission and their respective purposes, the law creates a presumption against public use

¹⁸⁴ Email from Bryan Winton (Aug. 19, 2019 22:51 CST) (Attachment T)

¹⁸⁵ *Id.* § 1501.3(b)(2), (b)(2)(ii), (b)(2)(iv).

¹⁸⁶ 143 Cong. Rec. H7646-02, H7647, 1997 WL 586267, 4.

¹⁸⁷ 16 U.S.C. § 668dd(a)(2).

¹⁸⁸ H.R. REP. NO. 105-106, at 3 (1997), reprinted in 1997 U.S.C.A.N. 1798-5.

and access of national wildlife refuges.¹⁸⁹ With extraordinarily limited exceptions, the Refuge Improvement Act provides authorization only to the Secretary of the U.S. Department of the Interior and the Service to administer and authorize uses of refuges.¹⁹⁰ The Service may “permit the use of any area within the System for any purpose . . . whenever [it] determines that such uses are compatible with the major purposes for which such areas were established.”¹⁹¹ Thus, it must engage in a compatibility determination whenever it “initiate[s] or permit[s] a new use of a refuge or expand[s], renew[s], or extend[s] an existing use of a refuge.”¹⁹²

SpaceX has repeatedly used LRGV NWR when engaging in operations and will continue to do so for the Proposed Project. For example, the refuge has been and will continue to be used as a sacrificial debris field, where explosion debris has landed on multiple occasions and wildfires resulting from explosions have occurred. LRGV NWR would be included in the Project’s “Blast Danger Area”¹⁹³ and be subject to further FAA-approval as a part of the hazard area where debris may land,¹⁹⁴ which has occurred in the past. The refuge is and would continue to be subject to SpaceX’s use during debris reconnaissance and removal operations. Based on the information available to us, it is our understanding that these and other uses of the refuge by SpaceX have never been the subject of compatibility determinations and will not be the subject of any compatibility determinations in the future.

b. Incompatible Use of a Refuge for SpaceX’s Overall Operations

SpaceX is also violating and will continue to violate the Refuge Improvement Act by engaging in an incompatible use of a refuge. Refuges can only be used if “such uses are compatible with the purposes for which these areas are established.”¹⁹⁵ For a use to be “compatible” it must be “a wildlife-dependent recreational use or any other use of a refuge that, in the sound professional judgment of the [Service], will not materially interfere with or detract from the fulfillment of the mission of the System or the purposes of the refuge.”¹⁹⁶

SpaceX’s current and proposed activities are plainly incompatible with the purposes of LRGV NWR. The purpose of the refuge is in part to “develop[], advance[], manage[], conserve[e], and protect[] . . . fish and wildlife resources.”¹⁹⁷ As discussed, SpaceX’s activities cause a multitude of harms to fish and wildlife resources, such as from explosions, wildfires, disturbances, and adverse modification of habitat resulting from debris. Even according to the Service, SpaceX’s operations cause “both ‘adverse’ and ‘severe’ impacts to Refuge public use, management, wildlife, and habitat.”¹⁹⁸

¹⁸⁹ 50 C.F.R. § 25.21(a) (Except for refuges in Alaska, “all areas included in the [System] are closed to public access until and unless we open the area for a use . . . in accordance with the [Refuge Act]. . . .”); *see also United States v. Sams*, 45 F. Supp. 3d 524, 525 (E.D.N.C. 2014) (the Refuge Act “closes national wildlife refuges in all states except Alaska to all uses until opened.”).

¹⁹⁰ *See, e.g.* 16 U.S.C. § 668dd(a)(1) (refuges “shall be administered by the Secretary through the United States Fish and Wildlife Service”), (d)(1)(A) (“the Secretary is authorized . . . to permit the use of” refuges).

¹⁹¹ 16 U.S.C. § 668dd(d)(1)(A).

¹⁹² *Id.* § 668dd(d)(3)(A)(i); *see also* 50 C.F.R. § 26.41(a).

¹⁹³ BA at 56.

¹⁹⁴ DPEA at 24-25.

¹⁹⁵ 16 U.S.C. § 668dd(d)(1)(B).

¹⁹⁶ *Id.* § 668ee(1).

¹⁹⁷ LRGV NWR CCP at 42 (citing 16 U.S.C. § 742f(a)(4)) (Attachment A).

¹⁹⁸ August 2021 Service Letter at 2 (emphasis in original) (Attachment D).

Thus, the Project will violate the Refuge Improvement Act's prohibition on incompatible uses of a refuge.

c. Unlawful Use of a Refuge for Economic Purposes

It is also our understanding that SpaceX has never obtained a special use permit to use the refuge for economic activities, which is required by Refuge Improvement Act regulations.¹⁹⁹ However, even if SpaceX does obtain a special use permit, economic uses of a refuge can only be permitted where the Service “determine[s] that the use *contributes to the achievement* of the national wildlife refuge purposes or the National Wildlife Refuge System mission.”²⁰⁰ SpaceX's use of the refuge clearly does not. Thus, the Project will result in an unlawful economic use of LRGV NWR.

d. Preventing the Service from Achieving its Affirmative Management Prescriptions

As is now also the case, the Project will impede the Service's ability to achieve several affirmative management prescriptions delineated in the Refuge Improvement Act. The Refuge Improvement Act requires the Service to administer the System to “ensure that the biological integrity, diversity, and environmental health of the System are maintained for the benefit of present and future generations of Americans.”²⁰¹ However, the Service has explicitly stated: “Due to operations by SpaceX, the FWS's ability to maintain the biological integrity, diversity and environmental health of Refuge resources... has been significantly diminished at the Boca Chica tract.”²⁰² Thus, SpaceX is interfering with the Service's ability to comply with the Refuge Improvement Act's biological integrity, diversity, and environmental health mandate. The Refuge Improvement Act also requires the Service to “provide for the conservation of fish, wildlife, and plants, and their habitats within the System,”²⁰³ however SpaceX's activities directly counter such efforts and will continue to do so during the Proposed Project. Finally, the SpaceX project impedes the Service's ability to “ensure that... the purposes of each refuge are carried out.”²⁰⁴ As discussed, the purpose of LRGV NWR is in part to “develop[], advance[], manage[], conserve[e], and protect[]... fish and wildlife resources,”²⁰⁵ and SpaceX is impeding such efforts.

Because SpaceX's impacts would result in violations of numerous provisions of the Refuge Improvement Act, its impacts will be significant and the FAA must prepare an EIS to address the project.

2. The Project Will Likely Result in Violations of the Migratory Bird Treaty Act

SpaceX's Project will also likely result in violations of the MBTA by causing a take of migratory birds, their chicks, their nests, and/or their eggs. In 1918, Congress enacted the MBTA to implement a treaty for “the protection of migratory birds” between Great Britain (on behalf of

¹⁹⁹ *Id.* § 27.97.

²⁰⁰ 50 C.F.R. § 29.1.

²⁰¹ 16 U.S.C. § 668dd(a)(4)(B).

²⁰² January 2021 Service Letter at 2-3 (Attachment I).

²⁰³ 16 U.S.C. § 668dd(a)(4)(A).

²⁰⁴ *Id.* § 668dd(a)(4)(D).

²⁰⁵ LRGV NWR CCP at 42 (citing 16 U.S.C. § 742f(a)(4)) (Attachment A).

Canada) and the United States.²⁰⁶ The objective of the treaty was to create a “uniform system of protection” to “insur[e] the preservation of such migratory birds” because “a lack of adequate protection” for many migratory birds traveling through the United States left them vulnerable to extinction.²⁰⁷ Over the years, Congress broadened the scope of the MBTA to implement similar treaties with Mexico in 1936, Japan in 1972, and the former Soviet Union in 1976.²⁰⁸ The MBTA was a breakthrough in U.S. conservation law. Once on the path to extinction, the MBTA helped restore countless populations of birds, such as sandhill cranes, snowy egrets, and wood ducks.²⁰⁹ In fact, the Supreme Court has described the purpose of the MBTA as a “national interest of very nearly the first magnitude.”²¹⁰

As a “conservation statute[] designed to prevent the destruction of certain species of birds,”²¹¹ the MBTA protects more than 1,000 species of birds found in the United States.²¹² Under this law:

[u]nless and except as permitted by regulations . . . it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, [or] kill . . . any migratory bird [or] any part, nest, or egg of any such bird . . . included in the terms of the conventions . . .²¹³

This provision applies to “any person, association, partnership, or corporation who shall violate any provisions of [the Act].”²¹⁴ The MBTA applies to both targeted and incidental takes, and the foreseeable incidental take of migratory birds cannot proceed without formal authorization from the Service.²¹⁵

The Project is likely to create impacts that result in a take of migratory birds, their chicks, their eggs and/or their nests. As discussed, many migratory birds use the area, including red knots, piping plovers, snowy plovers, Wilson’s plovers, reddish egrets, American oystercatchers, peregrine falcons, and brown pelicans. Migratory birds and their eggs could be killed or destroyed if they appear in the rocket’s heat plume during launches. Moreover, migratory birds, such as snowy plovers, nest near the Project site. Disturbances can cause birds to flush off of their nests, leaving chicks vulnerable to death from overheating, predators, and fleeing the nest when they are not yet flight-capable. Flushing can also lead to the destruction of eggs, onset by predators and overheating. Lighting on tall structures, moreover, can kill migratory birds by causing avian collisions. Finally, explosion-onset wildfires can kill birds and destroy nests and eggs.

²⁰⁶ *Act of July 3, 1918*, ch. 128, 40 Stat. 755.

²⁰⁷ Convention for the Protection of Migratory Birds, 39 Stat. 1702 (Aug. 16, 1916).

²⁰⁸ Convention between the United States of America and Mexico for the Protection of Migratory Birds and Game Mammals, 50 Stat. 1311 (Feb. 7, 1936) (Mexico Convention); Convention for the Protection of Migratory Birds and Birds in Danger of Extinction, and Their Environment, art. VI, 25 U.S.T. 3329 (Mar. 4, 1972) (Japan Convention); Convention Concerning the Conservation of Migratory Birds and Their Environment, art. IV, 29 U.S.T. 4647 (Nov. 19, 1976) (Russia Convention).

²⁰⁹ Nat’l Audubon Soc’y, *The Migratory Bird Treaty Act, Explained*, (Jan. 26, 2018), <https://www.audubon.org/news/the-migratory-bird-treaty-act-explained>.

²¹⁰ *Missouri v. Holland*, 252 U.S. 416, 435 (1920).

²¹¹ *Andrus v. Allard*, 444 U.S. 51, 52 (1979).

²¹² See 50 C.F.R. § 10.13.

²¹³ 16 U.S.C. § 703(a).

²¹⁴ *Id.* § 707(a).

²¹⁵ See 86 Fed. Reg. 54643 (Oct. 4, 2021).

E. Conclusion

At bottom, it would be arbitrary and capricious for the FAA to proceed without preparing an EIS. Indeed, the FAA recognized it was appropriate to prepare an EIS for SpaceX's originally planned activities in the area in 2014, so it would make no sense for the agency to now deem an EIS unnecessary for a connected action with even larger rockets and more infrastructure. The Project will cause significant impacts because it will likely adversely affect nearby public lands, at least ten species listed under the Endangered Species Act, and other wildlife in the area. It moreover will result in numerous violations of the Refuge Improvement Act and is also likely to result in violations of the MBTA. The FAA has also failed to demonstrate that nearly any meaningful mitigation measures will be implemented to counter these significant impacts. As put by one Service employee, "I must state this emphatically here that our response MUST be very clear that an EA is inappropriate to comply with the spirit and intent of NEPA, because we can see no path towards a FONSI!"²¹⁶ We agree. To comply with NEPA, the FAA must prepare an EIS.

III. The DPEA is Inadequate

If the FAA incorrectly decides against preparing an EIS, this decision would also be unlawful because it would have been made based on the woefully inadequate DPEA, which fails to comply with NEPA and its regulations. If it is unknown whether an action will be "significant," then an agency may prepare an EA. An EA must provide "sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact."²¹⁷ In doing so, the EA must discuss the environmental impacts of and alternatives to the proposed action²¹⁸ and must account for connected actions.²¹⁹ The DPEA, however, fails to comply with these requirements. Indeed, it fails to adequately consider the environmental impacts of the project and it fails to adequately consider alternatives to the proposed action. Accordingly, the DPEA does not provide sufficient evidence and analysis to support a finding of no significant impact.

A. The DPEA Fails to Adequately Consider Environmental Impacts

Under NEPA, a federal agency must take a "hard look" at the environmental impacts of its proposed action, yet the DPEA fails to do so for a number of reasons. First, it does not appear to consistently evaluate the environmental impacts of SpaceX's prior and current operations at the site, despite the fact that they are connected actions with respect to the Proposed Project. Second, the DPEA at times places artificial limitations on when actions can be considered significant. Third, the DPEA fails to adequately discuss the Project's impacts to listed species. Finally, it glosses over critical details involving the Project that are either definitely or otherwise likely to result in significant impacts.

The DPEA must account for connected actions, yet it has failed to do so. NEPA regulations require agencies to consider connected actions,²²⁰ such as actions that "[c]annot or will not proceed unless

²¹⁶ Email from Chris Perez (Jan 6, 2021 08:53 CST) (Attachment K).

²¹⁷ 40 C.F.R. § 1501.5(c)(1).

²¹⁸ *Id.* § 1501.5(c)(2).

²¹⁹ *Id.* § 1501.3(b).

²²⁰ *Id.* § 1501.3(b).

other actions are taken previously or simultaneously” or “[a]re interdependent parts of a larger action and depend on the larger action for their justification.”²²¹ The Proposed Project will rely on previous actions taken at the site, such as SpaceX’s construction of existing infrastructure that, according to the DPEA, “SpaceX must be able to use.”²²² The Project will also rely on information obtained from prior and ongoing testing at the site.²²³ Moreover, SpaceX’s prior actions, current operations, and the Proposed Project are also interdependent parts of SpaceX’s larger action at the site to further commercial space exploration, making them connected actions. As stated by a Service employee, “[a]ll SpaceX development is a connected action.”²²⁴ Although impacts resulting from the Proposed Project, alone, are significant enough to warrant an EIS, the DPEA is inherently defective for failing to also consistently consider connected actions.

Even though prior and current operations at the site are connected actions, they at times were ignored in DPEA’s analysis of what can be considered significant. For example, in the DPEA’s analysis of noise impacts, current SpaceX operations were accounted for as existing conditions at the site.²²⁵ According to the DPEA, construction noise impacts would only be significant if they increase the noise by DNL 1.5 dB.²²⁶ However, the Project and current operations are connected actions. The FAA, therefore, cannot judge significance by an increase in the sound level above existing conditions and instead should consider the increased noise level resulting from the connected actions rather than the noise level of the increase.

The DPEA also places several artificial limitations on when an action can be considered significant. First, the assessment makes the concerning assertion that, “[a] significant impact on biological resources would occur if the USFWS or NMFS determines that the action would be likely to jeopardize the continued existence of a federally listed threatened or endangered species, or would result in the destruction or adverse modification of federally designated critical habitat.”²²⁷ This is incorrect for a number of reasons. First, CEQ regulations do not provide that only listed species and critical habitat should be considered when determining whether an action will have significant impacts to biological resources. According to the regulations, when assessing the significance of an action, agencies should consider “the affected area... and its resources, *such as* listed species and designated critical habitat under the Endangered Species Act.”²²⁸ CEQ regulations’ reference to listed species and critical habitat serves only as an *example* of affected resources is not intended to limit listed species and critical habitat to being the only two metrics for determining the significance of impacts to biological resources.

Moreover, the DPEA’s stated threshold for significance inappropriately uses the same standards as ESA Section 7’s prohibition against jeopardizing a species’ continued existence or adversely modifying its critical habitat.²²⁹ A federal agency’s legal obligations under NEPA and the ESA are entirely separate; compliance with the ESA Section 7 prohibition against jeopardizing a species’

²²¹ *Id.* § 1501.9 (e)(1)(ii)-(iii)

²²² *See, e.g.*, DPEA at 34 (“Starship/Super Heavy test and launch operations conducted during the program development and operational phases must be able to use, to the maximum extent practicable, existing infrastructure at one of SpaceX’s launch sites.”)

²²³ BA at 8.

²²⁴ Email from Chris Perez (Sept. 10, 2020 08:46 CST) (Attachment DD)

²²⁵ DPEA at 49.

²²⁶ *Id.* at 50.

²²⁷ DPEA at 110.

²²⁸ 40 CFR § 1501.3(b)(1) (emphasis added).

²²⁹ *See* 16 U.S.C. § 1536(a)(2).

continued existence does not simultaneously satisfy NEPA's requirements to analyze significant impacts short of the threat of extinction.²³⁰ As one court stated, "[c]learly, there can be a significant impact on a species even if its existence is not jeopardized."²³¹

Another example of an arbitrary limitation on significance is the DPEA's assertion that "[n]oise from the Proposed Action would not be expected to cause a significant impact because the noise events are infrequent and short-term and would not result in impacts at the population level."²³² First, significance should not be limited to population-level impacts, especially because CEQ's regulations for determining significance state that significance can in part be examined based on impacts to resources in a local area.²³³ Significance, therefore, should not be limited to population-level impacts. Moreover, setting aside the incorrect substance of the FAA's misguided conclusion that noise events would be infrequent and short-term, noise events that are infrequent and short term can nevertheless have significant impacts. As previously mentioned, research suggests that disturbed shorebird flocks often do not return to the same location after being disturbed, or otherwise return with a diminished flock size.²³⁴

The DPEA also fails to adequately address impacts to listed species and critical habitat. First, although the BA's (albeit, still inadequate) analysis contains more information about listed species than the DPEA, the FAA cannot rely on the consultation process to satisfy its obligations under NEPA. According to the DPEA, "[t]he FAA's BA includes the full impact analysis on ESA-listed species."²³⁵ However, an agency cannot substitute compliance with NEPA for compliance with the ESA.²³⁶ The FAA also avers that it is engaged in Section 7 consultation under the ESA "to address the potential effects to ESA-listed species."²³⁷ But, a mitigation plan developed to satisfy the ESA does not inherently satisfy NEPA.²³⁸

Regardless, both the BA and the DPEA fail to adequately assess the impacts of the project on listed species and critical habitat, largely relying on generalized assertions without supporting information or otherwise entirely ignoring certain issues. "[G]eneral statements about possible effects and some risk do not constitute a hard look absent a justification regarding why more definitive information could not be provided."²³⁹ For example, neither document appropriately accounts for the impacts that lighting will have on listed species, as evidenced by the fact that the site design is incomplete and the number of lights that will be used is yet to be finalized.²⁴⁰ As another example, the DPEA notes that lighting at the power plant would be minimized, but it does not explain what that would mean, such as which species might be impacted and just how bright the power plant would remain. The analyses also do not accurately account for disturbances. At times, the BA is dismissive of them,

²³⁰ See *Greater Yellowstone Coalition v. Flowers*, 359 F.3d 1257, 1275–76 (10th Cir. 2004) (recognizing FWS conclusion that action not likely to cause jeopardy does not necessarily mean impacts are insignificant).

²³¹ *Makua v. Rumsfeld*, 163 F. Supp. 2d 1202, 1218 (D. Haw. 2001) ("A FONSI . . . must be based on a review of the potential for significant impact, including impact short of extinction.).

²³² DPEA at 114.

²³³ 40 CFR § 1501.3(b)(1).

²³⁴ Threats Assessment at 269-270 (internal citations omitted) (Attachment Y).

²³⁵ DPEA at 116.

²³⁶ See *Portland Audubon Society v. Lujan*, 795 F. Supp. 1489, 1509 (D. Or. 1992) (rejecting agency's request for the court to "accept that its consultation with [FWS under the ESA] constitutes a substitute for compliance with NEPA.")

²³⁷ DPEA at 116.

²³⁸ *National Wildlife Federation v. Babbitt*, 128 F. Supp. 2d 1274, 1302 (E.D. Cal. 2000) (requiring EIS under NEPA even though mitigation plan satisfied ESA).

²³⁹ *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1213 (9th Cir. 1998).

²⁴⁰ BA at 9.

implying that disturbances caused by the massive SpaceX project are comparable to disturbances resulting from recreational beach-goers.²⁴¹ Moreover, even in places where the documents note that disturbances can cause displacement, they do not elaborate on what the effects of displacement would be. For instance, roughly how many members of the species might be displaced? Where would these species go? Is there sufficient foraging, nesting, and roosting habitat available to them if they do relocate? The BA and DPEA also do not fully consider how site closures will impact listed species. For instance, a Service employee raised the question of whether “closures prevent sea turtle personnel from being able to provide quick assistance for stranded turtles.”²⁴² In late 2020, for example, more than 20 green sea turtles in the area died, likely in large part from gill nets.²⁴³

Finally, the DPEA failed to adequately consider the impacts of certain foreseeable, major events. For instance, it barely discusses the impacts of anomalies. More than 10 anomalies have occurred, and the DPEA even briefly notes the possibility of monthly explosions, accompanied by debris, resulting from tank tests. The DPEA notes that anomaly-induced rutting can be regraded, but does not explain what the impact of rutting would be in the meantime, given that flats in the area serve as important foraging habitat to shorebirds. It also does not explain whether regrading habitat would sufficiently restore habitat in the area. The DPEA also makes brief mention of the fact that wildfires can result from explosion, stating that they would occur in “small areas adjacent to the launch mount and landing pad.”²⁴⁴ History has shown, however, that SpaceX’s wildfires can be anything but “small,” such as when 130 acres of refuge-managed land burned following an explosion in July 2019. Moreover, it is foreseeable that wildfires will not be limited to areas adjacent to the launch mount. Earlier this year, for instance, the debris field resulting from an explosion spanned for miles. While it is possible that some of these events and resulting impacts may be addressed in external documents and response plans, they are not addressed in the DPEA, and the FAA is therefore in violation NEPA.

Finally, the DPEA glosses over, or otherwise entirely overlooks, major Project components or elements that are parts of connected actions. For instance, it only briefly referenced the construction of an entire power plant, failing to specify information such as the timing and extent of noise, how much additional traffic would accompany the construction, and what species and habitats would be impacted. It also failed to address work by Mountain Valley Electric Cooperative to realign and upgrade a powerline from East Brownsville to the Boca Chica Beach area, intended to serve SpaceX.²⁴⁵ Powerlines increase the likelihood of bird strikes, and there will be added noise and lighting spurred by construction of the line. Moreover, it is our understanding that the Project will require the installation of a pipeline though LRGV NWR, but this is not addressed in the DPEA. Thus, the DPEA failed to adequately consider environmental impacts and cannot be relied upon to support a FONSI.

B. The DPEA Fails to Adequately Analyze Alternatives

Finally, the FAA failed to consider an adequate range of alternatives, instead limiting its analysis to an evaluation of the Project and of a “no action” alternative. CEQ regulations require that

²⁴¹ *Id.* at 66.

²⁴² Email from Chris Perez (Jan. 4, 2021) (Attachment EE).

²⁴³ Email from Mariana Devlin (Dec. 29, 2020 09:38 CST) (Attachment EE).

²⁴⁴ EA at 112.

²⁴⁵ <https://www.fws.gov/nwrs/threecolumn.aspx?id=6442470706>

environmental assessments include alternatives to a proposed action.²⁴⁶ SpaceX entirely dictated the terms of the alternatives analysis, or in this case, lack thereof. Specifically, it noted that in order to meet the purpose and need for the federal action, it must be able to use existing infrastructure at its own facilities.²⁴⁷ It then dismissed consideration of its existing launch facilities other than at Boca Chica for reasons that generally boil down to convenience, such as scheduling flexibility, ready access to propellants, and proximity to Starship/Super Heavy manufacturing and production facilities.²⁴⁸

“[T]he evaluation of ‘alternatives’ mandated by NEPA is to be an evaluation of alternative means to accomplish the *general* goal of an action; it is not an evaluation of the alternative means by which a particular applicant can reach his goals.”²⁴⁹ As the Seventh Circuit has asserted:

We have held that blindly adopting the applicant's goals is “a losing proposition” because it does not allow for the full consideration of alternatives required by NEPA. NEPA requires an agency to “exercise a degree of skepticism in dealing with self-serving statements from a prime beneficiary of the project” and to look at the general goal of the project rather than only those alternatives by which a particular applicant can reach its own specific goals.²⁵⁰

The FAA cannot and should not winnow down the scope of its alternatives analysis simply to accommodate what is most convenient for SpaceX. This is especially important because when SpaceX began operations at the Boca Chica site, it conveyed to regulators that it would only engage in launch activities, rather than more dangerous testing activities. As previously discussed, the Boca Chica launch site is in an extraordinarily ecologically sensitive area, and even Service personnel have suggested that “now that the area is a test site rather than a strategic launch location, their project should be moved to a far less environmentally sensitive area.”²⁵¹ The FAA should consider an alternative site location, regardless of what SpaceX demands.

Moreover, even if Boca Chica were the only viable site for the Project, that would not explain why the FAA only considered two alternatives, instead of considering various project configurations at the Boca Chica site that would decrease the significance of SpaceX’s environmental impacts. For instance, the FAA could have analyzed options that contemplated fewer launches per year, utilized less imposing construction, or caused fewer disturbances. Instead, the FAA chose to evaluate only two options, calling into question the legitimacy of the DPEA’s analysis.

Because the DPEA failed to adequately analyze the Project’s environmental impacts and an appropriate range of alternatives, the DPEA does not meet the requirement that it provide sufficient evidence and analysis for a FONSI. Thus, if the FAA chooses not to prepare an EIS despite the significance of the Project’s environmental impacts, the agency must at a minimum revise the DPEA to adequately address the Proposed Project’s environmental impacts and evaluate an appropriate range of alternatives.

²⁴⁶ 40 C.F.R. § 1501.5(c)(2).

²⁴⁷ DPEA at 34.

²⁴⁸ *Id.* at 35.

²⁴⁹ *Van Abbema v. Fornell*, 807 F.2d 633, 638 (7th Cir. 1986).

²⁵⁰ *Environmental Law & Policy Center v. U.S. Nuclear Regulatory Commission*, 470 F.3d 676, 683 (7th Cir. 2006).

²⁵¹ Email from Bryan Winton (Aug. 19, 2019 22:51 CST) (Attachment X – Fire Impacts)

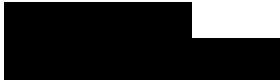
IV. Conclusion

The FAA must prepare an EIS to evaluate the environmental impacts of SpaceX's Proposed Project. The action will have significant impacts because it will have adverse effects on the surrounding area, on listed species, on critical habitat, and on other wildlife in the area. Even if the FAA decides that an EIS is not warranted, which would be an arbitrary and capricious decision, the FAA at a minimum must revise the DPEA because it fails to provide sufficient evidence and analysis for a FONSI. Thank you for your time, and we sincerely appreciate this opportunity to submit comments on the Proposed Project.

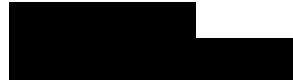
Sincerely,



Lindsay Dubin
Staff Attorney
Defenders of Wildlife



Sharon Wilcox, Ph.D.
Senior Texas Representative
Defenders of Wildlife



Attachment A

Final

**Lower Rio Grande Valley
and
Santa Ana
National Wildlife Refuges**

Comprehensive Conservation Plan

September 1997
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VISION

Few wild places in the Western Hemisphere exhibit such a diversity of flora, fauna and geomorphic conditions as the lower Rio Grande Valley in south Texas. Its remnant natural habitats thrive along side social and economic activities. This can be a great advantage over the next twenty years if conservation and development activities are well coordinated. Still, few wild places have the opportunity for recovery from the brink of extinction. The Lower Rio Grande Valley and Santa Ana National Wildlife Refuges include some of the last parcels of subtropical thorn forests in the U.S. and they represent the best chance for their protection and recovery. Ultimately, they will help form a functioning corridor to sustain the unique flora and fauna of the Texas/Mexico border.

The Lower Rio Grande Valley Refuge will someday be 132,500 acres of mostly contiguous tracts of natural brush, reforested farmlands and wetlands. The future is one of land acquisition, habitat restoration, wetland recovery, and compatible wildlife dependent recreation where the American public can enjoy this rare treasure. Santa Ana NWR will continue to be a national model by providing compatible high quality wildlife-dependent visitor opportunities. These opportunities will be well-balanced with effective monitoring and protection of wildlife and habitat values.

Wildlife abundance and high quality facilities will attract thousands of visitors annually. Partners will collaborate to provide an array of environmental programs and related activities. Local communities will enthusiastically identify and promote the area as a regional tourist destination that contributes to the economy and enhances the quality of life.

Executive Summary

The Interim Comprehensive Management Plan for the Lower Rio Grande Valley NWR will serve as a management tool to be used by the Refuge staff in the preservation and restoration of the ecosystem's natural resources. In that regard, the plan will guide management decisions over the next five to ten years and set forth strategies for achieving Refuge goals and objectives within that time frame.

The results of the planning process are perhaps best summarized by five major Refuge goals that are supported by a series of objectives and specific implementation strategies. Those goals include:

GOAL I: Protect Biological Diversity, Land and Waters

To restore, enhance and protect the natural diversity of the Lower Rio Grande Valley including threatened and endangered species on and off refuge lands, through

- Land acquisition;
- Management of habitat and wildlife resources on refuge lands;
- Strengthening existing and establishing new cooperative efforts.

GOAL II: Protect Water Rights, Water Management and the Management of Wetlands

To protect existing water rights holdings, improve the efficiency of water delivery systems, protect, enhance, and rehabilitate refuge wetlands.

GOAL III: Protect and Improve Water Quality

Improve refuge water quality and reduce contaminant related fish and wildlife resource losses.

GOAL IV: Protect Cultural Resources

To protect, maintain, and plan for Service managed cultural resources on the Lower Rio Grande Valley NWR for the benefit of present and future generations.

GOAL V: Provide compatible wildlife dependent public uses, recreational opportunities, interpretation and education.

- Continue to offer a quality wildlife observational trail system on Santa Ana NWR
- Offer compatible wildlife dependent public access on certain tracts of the LRGV NWR
- Continue wildlife interpretation and educational efforts at Santa Ana NWR and initiate interpretive efforts for LRGV NWR in coordination with private groups and other jurisdictions.

1.0 Introduction and Regional Setting

This interim Comprehensive Management Plan (CMP) focuses primarily on the Lower Rio Grande Valley (LRGV) National Wildlife Refuge Complex (Refuge Complex). The Complex is comprised of the Lower Rio Grande Valley National Wildlife Refuge and the Santa Ana National Wildlife Refuge. The Refuge complex falls within the larger Lower Rio Grande Ecosystem and specifically the Tamaulipan Province's Matamorán District. For purposes of this plan, it is this smaller area that is considered to be the Area of Ecological Concern.¹

This plan is considered as an interim plan to cover a period of 5 to 10 years as opposed to the usual 20 year period for most CMP efforts. Long term efforts are continued to be focused on acquisition of lands to complete the original Land Protection Plan developed in 1980. It is anticipated that by the time the 5 to 10 years planning horizon is reached, enough land will have been acquired to warrant a longer term management plan looking beyond the year 2020.

1.1 LRGV Challenges

The Lower Rio Grande Valley (LRGV) is not actually a "valley", but a delta gently sloping away from the Rio Grande.² In the LRGV, Tamaulipan brush land, characterized by dense thorn scrub, is considered a unique ecosystem found nowhere else in the United States.³ The combination of climate, geology, vegetation, and wildlife creates tremendous biological diversity. Many organisms found in the LRGV occur nowhere else in Texas or the United States. Two major flyways, the Mississippi and the Central, come together north of the LRGV funneling millions of birds each spring and autumn to this stopover pinched between the Gulf Coast and the desert to the west. This area supports an abundance of Neotropical migratory songbirds, mammals, snakes, lizards and salamanders and contains many rare and unique plant and animal species, many of which reach the northernmost limits of their distribution in the LRGV. Approximately 18 Federally listed threatened and endangered species are found in the LRGV. In addition several plant species are being proposed for listing as endangered species.

Since the 1920's, it is estimated that approximately 95% of the original native brush land in the LRGV has been cleared or altered for agriculture and urban development. It has been estimated that more than 99% of the riparian vegetation on the U.S. side of the

¹ An Area of Ecological Concern can be defined as: "An essentially complete ecosystem (or set of interrelated ecosystems) of which one part cannot be discussed without considering the remainder." [*Malheur National Wildlife Refuge Master Plan and Environmental Assessment*, 1985, p.7] For purposes of this plan the Matamorán District of the Tamaulipan Biotic Province is considered the Area of Ecological Concern. This AEC is administratively and ecologically part of the larger Lower Rio Grande Valley Ecosystem, a Service designation based upon watersheds.

² Jahrsdoerfer, S.E. and D. M. Leslie, Jr. 1988. Tamaulipan brush land of the Lower Rio Grande Valley of South Texas: description, human impacts, and management options. Biological Report 88(36). U.S. Department of the Interior, Fish and Wildlife Service. 63 pp.

³ Collins, K. 1984. Status and management of native south Texas brush lands. U.S. Fish Wildl. Serv., Ecol. Serv., Corpus Christi, TX. 18 pp.

Rio Grande has been cleared. Losses to fish and wildlife resources in the LRGV have resulted from agriculture related practices such as brush clearing, extensive pesticide/herbicide use, and irrigation system development. Construction of Falcon Dam, Retamal Dam, and Anzalduas Dam for flood control, irrigation, and municipal uses, has eliminated regular periodic flooding of the delta woodlands and wetlands and encouraged clearing of native brush for agriculture. In addition, urban and industrial developments have contributed to the loss of native brush land and wetland degradation and elimination, and are likely to continue as the population of the LRGV increases and major industrial development occurs as a result of the passage of the North American Free Trade Agreement (NAFTA).

In 1979, the Service initiated a long-term program of acquiring LRGV lands for inclusion in the National Wildlife Refuge System. This land protection plan was designed to protect the remnants of existing native habitat to form a riparian corridor for plants and wildlife. Additionally, the project called for the reclamation of acquired agricultural lands in order to reestablish native habitats for the benefit of the native plant and wildlife resources throughout the Area of Ecological Concern. Land acquisition continues to be the emphasis for the LRGV land protection program. Of the 132,500 acres proposed for acquisition, approximately 66,000 acres are currently under management by the LRGV National Wildlife Refuge. However, the need for a longer term plan focused on resource management has become an essential and ever increasing requirement for the enhancement and continued protection of fish and wildlife resources. It is important that Service lands be managed for the benefit of the continuum of ecological processes and not just individual geographic entities.

2.0 Planning Perspectives and Considerations

2.1 National Wildlife Refuge System

The Service is the principal agency responsible for conserving, protecting, and enhancing fish and wildlife and their habitats. The Service manages a diverse network of more than 500 National Wildlife Refuges, a System which encompasses 92 million acres of lands and waters. National Wildlife Refuges are set-up for specific purposes and provide habitat for thousands of species of birds, mammals, fish, and insects. Other refuges within the area include Aransas NWR near Corpus Christi, Texas and Laguna Atascosa NWR near Harlingen, Texas.

2.2 The Service & Ecosystem Management

While this plan focuses primarily on Service lands within the Area of Ecological Concern, there is a larger defined area following the Rio Grande from El Paso to the Gulf of Mexico. It is one of 52 ecosystems within the United States designated by the Service based primarily upon watershed designations. The Lower Rio Grande Watershed from El Paso to the Gulf of Mexico is now considered to contain several

biomes endemic to the desert, riparian nature of the Rio Grande. The Lower Rio Grande Ecosystem is very long and encompasses a series of biotic provinces including: the Chihuahuan, Balconian, and Tamaulipan biotic provinces.

Based upon a broad set of issues present throughout the entire defined Ecosystem, the Service has developed some broad goals. These Ecosystem goals include: (1) Stewardship to protect and enhance biological diversity and the environment by developing and implementing a Lower Rio Grande Ecosystem Plan; (2) Improve and protect air quality and the quantity and quality of water in the Lower Rio Grande Ecosystem; (3) Conserve bay and estuarine habitat within the Lower Rio Grande Ecosystem; and, (4) Promote public outreach and information dissemination.

2.3 Refuge Complex and Management Districts

The Lower Rio Grande Valley Refuge Complex includes the Santa Ana NWR (2,088 acres) and lands purchased or acquired as conservation easements, and then incorporated into the Lower Rio Grande Valley NWR (64,149 acres). As the project boundary extends approximately 275 river miles from the Gulf west to Falcon Dam on the Rio Grande, it is essential to understand management operations in smaller regional components wherein the more than 100 refuge tracts lie. The refuge complex is divided into the following components or districts: Starr County District, South Hidalgo County District, North Hidalgo-Willacy District, and Cameron County Districts.

2.4 Laguna Atascosa NWR -- A Partner with LRGV NWR

Laguna Atascosa NWR is the third federal refuge in the immediate area and comprises some 45,000 acres in the coastal section of Cameron County. Some LRGV NWR tracts are now located within a few hundred yards of Laguna as parts of planned habitat corridors connecting Laguna to the Rio Grande. Laguna and LRGV complex personnel cooperate in wildlife research and surveys, habitat restoration, exchange of equipment, water management, fire control and law enforcement.

2.5 Planning Perspectives

This interim management planning effort will integrate four perspectives so that the management direction over the next 10 years will produce holistic management approaches for the refuge lands, and to the degree cooperative ventures permit, the LRGV Area of Ecological Concern.

(1) A natural resource sustainability perspective for the Area of Ecological Concern that relates the Service's commitment to fish and wildlife conservation through protecting and restoring biome and ecosystem functions, structure, and species composition while still providing for sustainable socioeconomic use;

(2) A broad perspective for LRGV Area of Ecological Concern issues; (i.e., contaminants, revegetation, endangered species and biological diversity, recreational use, water quality, inter-jurisdictional cooperation, socioeconomic considerations, etc.);

(3) A more focused perspective for national wildlife refuge related policy issues which affect the Lower Rio Grande Valley NWR Complex programs; (water rights, compatibility, endangered species management, etc.) and,

(4) A focused perspective for refuge-specific habitat and wildlife management activities and strategies affecting Management Districts.

An understanding of these four perspectives and the relationship between them lead to the formulation of an integral set of refuge goals, objectives, and management actions/strategies for the next 5 to 10 years.

2.6 The Issues

The following is a list of the general issues that confront the Lower Rio Grande Valley NWR Complex programs. Goals and objectives have been designed to effect habitat restoration and protection of existing habitat for the benefit of a diversity of wildlife including endangered species.

1. Biological Diversity, Wildlife, and Habitat Management
 - Land Acquisition
 - Scientific Data
 - Endangered Species Management
 - Revegetation and Habitat Management
 - Fire management
 - Law enforcement
 - Cultural resources
2. Water Rights and Management of Wetlands
3. Water Quality, Contaminants
4. Cultural Resources
5. Public Use, Recreation, and Wildlife Interpretation & Education

2.7 The Need for Action

The Service's Refuge Manual states that the purpose of comprehensive management planning is to "provide long range guidance for the management of national wildlife refuges." [4 RM 1.1, Planning] Because (1) the refuge consists of many separate tracts of land dispersed throughout a four county area, (2) other agencies and entities are involved in land and natural resource management in the same area, (3) the multitude of management needs arising as additional lands are acquired, and (4) the increasing urban, international, and economic development pressures, it has become necessary to coordinate major natural resource decisions. This results in an ecosystem management

approach rather than decision-making that would benefit only one particular resource over another. Planning provides a road map to facilitate the kind of coordination that is necessary to enhance the efficiency of implementing management actions designed to benefit the LRGV NWR, Santa Ana NWR, and the Area of Ecological Concern. The Service's approach will be to offer management goals, objectives, strategies/management actions that are consistent with ecologically desirable outcomes for the entire Lower Rio Grande Ecosystem.

2.8 Expected Planning Outcomes

The following objectives were designed to be consistent with the Service Manual's comprehensive management planning objectives. The planning effort should bring about the following outcomes:

- (1) The planning effort will ensure that legal mandates and national direction are incorporated in the management of the Lower Rio Grande Valley Refuge Complex;
- (2) The planning effort should determine the capability of the Refuge Complex to further Service and Refuge System goals, objectives, and long-range plans and to provide a means of evaluating accomplishments;
- (3) The planning effort should provide a systematic process for making and documenting refuge decisions.
- (4) The planning effort should establish broad management strategies that are to the degree possible, consistent with the ecosystem perspective for the Lower Rio Grande Valley, and should guide the refuge management programs and activities consistent with an ecosystem perspective;
- (5) The planning effort should provide continuity in the management of the Refuge Complex;
- (6) The planning effort should provide a practical basis for budgeting requests to implement management programs leading to the achievement of refuge objectives; and,
- (7) The planning effort should achieve an optimum level of public acceptance and/or support for the management strategies adopted through effective involvement in the planning process.

2.9 Public Involvement

A total of six public meetings were held to discuss issues and gather input. The meetings were held beginning July 11, 12, and 13, 1995, in Brownsville, Weslaco, and Rio Grande City, Texas. Additional meetings were held on February 27, 28, and 29, 1996, in Brownsville, Weslaco, and Roma, Texas respectively. Comments were recorded during these meetings. Additionally, written comments were accepted by the Service throughout the planning process and will continue to be received.

Additionally, since the inception of the Service's land protection, (acquisition and management) efforts, the Service has been active in reaching out to the public in general as well as to various conservation groups in an effort to establish a level of public acceptance and education concerning the overall Rio Grande Corridor project and the Service's contributions to that effort. As this plan will be updated periodically, the Service will continue to solicit public input and recommendations regarding program management and efforts.

3.0 Ecosystem and Refuge Resource Description

The Rio Grande originates in the Rocky Mountains of southwestern Colorado and travels approximately 1,885 miles through portions of Colorado, New Mexico, and Texas before emptying into the Gulf of Mexico below Brownsville, Texas and Matamoros, Mexico. In Texas, the Rio Grande forms the international boundary between the United States and Mexico for approximately 1,254 miles. The last two hundred miles of the Rio Grande, located between Falcon Dam and the Gulf of Mexico, form the southern boundary of the Refuge Complex. It is the only river entering the Gulf of Mexico west of the Mississippi that is large enough to have developed a delta of classic proportions. The delta begins approximately 85 miles above the mouth of the river, and fans out symmetrically to include approximately 100 miles of the Gulf Coast. It disrupts the western Gulf pattern of offshore bar islands and coastal lagoons, separating the Laguna Madre of southern Texas from the Laguna Madre of northern Tamaulipas. The delta tributaries and their flood plains are mainly in Cameron, Willacy, and Hidalgo Counties of Texas, and in the municipalities of Matamoros, Valle Hermoso, Rio Bravo, and Reynosa Tamaulipas.

During the present century, most of the area has been cleared of vegetation and leveled for use in irrigation agriculture. The flow of the river has been greatly reduced by pumping for irrigation and by construction of upstream dams and reservoirs on the Rio Grande and its major tributaries. Prior to these changes the river often flooded large areas of the delta depositing new layers of silt. It was the fertile delta soil, aided by these periodic silt-bearing overflows that made possible the heavy growth of jungle; but because of the limited rainfall between floods, and occasional prolonged drought, only plants adapted to semidry conditions could survive.

3.1 LRGV Area of Ecological Concern General Description

For management reasons, the Lower Rio Grande Valley Area of Ecological Concern boundaries follow those defined as the Matamoran District of the Tamaulipan Biotic Province of southern Texas and northeastern Mexico as described by Blair. The Matamoran District includes Cameron, Hidalgo, Starr, and Willacy Counties of extreme south Texas, commonly referred to as the Lower Rio Grande Valley of Texas. In adjacent portions of Tamaulipas, the *Municipios* of Matamoros, San Fernando, Valle Hermoso, Río Bravo, Reynosa, Díaz Ordaz, Camargo, Miguel Alemán, Mier and Guerrero also pertain to this ecological district. Blair describes the Matamoran District as follows:

*The southern part of the province in Texas is poorly drained...The brushlands of the Lower Rio Grande Valley, in Cameron, Willacy, Hidalgo, and Starr Counties, are more luxuriant than the brushlands farther south, and they are characterized by the predominance of several species of plants that decrease in abundance northward. The most important of these species include: Retama (Parkinsonia aculeata), Texas ebony (Siderocarpus flexicaulis), wild olive (Cordia boissieri), and knackaway (Ehretia elliptica). The most luxuriant brush occurs on the immediate flood- plain of the lower Rio Grande. Large elms (Ulmus crassifolia) dominate the flood-plain in some places, and there is usually an alternation of elm dominants and brush species.*⁴

In addition to the management of natural resources on Service lands in this area of ecological concern, natural resource management is carried out by the Texas Parks and Wildlife Department, local governments, Frontera Audubon Society, National Audubon Society, The Nature Conservancy and private land owners. These landowners work in partnership with state and federal programs and play important roles, through conservation easements and in the enhancement and protection of wetland resources. Other organizations that are involved in preservation of Tamaulipan brushland include the Valley Nature Center, Valley Land Fund, The Texas Organization of Endangered Species, Native Plant Project, Lone Star Chapter of the Sierra Club, and others.

3.2. Biotic Communities Designations for Land Acquisition

The Service has adopted a biotic community approach to land acquisition within the LRGV area of ecological concern. This community-based acquisition plan establishes goals only for the Lower Rio Grande Valley NWR Complex. However, it is also intended to help coordinate land protection and management efforts between the Service and the other Federal, State, Mexican and private partners in the Wildlife Corridor project.

⁴ Blair, W.F. 1950. The biotic provinces of Texas. Tex. J.Sci. 2(1):930117. (LD).

Eleven communities, as summarized below, have been prioritized for land acquisition. These community boundaries are based on historical information, soil types, hydrology, and existing natural vegetation, but not on administrative concerns, political jurisdictions or land ownership. Section 3.2.1 provides a more detailed description of the major plant communities within the area of ecological concern. It is emphasized that ecological communities are not themselves discrete entities, but concepts defined by biologists to describe natural associations of organisms within their physical environment. These definitions vary, depending on the point of view of the observer. Consequently, there are both similarities and differences between these communities that have been designated for land acquisition purposes, and other published ecological descriptions of this region.

Summary of Land Acquisition Biotic Community Designations for the LRGV Area of Ecological Concern.

1. **Clay Loma/Wind Tidal Flats.** A matrix of clay dunes interspersed within the saline flats, marshes and shallow bays bordering the Gulf of Mexico. Typical plants are sea ox-eye (*Borrchia frutescens*), saltwort (*Batis maritima*) and glasswort (*Salicornia sp.*) on the vegetated portions of the flats, and gulf cordgrass (*Spartina spartinae*), Berlandier's fiddlewood (*Citharexylum berlandieri*), Texas ebony (*Pithecellobium ebano*) and yucca (*Yucca treculeana*) on the higher lomas.
2. **Coastal Brushland Potholes.** An area of dense brushy woodland surrounding freshwater ponds and shifting to low brush and grasslands around brackish ponds and saline estuaries nearer the Gulf of Mexico. Areas of both active and stable sand dunes are found here. Typical plants are honey mesquite (*Prosopis glandulosa*), granjeno (*Celtis pallida*), barbed-wire cactus (*Acanthocereus pentagonus*) and gulf cordgrass. These wetlands receive heavy use by migratory waterfowl.
3. **Sabal Palm Forest.** A very diverse riparian forest located along the Rio Grande in the Texas southmost area (south and east of Brownsville). The forest is dominated by Texas sabal palm (*Sabal texana*) with Texas ebony, tepeguaje (*Leucaena pulverulenta*), David's milkberry (*Chiococca alba*), anacua (*Ehretia anacua*), brasil (*Condalia hookeri*) and granjeno among many other important plants. The original palm forest has been reduced to less than 50 acres from an estimated original total of 40,000 acres or more. Several tropical plant and animal species occur here.
4. **Mid-Valley Riparian Woodland.** This community is essentially a tall, dense, canopied bottomland hardwood forest comprised mainly of Rio Grande ash (*Fraxinus berlandieriana*), sugar hackberry (*Celtis laevigata*), black willow (*Salix nigra*), cedar elm (*Ulmus crassifolia*), Texas ebony and anacua. This habitat is particularly favored by chachalacas and green jays.
5. **Mid-Delta Thorn Forest.** This plant community which once covered much of the Rio Grande delta has been reduced to a few tracts of less than 100 acres and remnant strips along fence rows, canals and ditch banks. Honey mesquite, Texas ebony, coma (*Bumelia celastrina*), anacua, granjeno, colima (*Zanthoxylum fagara*) and many other shrubs and small trees form a dense thicket which provides excellent wildlife habitat. This is a favored site for white-winged dove nesting colonies.
6. **Woodland Potholes and Basins.** Lighter soils and numerous small seasonal fresh water wetlands and playa lakes characterize this region. Also here are the unique large hypersaline lakes of La Sal Vieja, La Sal Blanca and La Sal del Rey

which host thousands of migrating shorebirds as well as nesting terns and black skimmers (*Rynchops niger*). All the wetlands are set in low woodlands of honey mesquite, granjeno, prickly pear (*Opuntia lindheimeri*), lotebush (*Ziziphus obtusifolia*), elbow bush (*Forestiera angustifolia*) and brasil. Ocelots are found here in the denser thickets.

7. **Upland Thorn scrub.** This is the most widespread habitat type in the Tamaulipan Biotic Province and occurs on higher and dryer sites to the north and west of the Rio Grande Delta. Typical woody plants are anacahuita (*Cordia boissieri*), cenizo (*Leucophyllum frutescens*) and palo verde (*Cercidium texanum*).
8. **Barretal.** Barreta (*Helietta parvifolia*) is a small tree related to citrus which occurs in the U. S. only on gravelly caliche hilltops along the Bordas Escarpment. Other plants typical of this unique ecotone are palo verde, guajillo (*Acacia berlandieri*), blackbrush (*Acacia rigidula*), anacahuita, yucca and many species of cacti.
9. **Upper Valley Flood Forest.** The floodplain becomes narrower and narrower above Mission, Texas with river bank stands of Rio Grande ash, cedar elm, sugar hackberry and black willow often shifting to honey mesquite, prickly pear and granjeno within a short distance from the river. This area is excellent habitat for many species of USFWS management concern.
10. **Ramaderos.** Arroyos and smaller drainages extend for miles away from the river through arid lands. These areas with higher moisture and deeper soils are corridors of much more mesic vegetation which serve wildlife as travel lanes and as refuges of food and cover particularly during times of drought.
11. **Chihuahuan Thorn Forest.** This area below Falcon Dam includes a very narrow riparian zone and a desert shrub community on the uplands. Several endangered or rare plants occur in this area such as Montezuma baldcypress (*Taxodium mucronatum*) and Johnston's Frankenia (*Frankenia johnstonii*). Several uncommon birds such as the brown jay (*Cyanocorax morio*), ringed kingfisher (*Ceryle torquata*) and red-billed pigeon (*Columba flavirostris*) are most often seen here.

3.2.1 Description of Vegetation in the Area of Ecological Concern.

The nature and extent of vegetation types prior to Spanish colonization is subject to speculation, especially regarding the brushland-grassland ecotone. In many regions of North America, Native Americans altered landscapes through prescribed burning; frequent fire favors grasses over woody plants. Salinas⁵ compiled numerous

⁵ Salinas, M. 1990. Indians of the Rio Grande Delta: Their Role in the History of Southern Texas

references from Spanish archives regarding the region's Native American populations. These possibly disparate peoples are sometimes generically referred to as the Coahuiltecan and the Karankawas.⁶ Their small, roving bands of hunter-gatherers apparently did use fire to herd or entrap game. Unfortunately, the Coahuiltecan cultures and languages were quickly eradicated, so it is difficult to determine what impacts they had on vegetation. Cabeza de Vaca was certainly the first European to traverse south Texas, but it is impossible to determine exactly where he turned inland from the Gulf coast.⁷ The first scientific observations of this region were recorded by Berlandier in 1828, nearly 80 years after Escandon's settlements were established.⁸ Inglis investigated historical accounts of travelers through south Texas, which yield many valuable insights.⁹ Clover's *Vegetational Survey of the Lower Rio Grande Valley, Texas* provided a plausible scenario for the pre-settlement vegetation of the region.¹⁰ Johnston's *Past and Present Grasslands of Southern Texas and Northeastern Mexico* continues to be the definitive work on the composition and location of prairie and savanna plant communities in this region.¹¹ In addition to historical evidence, existing scattered remnants of relatively undisturbed habitat help us understand how the vegetation of the delta must have appeared before European colonization.

Based on these sources, we can infer a reasonably accurate general description of the major vegetation types of the area of ecological concern at the time of European colonization. Along the coastal corridor, as well as specific inland sites, vegetation types are strongly correlated to soil salinity gradients. The prevailing southeasterly wind and tidal surges bring salts several miles inland. Salinity collects in low-lying mud flats devoid of vegetation, bordered by saline marshes of halophytic succulents, like *Suaeda*, *Borrchia* and *Salicornia*, and thickets of dwarfed black mangrove (*Avicennia*

and Northeastern Mexico. University of Texas Press, Austin, Tx. 193 pp.

⁶ Newcomb, Jr., W. 1993. *The Indians of Texas: From Prehistoric to Modern Times*. University of Texas Press, Austin, Tx. 404 pp.

⁷ Cabeza de Vaca, A. 1542. *La Relacion y Comentarios del Goubeernador Aluar Nunez Cabeza de Vaca de lo Acaescido en las Dos Jornadas que Hizo a las Indias*. Translated and edited by Cyclone Covey, in *Adventures in the Unknown Interior of America*. University of New Mexico Press. Albuquerque, NM. 160 pp.

⁸ Berlandier, L. 1857. *Espedicion Cientifica del General Teran a Tejas*. Boletin de las Sociedad Mexicana de Geografia y Estadistica 5:125-133.

⁹ Inglis, J. 1961. *A History of Vegetation of the Rio Grande Plain*. Texas Parks and Wildlife Department, Austin, Tx. 122 pp.

¹⁰ Clover, E.U. 1937. *Vegetational Survey of the Lower Rio Grande Valley, Texas*. Madrono 4(2) 41-66 and 4 (3) 77-100.

¹¹ Johnston, M.C. 1963. *Past and Present Grasslands of Southern Texas and Northeastern Mexico*. Ecology 44(3), 456-466.

germinans). Extensive *sacahuistales* (cord-grass prairies) occupy zones of intermediate salinity. These halophytic communities are interspersed with *Lomas* (dunes of wind-blown clay). Rainwater leaches the high salinity levels from the *Lomas*, creating a shallow, perched rooting zone that supports a high diversity of native grasses, cacti and a very dense, low shrub community. The *Loma* vegetation is essentially the same as coastal brushland, which forms at the margins of saline zones. The plant species composition of the *Lomas* and coastal brushland is similar to the brushlands found further inland. However, the higher rainfall along the coast, and the perched rooting zone, result in an extremely dense but low vegetation structure. Tewes, Laacke and others have shown that ocelots prefer this habitat type in south Texas¹². Plant species that are found exclusively in or near the *Loma*/Coastal Brushland community include Berlandier's Fiddlewood, Coral Bean (*Erythrina herbacea*), Thyrsus Dalea (*Dalea scandens*), the rare *Lila de los Llanos* (*Echeandiachandleri*) and the endemic grass Padre Island Dropseed (*Sporobolus tharpai*).

Silt deposited by the Rio Grande has built up higher ground in the vicinity of its channel. This has formed a slight ridge of high ground which is not flooded by seawater during hurricanes, which extends the potential range of the riparian forest to within about 10 miles upstream from Boca Chica. Although this peninsula of arable land has been cleared for cultivation, Berlandier observed mesquite and prickly pear groves there in 1829. The Sabal Palm Forest of the South most area, south and east of Brownsville, has many affinities with the vegetation of Soto la Marina, Tamaulipas, and corresponds to the description by Miranda and Hernández X of the *Selva Baja Espinosa Subperennifolia* (Low Semi-Deciduous Tropical Thorn-Forest) community.¹³ The Sabal Palm Forest is an adaptation of the riparian forest to the relatively humid, moderate climate near the Gulf coast. Texas sabal palm also occurs naturally at low densities in the riparian forest as far upstream as Mier, Tamaulipas. The Audubon Sabal Palm Sanctuary protects a 40-acre remnant of this riparian forest, within which also thrive such notable plant species as David's Milkberry, Runyon's Water-Willow (*Justicia runyonii*), Vasey's Adelia (*Adelia vaseyi*), Brush Holly (*Xylosma flexuosa*), Twining Tournefortia (*Tournefortia volubilis*) and Crucillo (*Randia rhagocarpa*).

According to Berlandier, the riparian forest reached its greatest development on the floodplain between Matamoros and Reynosa, and was more extensive on the north side of the river. Above Reynosa, the riparian forest gradually narrowed between ridges of higher ground; above Peñitas, it was dominated by honey mesquite and prickly pear. Fleetwood described the modern riparian forest vegetation at Santa Ana NWR.¹⁴ Within

¹² U.S. Fish and Wildlife Service. 1990. Listed Cats of Texas and Arizona Recovery Plan (With Emphasis on the Ocelot). Endangered Species Office, Albuquerque, NM.

¹³ Martinez y Ojeda, E., and F. Gonzalez M. 1977. *Vegetacion del Sudeste de Tamaulipas*, Texico. Biotica 2(2): 1-45; and Miranda, F. And E. Harnandez X. 1963 *Los Tipos de Vegetacion de Mexico y su Clasificacion*. Bol. Soc. Bot. Mexico 28:29-179.

¹⁴ Fleetwood, R. 1973. Plants of Santa Ana National Wildlife Refuge, Hidalgo County, Texas. U.S.

the riparian forest, the low moist soil near water supports stands of Rio Grande ash and sugar hackberry reaching 15 to 20 m in height. This community is also referred to as flood forest, in areas where temporary shallow flooding occurs; Montezuma baldcypress and Mexican buttonbush (*Cephalanthus salicifolius*), both rare peripheral species, occur here at the water's edge. Slight ridges within the riparian forest are dominated by cedar elm, Texas ebony, anacua, brasil, Texas persimmon (*Diospyros texana*), coma and jaboncillo (*Sapindus saponaria*), often draped with Spanish moss and ball moss (*Tillandsia usneoides* and *T. recurvata*). Here one may find Bailey's ball moss (*T. baileyi*), a rare epiphytic bromeliad, clinging to rough-barked limbs of Texas ebony and cedar elm trees. Runyon's water-willow, another rare species, and tepozán (*Buddleja sessiliflora*), may occur under canopy gaps. Although the shrub layer is conspicuously sparse, hachinal (*Heimia salicifolia*), chilipiquín (*Capsicum annuum*), eupatorium (*Eupatorium odoratum*, *E. incarnatum* and *E. azureum*), manzanita (*Malpighia glabra*), southern dewberry (*Rubus trivialis*) and *Wissadula amplissima* are adapted to the dense shade of the riparian forest; Turk's cap (*Malvaviscus arboreus*) is restricted mainly to Cameron County. An abundant ground cover of such herbaceous plants as pigeon-berry (*Rivina humilis*), bunch cut-grass (*Leersia monandra*), garlic guinea-hen bush (*Petiveria alliaceae*), Texas nightshade (*Solanum triquetrum*), amantillo (*Abutilon trisulcatum*), malva loca (*Malvastrum americanum*), and Runyon's ruellia (*Ruellia runyonii*) thrives in this moist, protected community. Here also the lianas flourish, represented by Texas virgin's bower (*Clematis drummondii*), snail-seed (*Cocculus diversifolia*), vine mimosa (*Mimosa malacophylla*), pepper-vine (*Ampelopsis arborea*), ivy treebine (*Cissus incisa*), *Serjania brachycarpa*, Mexican urvillea (*Urvillea ulmacea*), balloon-vine (*Cardiospermum halicacabum*) and alamo vine (*Ipomoea sinuata*) among others.

As elsewhere in the delta, minor changes in elevation cause noticeable differences in vegetation. Before the delta was cleared and leveled for agriculture, and before flood control dams and levees were built, the Rio Grande regularly flooded once or twice a year. Numerous distributaries, such as the Arroyo Colorado, Resaca del Rancho Viejo and Arroyo del Tigre, flowed out to the Gulf of Mexico during high water. Old river channels or oxbow sloughs, known locally as *resacas* or *esteros*, also filled during flood stages, becoming stagnant, slowly drying pools and mud flats during dry periods. The word "*resaca*" itself, which in Spanish does not refer to rivers, may have resulted from the anglicization of *río seco* (dry river), according to Elivaldo Sandoval, Sr. (personal communication). This vast network of channels allowed floodwaters to spread out over the entire delta, creating extensive wetland habitat for ducks, herons and other waterfowl, and amphibians such as the Rio Grande lesser siren and the black-spotted newt. Where strong currents did not periodically scour out the channels, *tulares* - marshes of cattails and reeds - provided nesting habitat for birds such as rails, soras and bitterns. Woody species such as black willow and coyote willow (*Salix exigua*),

Jara (*Baccharis neglecta* and *B. salicifolia*), rattlebox (*Sesbania drummondii*), retama, huisache (*Acacia farnesiana*), tepeguaje, black mimosa (*Mimosa pigra*) and occasionally, Montezuma baldcypress encroached on those wetlands which were only occasionally flooded.

"Islands" and ridges of higher ground within the flood plain, as well as the higher river terraces in other parts of the delta, support the *mesquital-chaparral* and *chaparral* formations described by Clover. The Mid-Delta Thorn-Forest community correspond to Clover's *mesquital-chaparral*. In strict ecological terms, the word *chaparral* applies to communities of dwarfed oaks¹⁰, which do not occur here; the Spanish word *matorral* is more accurate. The *mesquital-matorral* (mesquite-brushland) has a more or less discontinuous canopy dominated by honey mesquite, intermingled with a complex brush understory. Co-dominants may include sugar hackberry, anacahuita, coma, anacua, Wright's acacia (*Acacia wrightii*), tenaza (*Pithecellobium pallens*) and Texas ebony. The characteristic brush species include granjeno, lotebush, elbow bush, prickly pear, Berlandier's wolfberry (*Lycium berlandieri*), *Eupatorium* spp., Texas persimmon, whitebrush (*Aloysia gratissima*), southwestern bernardia (*Bernardia myricaefolia*), Texas lantana (*Lantana horrida*), *Croton* spp., tasajillo (*Opuntia leptocaulis*), guayacán (*Guaiaecum angustifolium*), chilipiquín, colima, coyotillo (*Karwinskia humboldtiana*), chapotillo (*Amyris texana*), brasil, snake-eyes (*Phaulothamnus spinescens*), and manzanita. Other species restricted to the more humid, eastern part of the delta include mescal bean (*Sophora secundiflora*), devil's claw (*Pisonia aculeata*), *Capparis incana*, brush holly, salvadora (*Solanum erianthum*) and barbed-wire cactus. Locally rare or peripheral species, such as Vasey's Adelia, crucillo, and Sierra Madre torchwood (*Amyris madrensis*) occur as isolated remnant populations. Only 15 Limoncillo trees (*Esenbeckia runyonii*) still occur in Texas, along the banks of the Resaca del Rancho Viejo. *Ayenia limitaris*, a Federally-listed endangered species, is represented by a single population of 28 individual plants in eastern Hidalgo County.

Today, remnants of the mesquite-brushland community extend far to the north, gradually replaced by low brush on drier or sloping land. No one can be exactly sure how the land appeared before cattle were brought to the delta. In Clover's analysis, the floodplain between the river and the Mission Ridge was always dominated by dense brushland and riparian forest; as one traveled north of the Mission Ridge into the drier, sandier soils of northern Hidalgo county, the *mesquital-chaparral* gradually thinned to *mesquital-nopalera* (mesquite-prickly pear), *mesquital-zacatal* (mesquite prairie or savanna) and finally the *zacatal* or prairie of the "Wild Horse Desert". Johnston's study of remnant grasslands attributes the replacement of prairie by mesquite-dominated woodlands to control of wildfires, which would otherwise have limited colonization and growth of mesquite. Johnston also provides evidence that these prairies were never completely free of mesquite, but that frequent fires maintained mesquite plants in a stunted form. Archer, et. al. gave another compelling explanation for the spread of mesquite-dominated woodlands into grasslands:¹⁵

¹⁵ Archer, S., C. Scifres, C. Bassham and R. Maggio. 1988. Autogenic Succession in a Subtropical

“With the introduction of cattle, sheep and horses, all effective vectors of mesquite seed dispersal, Prosopis abundance and stature would subsequently have increased in upland grasslands. Livestock appear to be an especially effective vector of Prosopis seed dispersal in that they transport large numbers of seeds away from parent trees where host-specific seed and seedling predators may exist, scarify them and deposit them in a nutrient-rich media (dung) in areas where herbaceous interference and the probability of fire have been reduced by grazing. As mesquite developed on grazed sites, the structural complexity of the single-stratum grasslands would have increased, attracting avifauna that frequent wooded habitats. Mesquite saplings and trees in grasslands may have then become recruitment foci for the bird-disseminated seeds of woody plants occupying other habitats.”

It seems very likely that the combined forces of cattle and fire suppression have helped extend the range of the mesquite-brushland northward into areas once dominated by grasses and herbaceous plants. Between the prairie and the dense brushland of the floodplain, there must have been a transition zone of savanna, in which brush mottes were interspersed in grassland. The woody plants would have occupied moist spots where there was some protection from hot fires. Lonard lists 131 species of native grasses, including eight endemic species, and 52 species of exotic grasses in the lower Rio Grande valley.¹⁶ Nevertheless, the overwhelming majority of grass plants we observe in the valley consist of just seven exotic species - Bermudagrass (*Cynodon dactylon*), Buffelgrass (*Cenchrus ciliaris*), Guineagrass (*Panicum maximum*), Johnsongrass (*Sorghum halapense*), Angleton Bluestem (*Dicanthium aristatum*), King Ranch Bluestem (*Dicanthium annulatum*) and Kleberg Bluestem (*Bothriochloa ischaemum* var. *songarica*). Due to the expansion of brushlands and competition from aggressive exotic grasses, many native grass species have become very scarce. Although it is impossible to say exactly where prairie, savanna and brushland communities existed at a particular time in the past, it seems certain that some forms of grassland and savanna predominated in the northern portions of the Río Grande delta. This prairie-brushland ecotone includes the Woodland Potholes and Basins community, characterized by gently sloping fine sandy-loam soils interspersed with numerous seasonal wetlands and playa lakes. Three unusual saline lakes occur here: La Sal Blanca (East Lake), La Sal Vieja and the historically significant La Sal del Rey.

Savanna: Conversion of Grassland to Thorn Woodland. Ecological Monographs 58(2), pp. 111-27.

¹⁶ Lonard, R. 1993. Guide to the Grasses of the Lower Rio Grande Valley, Texas. The University of Texas Press. Edinburg, Texas. 240 pp.

The transition between the floodplain and the uplands of the Rio Grande plains is the Bordas Escarpment (Goliad Formation), where deposits of caleche, gravel, gypsum, sandstone and other soil materials are exposed. Erosion of the uplands has produced a band of steep hills paralleling the Rio Grande, cut by numerous arroyos, where topographic relief is up to 150 feet. Here, the wide range of slope, soil types exposed, drainage, permeability and exposure produce a multitude of unique micro-communities of plants adapted to those conditions. In the transition from deep, level floodplain soil to increasingly well-drained, exposed sites, the woody vegetation becomes shorter in stature and more widely spaced. Honey mesquite is absent or greatly reduced in very dry sites, especially where the rooting zone is impeded by impermeable layers, such as indurated caleche. Many of the woody species found in the brush understory of the mesquite-brushland also occur here in a more drought-adapted form. For example, coma, guayacan and Texas persimmon, which become small trees with predominant main trunks in riparian forests, occur also in arid uplands as rounded shrubs with greatly reduced, thicker leaves. Additional woody species of these arid uplands, corresponding to the Upland Thorn Scrub and Barretal Communities, include desert yaupon (*Schaefferia cuneifolia*), guajillo, Gregg's acacia (*Acacia greggii*), calderona (*Krameria ramosissima*), woolly bee-brush (*Aloysia macrostachya*), chomonque (*Gochnatia hypoleuca*), wild oregano (*Lippia graveolens*), blue sage (*Salvia ballotaeflora*), skeleton-leaf golden-eye (*Viguiera stenoloba*), Mexican fiddlewood (*Citharexylum brachyanthum* - *spathulatum*), anacahuita, palo verde, Texas baby-bonnets (*Coursetia axillaris*), yucca, flor de San Juan (*Macrosiphonia macrosiphon*), shorthorn zexmenia (*Zexmenia brevifolia*), canatilla (*Ephedra antisiphilitica*), Torrey croton (*Croton incanus*), leather stem (*Jatropha dioica*), allthorn (*Koeberlinia spinosa*), kidneywood (*Eysenhardtia texana*), heart-leaf hibiscus (*Hibiscus cardiophyllus*), Texas colubrina (*Colubrina texensis*), knife-leaf condalia (*Condalia spathulata*), cenizo, amargosa (*Castela texana*), wooly pyramid-bush (*Melochia tomentosa*), and desert lantana (*Lantana macropoda*). The barreta, although a very common tree in the sierras around Monterrey, occurs only in shrubby form on caleche hilltops in this region. These are among the most arid sites, and the specialized community adapted to these extreme conditions is the Barretal.

Rainwater runs off very quickly from many upland areas, due to the sloping topography, impeded percolation and relatively sparse vegetation. This water collects in the arroyos and the headers of arroyos, known in Spanish as "*derramaderos*". The deep deposits of alluvial soil and greater moisture availability provide for a mesic community composed of many plant species found in the Riparian Forest and the mesquite-brushland. These extensions of mesic forest and brush through the arid uplands are known as the Ramadero Community.

On arid upland sites, the absence of a dense overstory allows a high diversity of sun-loving herbaceous plants and sub-shrubs to thrive. If grazing has not been too severe, many native grass species are interspersed among the low shrubs. The dry hilltops and slopes also support a variety of cactus species, which occur only where there is less

competition from grasses and other fast-growing plants. Most of the twenty-five species of cacti known from the area of ecological concern occur on these sites.

Many of the unique plant communities of the Bordas Escarpment and surrounding uplands have been destroyed by surface-mining of caleche, sand and gravel, housing developments, highways and root-plowing. Several species which are endemic to unique soil types found along the escarpment or adjacent uplands have become very rare and several are listed endangered species. Runyon's huaco (*Manfreda longiflora*) and Chihuahuan balloon-vine (*Cardiospermum dissectum*) occur sporadically in caleche soils. The ashy dogweed (*Thymophila tephroleuca*), once known from a site north of Rio Grande City, is now restricted to two sites in Zapata County with deep, sandy soil. Walker's manioc (*Manihot walkerae*), occurs exclusively in calcareous sands shallowly overlying indurated caleche. Johnston's frankenia is found on saline or gypsum soils of the Maverick series. The star cactus (*Astrophytum asterius*) is currently known from only one U.S. site north of Rio Grande City, which also is saline and gypsaeous. These last four are listed endangered species. Zapata bladderpod (*Lesquerella thamnophila*) has been found on several sites with sandy or caleche soil; this species is currently "Proposed Endangered".

The same basic community types that occurred on the north side of the Rio Grande, also occurred south of the river. Vast amounts of mesquite-brushland in the broad delta in Tamaulipas were cleared during the 1970s in order to create impoverished cropland. As on the U.S. side, much of the coastal zone is fairly intact; the high salinity and potential for flooding during hurricanes has discouraged development. The Bordas Escarpment, defining the boundaries of the delta, crosses the river just upstream from Reynosa and runs in a southeasterly direction toward San Fernando. Very little floodplain habitat remains in the Mexican side of the delta, but extensive upland habitat still exists between the Bordas Escarpment and the foothills of the Sierra Madre Oriental. Vast amounts of diverse, high-quality habitat also exists in this mountain range. The Rio Alamo, which joins the Rio Grande near Mier, Tamaulipas, is a potential wildlife corridor route linking the Rio Grande corridor with the Sierra de los Picachos, the nearest segment of the Sierra Madre Oriental.

3.3 Wildlife

Tamaulipan brush land provides important feeding, nesting, and cover habitats for many species. Brush clearing and other human activities thus have profound impacts on a variety of vertebrates and invertebrates in LRGV. Diversity of habitat types in LRGV results in a diverse vertebrate fauna, including species of subtropical, southwestern desert, prairie, coastal marshland, eastern forest, and marine affinities.¹⁷ About 700 vertebrate species have been found within the LRGV (four County area). Of those

¹⁷ International Boundary and Water Commission, 1982. Environmental assessment of the proposed increased diversion of 500 cfs from Main Floodway to Arroyo Colorado Floodway. Lower Rio Grande Flood Control Project, Texas. El Paso, TX. 88pp.

species in need of special attention, the Service has continued to use appropriate management strategies to provide protection in accordance with policy and law including the Endangered Species Act. A number of vertebrate species found in LRGV are not found in any other region of the United States. The endangered ocelot and jaguarundi use extremely dense, impenetrable brush thickets for traveling and breeding.¹⁸ Remnant brush tracts of this type are found only in south Texas. Ocelots also are found in oak savannah habitat types in south Texas, which consist of open grassland, scattered groves, or “mottes,” of live oak (*Quercus virginiana*), and a mid-story of live oak saplings and various thorn forest species. The ocelot once roamed eastern, central, and southern portions of Texas, but today it exists mainly in south Texas brush land. Jaguarundi habitat in south Texas is poorly known but may be similar to ocelot habitat.

There are numerous species found in Mexico and Central America whose ranges reach their northern most limit in the LRGV. Included among these are: brown jay (*Cyanocorax morio*), ringed kingfisher (*Ceryle torquata*), red-billed pigeon (*Columba flavirostris*), Chachalaca (*Ortalis vetula*), speckled racer (*Drymobius margaritiferus*), and Mexican treefrog (*Smilisca baudinii*).

The white-winged dove (*Zenaida asiatica*) continues to be an important game bird in the LRGV. Whitewings were so abundant in the LRGV that they were market hunted in the late 1800's. The population slowly declined as more and more brushland nesting habitat was cleared for agriculture. By 1940 the fall population was estimated at 500,000 birds and 200,000 by 1950.

More and more citrus was being planted in the LRGV and the birds began move into the groves to nest and populations again began to increase. Citrus is subject to freeze however and periodic losses of citrus habitat caused whitewing declines in the years following severe winters. Whitewings surprised the experts in the 1980's by beginning a major population buildup in areas north of the LRGV, particularly in cities such as San Antonio and Austin. By the mid 1990's there were more whitewings nesting in these northern sites than in the LRGV. It is hoped that as reforested areas of the LRGV NWR mature into suitable nesting habitat the whitewing population will increase significantly.

Habitats in LRGV also support a unique invertebrate fauna and many of these species also reach their northern limits of distribution in south Texas. At least 246 species of butterflies have been identified at Santa Ana NWR. Invertebrate populations have received little research attention, thus their status is largely unknown. However, habitat alterations likely have been detrimental to the invertebrate fauna of LRGV.

3.4 Climate

¹⁸ Ibid Jahrsdoerfer et al, 1988 citing Goodwyn, 1970; Davis 1974; Tewes and Everett, 1982, and Rappole, 1988.

The climate of the area is semi-arid and subtropical. Mean annual rainfall in the eastern LRGV (Cameron Co.) is 25.4 inches with a mean July high temperature of 93 degrees Fahrenheit and a mean January low temperature of 51 degrees Fahrenheit. The western LRGV (Starr Co.) has a mean annual rainfall of 20.6 inches, a mean July high of 99 degrees Fahrenheit and mean January low of 44 degrees Fahrenheit. Some years are free of frost, and hard freezes are rare.¹⁹ Tropical storms and hurricanes periodically strike the area during the summer and fall months. Storms of hurricane force may be expected at a frequency of about 1 every 10 years.²⁰

3.5 Geology

The topography of the LRGV is generally flat. From a chain of hills of indurate caleche with sandstone outcrops and fossil oyster reefs in the west, known as the Bordas Escarpment (Bordas Scarp), the land slopes gently to the coast at approximately 0.4 meters per kilometer.²¹ Soils in the LRGV range from dark, clayey soils in the uplands to gray, clayey, saline soils on the coastal plain. Riparian areas have gray, silty loams or clays. Generally, soils away from the river tend to be fine, sandy loams with moderate to slow permeability and slow runoff.²²

The changing course of the Rio Grande caused changes in the vegetation. Alluvial soils were deposited in places and carried away in others. Floods would fill up resacas, killing some plants and permitting the growth of other plant species. Gulf storms destroyed vegetation by wind-action or by blowing salt water inland. The filling of estuaries caused unstable conditions for plant development.

3.6 Soils

Cameron County -- Level to gently sloping, moderately permeable to very slowly permeable, saline, clay and loamy soils.

¹⁹ Kingston, M. Editor. 1992-93. Texas Almanac. A.H. Belo Corporation, Dallas, Texas. 656p.

²⁰ Morton, R.A., O.H. Pilkey, Jr., O.H. Pilkey, Sr., and W.J. Neal. 1983. Living with the Texas shore. Duke University Press, Durham, North Carolina. 190pp.

²¹ Lonard, R.I. 1985. Natural communities of the South Texas Plains. Proceedings of the Texas Academy of Science, Conservation Committee on Natural Communities of Texas. University of Texas, Dallas. 12 pp.

²² Thompson, C.M., R.R. Sanders, and D. Williams. 1972. Soil survey of Starr County, Texas. Soil Conserv. Serv., Washington, D.C. 62 pp. Williams, D., C.M. Thompson, and J.L. Jacobs. 1977. Soil survey of Cameron County, Texas. Soil Conservation Service, Washington, D.C. 92 pp. Turner, A.J. 1982. Soil survey of Willacy County, Texas. Soil Conserv. Serv., Washington, D.C. 137 pp.

Hidalgo County -- Many of the soils in the county formed in sediments deposited by the Rio Grande. These sediments are mostly clay and sand; there are some silt deposits near the river. The Gulf of Mexico may have been the origin of the sandy soils in the northern part of the county. The nearly level soils are often seasonally wet. Irrigation water from the Rio Grande has been a source of toxic salts to the soils

Starr County -- Rainfall, temperature, humidity, and wind have been important in the development of soils in this county. Starr County is more hilly than other areas of the LRGV. Soils range from deep alluvial soils along the river to formations exposed on the Bordas Escarpment such as the Jemez-Quemado (caleche-gravel), Randado-Cuevitas (reddish sandy loam), and the Maverick Series (saline gypsum deposits). These soil types support several rare plant communities.

Willacy County -- Willacy County is split between the aeolian sand plain in the northwest, saline clays in the Coastal Plain, and deep delta soils make up much of the remaining lands. Hypersaline lakes such as La Sal Vieja and La Sal del Rey were the most important geographical spots in the LRGV for centuries. Native Americans and early settlers came to the great lake beds to gather salt for their diets, for tanning animal hides, and for trading. Salt brine continues to be extracted from La Sal del Rey.

3.7 Water Development, Flood Control, and International Boundary Stabilization

Water development in the LRGV has centered on flood control and providing irrigation water for agriculture. Since the turn of the century, extensive farming and irrigation development have occurred in the rich, fertile delta of the Rio Grande. Several private irrigation and/or drainage districts have been established in the LRGV to provide either drainage or irrigation service to the agriculture industry and municipalities.²³

The Rio Grande overflowed 23 times between 1900 and 1939 in Cameron and Hidalgo Counties. These counties constructed flood control levees in the most flood prone areas to protect farmlands and urban developments. In 1944, a Water Treaty was signed between the United States and Mexico, distributing between the two countries the waters of the Rio Grande. The U.S. Section of the International Boundary and Water Commission (IBWC) took over the county maintained flood levees in the United States and with the Mexican Section of the IBWC established the Lower Rio Grande Valley Flood Control Project (LRGVFCP). The 1944 Water Treaty also provided for the development, construction and operation by the IBWC of a number of water use and

²³ Ramirez, P., Jr., 1986. Water development projects in the Rio Grande and their relationships to the Santa Ana and Rio Grande Valley National Wildlife Refuges. Unpublished Report, U.S.F.W.S, Ecological Services, Corpus Christi, TX. 47 pp.

control projects on behalf of the two countries, including the construction of off-river interior floodways within both countries, the building of levees along both sides of the Rio Grande to form a river floodway, and the construction of two diversion dams, Anzalduas and Retamal, to permit diversion of Rio Grande floodwaters into the interior floodways. The IBWC defines its role as follows:

The United States portion of the project is operated to divert and convey river flood waters from the Rio Grande to the Gulf of Mexico through river and interior floodway systems and thus limit flood flows in the lower river reaches (i.e. Brownsville, Texas and Matamoros, Tamaulipas) to safe levels in conformance with international agreements. On the United States side of the Rio Grande, the works consist of about 102 miles of levees along the Rio Grande and about 168 miles of levees flanking an interior floodway system including the Arroyo Colorado. The Main Floodway, North Floodway, and the Arroyo Colorado are the main features of the U.S. Section's interior floodway system. At a point about two miles southwest of Mercedes, the Main Floodway merges into the Arroyo Colorado, a deeply notched distributary of the Rio Grande which extends to the Laguna Madre. The North Floodway also branches from the Main Floodway at this location southwest of Mercedes. The North Floodway was developed in the same manner as the Main Floodway along other distributaries of the Rio Grande and extends across northwestern Cameron County and southeastern Willacy County to the Laguna Madre.²⁴

As part of the project, Anzalduas Diversion Dam was constructed from 1956 to 1960 on the Rio Grande to assure the necessary diversion of the United States share of river flood waters into the United States interior floodway system. The dam also enables Mexico to divert its share of the normal flows into Mexico's main irrigation canal. Similarly, Retamal Diversion Dam was constructed between 1971 and 1975 on the Rio Grande. It serves the two-fold flood control purpose of enabling Mexico to divert its share of river flood waters into the Mexican floodway system and to limit flood flows at Brownsville and Matamoros to the safe capacity of the Rio Grande. Anzalduas and Retamal Diversion Dams are operated jointly by the United States and Mexico for flood control.

The Treaty 1944 between the two countries provided for the construction of flood control structures on the Rio Grande. The lowermost of the major dams, Falcon Dam, is located between Laredo and Rio Grande City in Starr County about 275 river miles upstream of the mouth of the river. Construction began in 1950 and the dam was completed in 1954.

The IBWC's February 1993 Revised Biological Assessment on the Lower Rio Grande Flood Control Project Vegetation Clearing Activities in Hidalgo, Cameron, and Willacy Counties, Texas describes two Commission Minutes as follows:

²⁴ IBWC, U.S. Section. May 1991. Biological Assessment on the Lower Rio Grande Flood Control Project in Hidalgo, Cameron and Willacy Counties, Texas.

The first specific United States/Mexico agreement under the 1944 Water Treaty is the IBWC Minute No. 238. Specifically, the U.S. and Mexico must safely pass through this system, a design flood flow of 250,000 cfs measured at Rio Grande City, Texas. Of that amount, the United States is required to divert at Anzalduas Dam, upstream of Hidalgo, Texas, into its Off-River Floodway System 105,000 cfs, such that the design flood flow for the Rio Grande floodway below Anzalduas Dam of 130,000 cfs is reduced to 125,000 cfs to a point where Mexico diverts 105,000 cfs into its Off-River Floodway System at Retamal Dam, south of Donna, Texas. In this manner, the design flood flow in the Rio Grande floodway below Retamal Dam is reduced to 20,000 cfs.

The second specific agreement is in IBWC Minute No. 212 regarding an annual vegetation clearing program along the banks of the Rio Grande for a distance of 34.5 miles upstream and downstream of Brownsville/Matamoros, between Mile 62.5 and Mile 28. Vegetation clearing activities begin at the water's edge landwards for a small distance. This consists of mowing to ground level, including removal of trees and underbrush, but not stacking and burning. Cleaning and removal of under brush, which can be performed by hand, is performed approximately every five years on the high banks as needed to prevent debris accumulation in the river channel which would in turn reduce the carrying capacity. This vegetation clearing permits the safe passage of the design flood flow of 20,000 cfs in this reach of the River Floodway.²⁵

In addition, under the 1970 Boundary Treaty, the IBWC maintains the Rio Grande as the international boundary between the United States and Mexico by protecting the river bank from erosion and preventing the shifting of the river from its present channel. The IBWC, on behalf of the U.S. and Mexico, may take a number of measures to preserve the Rio Grande channel as the international boundary. These measure include vegetation clearing, channel excavation, bank protection and channel rectification. Furthermore, the IBWC may approve or disapprove the construction of works in the river channel or adjacent lands.

3.7. LRGV and the Los Caminos Del Rio Heritage Corridor

The Texas Historical Commission (THC) initiated the Los Caminos del Rio Heritage Project in 1989. The purpose of its establishment was to promote the linkage of cultural and natural resources of the corridor region and the eventual development of a coordinated "heritage trail" that would attract visitors. The ultimate desired outcome of this endeavor is the preservation of a unique heritage shared by the United States and northern Mexico along the Lower Rio Grande. A framework of partnerships form the basis for the project and participants include regional, state and national organizations and governments, local citizens and businesses.

²⁵ IBWC, U.S. Section. February 1993. Revised Biological Assessment on the Lower Rio Grande Flood Control Project Vegetation Clearing Activities in Hidalgo, Cameron, and Willacy Counties, Texas.

All of the LRGV and Santa Ana refuge lands are included in the heritage corridor and two of the significant historic sites within the heritage corridor are actually on Refuge lands. As part of the heritage corridor partnership effort the Palmito Ranch Battlefield on LRGV tracts near Brownsville were nominated to be on the National Register of Historic Places, and the Old River Pump house on LRGV refuge lands near Hidalgo was nominated for a National Historic Landmark designation.

3.8 LRGV Socio-economic Features

The agricultural industry, mainly farming, has been a dominant element of the LRGV socio-economic picture since the early 1920's. As this industry grew, both in the United States and in Mexico, the population of the LRGV and associated infrastructure (housing, industry, malls, etc...) has expanded tremendously. Subsequently, urbanization in the LRGV has driven economic growth for the past few decades. More recently, trade and manufacturing have increased steadily and are surpassing the once dominant agricultural industry as one of the leading economic industries. The "maquiladora" (twin plant) industry, where U.S. companies establish manufacturing plants in Mexico and then retail the products in the U.S., have increased and are likely to continue this upward development in anticipation of NAFTA.

Population Growth -- The Lower Rio Grande Valley is one of the fastest growing areas in the United States, with a population on both sides of the border of approximately two million people. Between the years 1975 and 1995 the Cameron, Hidalgo and Willacy Counties will grow an average of 29.4 percent. Populations in Cameron County have grown to surpass the projected 240,000 for 1995. The total Valley tourist population has surpassed the 1995 projected 150,000. This growth is equaled by bordering cities in Mexico whose combined growth with that of the U.S. in the LRGV is projected to grow to 4.3 million by the year 2020.

Income Trends -- Growth in the LRGV can be linked to the development of the maquiladora industry in Mexico, and is expected to double between 1990 and 2010. Yet, close to half of the population on the U.S. side has an annual income below the poverty level. The LRGV is considered to be one of the most impoverished regions in the United States.

Economic Development Pressures -- According to 1983 figures, economic development within the ecosystem can be divided into five segments : (1) Trade (2) Manufacturing (3) Agriculture (4) Oil and Gas Production, and (5) Tourism.

The tourism industry continues to grow each year. Many "Winter Texans" come to the LRGV as early as September and remain until April, when the LRGV population increases by 100,000-125,000 (U.S. Census Bureau 1990). The LRGV is considered a gateway to Mexico for those traveling south and to the U.S. for individuals traveling north. Tourism contributes \$500 million per year to the total economy (Rio Grande Valley Chamber of Commerce 1992).

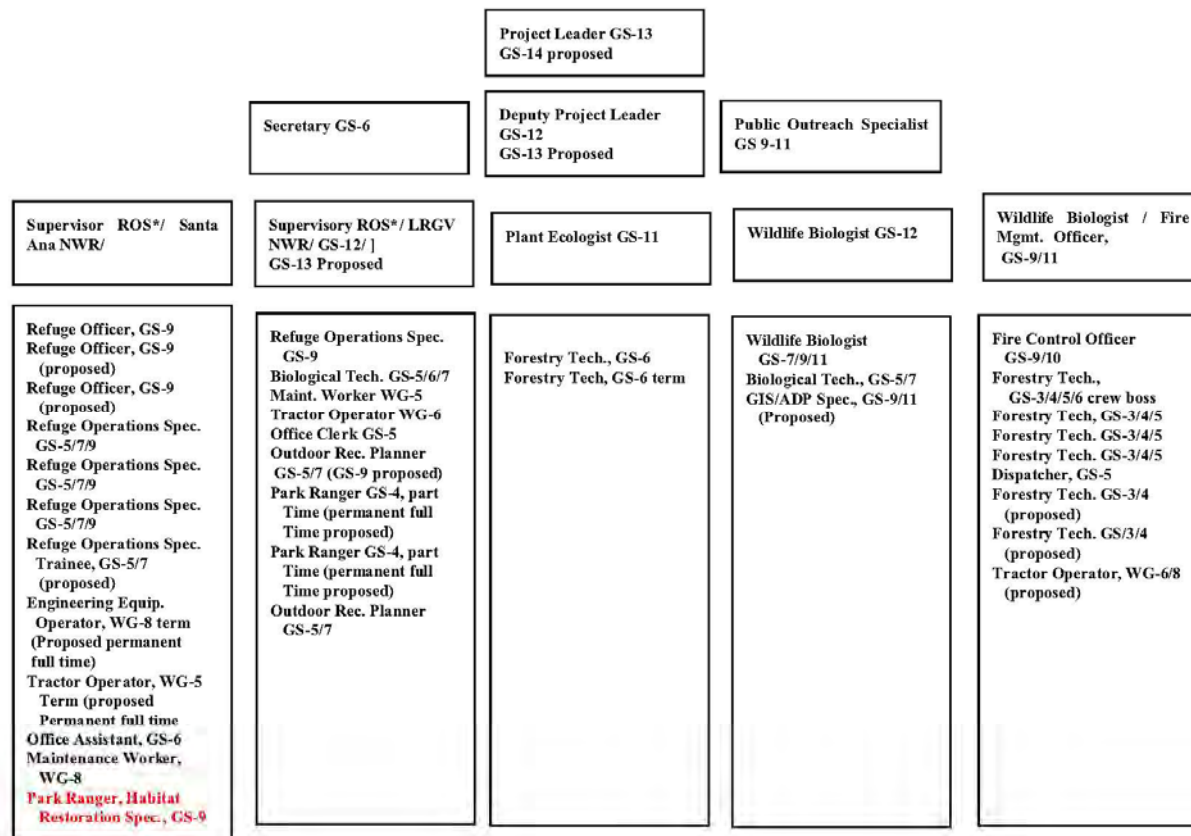
Trade with Mexico increased 250% since 1983 and is projected to increase 400% by the year 2020. By the end of 1993, growth in U.S./Mexico trade had already occurred without a North American Free Trade Agreement (NAFTA) in place. Tripled volume of trade has been the result of only a few trade restrictions removed. Exports to Mexico rose from \$12 billion in 1986 to a nearly \$40 billion in 1993. According to International Trade Commission (ITC) studies for the US Senate Finance Committee, international trade with Mexico will increase markedly as a result of the passage of NAFTA.

3.9 Refuge Staffing Needs

The diversity and complexity of land management programs on Service managed lands in the LRGV ecosystem have increased as lands continue to be added to the project. Thus, it is anticipated that growing habitat enhancement and maintenance requirements will continue to place added funding and operational staffing pressures on the refuge. Water management for example, will continue to expand while some activities will gradually be reduced as revegetation efforts succeed. However, even a minimum degree of progress in revegetation and farming efforts will be contingent upon the ability of the refuge to staff and fund these activities adequately.

The staffing chart on the following page reflects currently allocated positions throughout the planning period including proposed increases in grade levels and conversions of positions from term and part time positions to full time permanent positions. As additional lands are acquired beyond the five year planning horizon, additional staff will be necessary.

LOWER RIO GRANDE VALLEY NWR/ SANTA ANA NWR STAFFING CHART 1997-2001



4.0 Legal, Policy, and Administrative Guidelines, and Other Special Considerations

This Section outlines current legal, administrative, and policy guidelines for the management of national wildlife refuges. It begins with the more general considerations such as laws and executive orders for the Service, and moves toward those guidelines that apply specifically to the Lower Rio Grande Valley NWR and Santa Ana NWR.

This unit also includes sections dealing with specially designated sites such as historical landmarks and archaeological sites, all of which carry with them specific direction by law and/or policy. In addition, consideration is given to guidance prompted by other formal and informal natural resource planning and research efforts.

All the legal, administrative, policy, and planning guidelines provide the framework within which management activities are proposed and developed. This guidance also provides the framework for the enhancement of cooperation between the Lower Rio Grande Valley and Santa Ana NWRs and other surrounding jurisdictions in the ecosystem, including the government of Mexico.

4.1 Legal Mandates

Administration of the refuges takes into account a myriad of bills passed by the United States Congress and signed into law by the President of the United States. These statutes are considered to be the law of the land as are executive orders promulgated by the President. The following is a list of most of the pertinent statutes establishing legal parameters and policy direction to the National Wildlife Refuge System. Included are those statutes and mandates pertaining to the management of the Lower Rio Grande Valley and Santa Ana NWRs.

For those laws that provide special guidance and have strong implications relevant to the Service or Lower Rio Grande Valley and Santa Ana NWRs, legal summaries are offered below. Many of the summaries have been taken from *The Evolution of National Wildlife Law* by Michael J. Bean.²⁶ For the bulk of applicable laws and other mandates, legal summaries are available upon request.

Summary of Congressional Acts, Treaties, and other Legal Acts that Relate to Administration of the National Wildlife Refuge System:

1. Lacey Act of 1900, as amended (16 U.S.C. 701).

²⁶ Bean, Michael J., 1983. *The Evolution of National Wildlife Law*, Praeger Publishers, New York.

2. Antiquities Act of 1906 (16 U.S.C. 431).
3. Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-711) and 1978 (40 Stat. 755).
4. Migratory Bird Conservation Act, (1929) as amended. (16 U.S.C. 715-715s).
5. Migratory Bird Hunting Stamp Act of 1934, (U.S.C 718-718h).
6. Fish and Wildlife Coordination Act, (1934) as amended (16 U.S.C. 661-666).

*The Act is "the first major federal wildlife statute to employ the strategy of compelling consideration of wildlife impacts. The act authorized 'investigations to determine the effects of domestic sewage, trade wastes, and other polluting substances on wildlife, encouraged the development of a program for the maintenance of an adequate supply of wildlife on the public domain' and other federally owned lands, and called for state and federal cooperation in developing a nationwide program of wildlife conservation and rehabilitation."*²⁷

7. Historic Sites Act of 1935 (16 U.S.C. 461).

The Act declared it a national policy to preserve historic sites and objects of national significance, including those located on refuges. It provided procedures for designation, acquisition, administration, and protection of such sites. National Historic and Natural Landmarks are designated under authority of this Act. As of January 1989, 31 national wildlife refuges contained such sites.

8. Convention Between the United States of America and the Mexican States for the Protection of Migratory Birds and Game Mammals, (1936) (50 Sta. 1311).
9. Convention of Nature Protection and Wildlife Preservation in the Western Hemisphere, 1940 (56 Stat. 1354).
10. Fish and Wildlife Act of 1956, as amended (16 U.S.C. 742-742j).

²⁷ Ibid., pp. 181.

11. Refuge Recreation Act, as amended, (Public Law 87-714.76 Sta. 653; 16 U.S.C. 460k-4) September 28, 1962.

*This Act authorizes the Secretary of the Interior "to administer areas of the System 'for public recreation when in his/her judgement public recreation can be an appropriate incidental or secondary use; provided, that such public recreation use shall be permitted only to the extent that it is practicable and not inconsistent with the primary objectives for which each particular area is established.' Recreational uses 'not directly related to the primary purposes and functions of the individual areas' of the System may also be permitted, but only upon an determination by the Secretary that they 'will not interfere with the primary purposes' of the refuges and that funds are available for their development, operation, and maintenance."*²⁸

12. Refuge Revenue Sharing Act of 1964, (16 U.S.C. 715s) as amended (P.L. 95-469, approved 10-17-78).

*The Act provides "that the net receipt from the 'sale or other disposition of animals, timber, hay, grass, or other products of the soil, minerals, shells, sand, or gravel, from other privileges, or from leases for public accommodations or facilities in connection with the operation and management'...of areas of the National Wildlife Refuge System shall be paid into a special fund. The monies from the fund are then to be used to make payments for public schools and roads to the counties in which refuges having such revenue producing activities are located."*²⁹

13. Land and Water Conservation Fund Act of 1965, as amended (16 U.S.C. 460L-4 to 460L-11), and as amended through 1987.

14. National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd-668ee).

*This Act, derived from sections 4 and 5 of Public Law 89-669, "consolidated 'game ranges,' 'wildlife ranges,' 'wildlife management areas,' 'waterfowl production areas,' and 'wildlife refuges,' into a single 'National Wildlife Refuge System.' It (1) placed restrictions on the transfer, exchange, or other disposal of lands within the system; (2) clarified the Secretary's authority to accept donations of money to be used for land acquisition; and (3) most importantly, authorized the Secretary, under regulations, to 'permit the use of any area within the System for any purpose, including but not limited to hunting, fishing, public recreation and accommodations, and access whenever he determines that such uses are compatible with the major purposes for which such areas were established.'"*³⁰

²⁸ Ibid., pp. 125-126.

²⁹ Ibid., pp. 126.

³⁰ Ibid., pp. 125.

15. National Historic Preservation Act of 1966 (16 U.S.C. 470).

Public Law 89-665 as repeatedly amended, provided for preservation of significant historical features (buildings, objects, and sites) through a grant in aid program to the States. It established a National Register of Historic Places and a program of matching grants under the existing National Trust for Historic Preservation. As of January 1989, 91 historic sites on national wildlife refuges have been placed on the National Register.

16. National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321-4347).

17. Protection and Enhancement of Environmental Quality Executive Order of 1970 (Executive Order 11514, dated March 5, 1970).

18. Environmental Education Act of 1975 (20 U.S.C. 1531-1536).

19. Use of Off-Road Vehicles on the Public Lands Executive Order of 1972, as amended (Executive Order 11644, dated February 8, 1972, as amended by Executive Order 11989, dated May 24, 1977).

20. Endangered Species Act of 1973 (16 U.S.C. 1531-1543 87 Stat. 884) P.L. 93-205). The Endangered Species Act as amended by Public Law 97-304, The Endangered Species Act Amendments of 1982, dated February 1983.

According to Bean, the 1973 Act "builds its program of protection on three fundamental units. These include two classifications of species--those that are 'endangered' and those that are 'threatened' --and a third classification of geographic areas denominated 'critical habitats.'"³¹

The Act: (1) Authorizes the determination and listing of species as endangered and threatened, and the ranges in which such conditions exist; (2) Prohibits unauthorized taking, possession, sale, and transport of endangered species; (3) Provides authority to acquire land for the conservation of listed species, using land and water conservation funds; (4) Authorizes establishment of cooperative agreements and grants-in-aid to States that establish and maintain active and adequate programs for endangered and threatened wildlife; and, (5) Authorizes the assessment of civil and criminal penalties for violating the Act or regulations.

Section 7 of the Endangered Species Act requires Federal agencies to insure that any action authorized, funded, or carried out by them does not jeopardize the continued existence of listed species or modify their critical habitat.

³¹ Ibid., pp. 331.

21. Floodplain Management Executive Order of 1977 (Executive Order 11988, dated May 24, 1977). Wetlands Preservation Executive Order of 1977 (Executive Order 11988, dated May 24, 1977).

These executive orders require both the protection and the enhancement of wetlands and floodplain. Both were signed in May, 1977. When Federally owned wetlands or floodplain are proposed for lease or conveyance to non Federal public or private parties, both executive orders require that the agency: "(a) reference in the conveyance those uses that are restricted under Federal, State or local... regulations; and (b) attach other appropriate restrictions to the uses of such properties by the ... purchaser and any successor, ... or withhold such properties from..." lease or disposal (E.O. 11990, 4, E.O. 11988, 3(d). In addition, each agency is required to "avoid undertaking or providing assistance" for activities located in wetlands unless (1) ... "there is no practicable alternative...", and (2)... "the proposed action includes all practicable measures to minimize harm...which may result from such use" (E.O. 11990, 2). The term "agency" is defined in both of these executive orders as having the same meaning as the term "Executive agency" which means an Executive department, a Government corporation, and an independent establishment.

22. The Archaeological Resource Protection Act of 1979 (P.L. 96-95, 93 Stat. 721, dated October 1979). (16 U.S.C. 470aa - 47011).

This Act largely supplanted the resource protection provisions of the Antiquities Act for archaeological items. It established detailed requirements for issuance of permits for any excavation or removal of archaeological resources from Federal or Indian Lands. It also established civil and criminal penalties for the unauthorized excavation, removal, or damage of any such resources; for any trafficking in such resources removed from Federal or Indian land in violation of any provision of Federal law; and for interstate and foreign commerce in such resources acquired, transported, or received in violation of any State or local law. Public Law 100-588, approved November 3, 1988, (102 Stat. 2983) lowered the threshold value of artifacts triggering the felony provision of the Act from \$5,000 to \$500, made attempting to commit an action prohibited by the Act a violation, and required the land managing agencies to establish public awareness programs regarding the value of archaeological resources to the Nation.

23. Fish and Wildlife Conservation Act of 1980 (P.L. 96-366, dated September 29, 1980). ("Nongame Act") (16 U.S.C. 2901-2911; 94 Stat. 1322).

Approved September of 1980, this Act authorized grants for development and implementation of comprehensive State nongame fish and wildlife plans and for administration of the Act. It also required the Service to study potential mechanisms for funding these activities and report to Congress by March, 1984. According to Bean, the Act "strives to encourage comprehensive conservation planning, encompassing both nongame and other wildlife...The impetus for the enactment of this legislation was the perception that animals not ordinarily valued for sport hunting or commercial purposes receive insufficient attention and funds from state wildlife management programs."³²

Public Law 100-653 (102 Stat. 3825), approved November 14, 1988, amended the Act to require the Service to monitor and assess nongame migratory birds, identify those likely

³² Ibid., pp. 227.

to be candidates for endangered species listing, identify appropriate actions, and report to Congress one year from enactment. It also requires the Service to report at five year intervals on actions taken.

24. Administrative Procedures Act (5 U.S.C. 551-559, 701-706, 1305, 3105, 3344, 4301, 5362, 7521; 60 Stat. 237), as amended (P.L. 79-404, as amended).
25. Bald Eagle Protection Act of 1940 (16 U.S.C. 668-668d; 54 Stat.), as amended.
26. Canadian United States Migratory Bird Treaty (Convention between the United States and Great Britain (for Canada for the Protection of Migratory Birds. (39 Stat. 1702; TS 628), as amended.
27. Clean Air Act (42 U.S.C. 1857-1857f; 69 Stat. 322), as amended.
28. Convention on Wetlands of International Importance Especially as Waterfowl Habitats (I.L.M. 11:963-976, September 1972).

This Convention, commonly referred to as the Ramsar Convention, was adopted in Ramsar, Iran, February 3, 1971, and opened for signature at UNESCO headquarters, July 12, 1972. On December 21, 1975, the Convention entered into force after the required signatures of seven countries were obtained. The United Senate consented to ratification of the Convention on October 9, 1986, and the President signed instruments of ratification on November 10, 1986. The Convention maintains a list of wetlands of international importance and works to encourage the wise use of all wetlands in order to preserve the ecological characteristics from which wetland values derive. The Convention is self implementing with the U.S. Fish and Wildlife Service providing U.S. secretariat responsibilities and lead for Convention implementation.

29. Cooperative Research and Training Units Act (16 U.S.C. 753a-753b, 74 Stat. 733), as amended. P.L. 86-686).
30. Federal Aid in Fish Restoration Act (16 U.S.C. 777-777k, 64 Stat. 430).
31. Federal Aid in Wildlife Restoration Act (16 U.S.C. 669-669i; 50 Stat. 917), as amended.
32. Federal Environmental Pesticide Control Act of 1972 (7 U.S.C. 136-136y; 86 Stat. 975), as amended.
33. Federal Land Policy Management Act of 1976 (43 U.S.C. 1701-1771, and other U.S.C. sections; 90 Stat. 2743). Public Law 94-579, October 1976.
34. Federal Property and Administrative Services Act of 1949 (40 U.S.C. 471-535, and other U.S.C. sections; 63 Stat. 378), as amended.

35. Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1251-1265, 1281-1292, 1311-1328, 1341-1345, 1361-1376, and other U.S.C. titles; 86 Stat. 816), as amended.
36. Fish and Wildlife Improvement Act of 1978 (16 U.S.C. 7421; 92 Stat. 3110) P.L. 95-616, November 1978.
37. Flood Control Act of 1944 (16 U.S.C. 460d, 825s and various sections of title 33 and 43 U.S.C.; 58 Stat. 887), as amended and supplemented.
38. Freedom of Information Act (5 U.S.C. 552; 88 Stat. 1561).
39. Refuge Trespass Act (18 U.S.C. 41; Stat 686).
40. Transfer of Certain Real Property for Wildlife Conservation Purposes Act of May 1948, (16 U.S.C. 667b-667d; 62 Stat. 240), as amended.
41. Water Resources Planning Act (42 U.S.C., 1962-1962a-3; 79 Stat. 244), as amended.
42. Waterfowl Depredations Prevention Act (7 U.S.C. 442-445; 70Stat. 492), as amended.
43. Clean Water Act of 1972, Section 404.

Under this Act, permits are required to be obtained for discharges of dredged and fill materials into all waters, including wetlands. Implementation of the 404 program involves three other federal agencies in addition to limited state involvement. The Environmental Protection Agency (EPA), the National Marine Fisheries Service, and the Service review permit applications and provide comments and recommendations on whether permits should be issued by the Corps. EPA has veto authority over permits involving disposal sites if impacts are considered unacceptable. EPA also develops criteria for discharges and state assumption of the 404 program. Section 404 regulations were changed in 1984 due to a national lawsuit, and 404 jurisdictions now apply to tributaries of navigable waters and isolated wetlands and waters if interstate commerce is involved. With the new regulations, all washes, drainages, and tributaries of navigable waters, including ephemeral and perennial streams, are included under the 404 program in Texas.

44. The Food Security Act of 1985 (Farm Bill).

The following authorities provide the Service the means for prevention, presuppression, control and suppression of wildfire on Refuge lands.

45. Protection Act of September 20, 1922 (42 Stat. 857; 16 U.S.C. 594)
46. Economy Act of June 30, 1932 (47 Stat. 417; 31 U.S.C. 1535)

47. Taylor Grazing Act of June 28, 1934 (48 Stat. 1269; 43 U.S.C. 315)
48. National Park Service Acts as amended (67 Stat. 495; 16 U.S.C. 1b)
49. Federal Property and Administrative Service Act of 1949 (40 U.S.C. 471; et seq.)
50. Reciprocal Fire Protection Act of May 27, 1955 (69 Stat. 66; 42 U.S.C. 471; et seq.)
51. Disaster Relief Act of May 22, 1974 (88 Stat. 143; 42 U.S.C. 5121)
52. Federal Fire Prevention and Control Act of October 29, 1974 (88 Stat. 1535; 15 U.S.C. 2201)
53. Wildfire Suppression Assistance Act of 1989 (P.L. 100-428, as amended by P.L. 101-11, April 7, 1989)

4.2 Agency-Wide Policy Directions

Fish and Wildlife Service Agency Mission -- Since the early 1900s, the Service mission and purpose has evolved, while holding on to a fundamental national commitment to threatened wildlife ranging from the endangered bison to migratory birds of all types. The earliest national wildlife refuges and preserves are examples of this. Pelican Island, the first refuge, was established in 1903 for the protection of colonial nesting birds such as the snowy egret and the endangered brown pelican. The National Bison Range was instituted for the endangered bison in 1906. Malheur National Wildlife Refuge was established in Oregon in 1908 to benefit all migratory birds with emphasis on colonial nesting species on Malheur Lake. It was not until the 1930s that the focus of refuge programs began to shift toward protection of migratory waterfowl (i.e., ducks and geese). As a result of drought conditions in the 1930s, waterfowl populations became severely depleted. The special emphasis of the Service (then called the Bureau of Wildlife and Sport Fisheries) during the next several decades was on the restoration of critically depleted migratory waterfowl populations.

The passage of the Endangered Species Act of 1973 refocused the activities of the Service as well as other governmental agencies. This Act mandated the conservation of threatened and endangered species of fish, wildlife, and plants both through Federal action and by encouraging the establishment of State programs. In the late 1970s, the Bureau of Wildlife and Sport Fisheries was renamed the U.S. Fish and Wildlife Service to broaden its scope of wildlife conservation responsibilities to include endangered species, as well as game and nongame species. A myriad of other conservation-oriented laws followed, including the Fish and Wildlife Conservation Act of 1980, which emphasized the conservation of nongame species.

The Service has no "organic" act to focus upon for the purposes of generating an agency mission. The agency mission has always been derived in consideration of the various laws (as listed in Section 2 of this Unit) and treaties that collectively outlined public policy concerning wildlife conservation. The Department of the Interior Manual states:

*"The U.S. Fish and Wildlife Service is responsible for conserving, enhancing, and protecting fish and wildlife and their habitats for the continuing benefit of people through Federal programs relating to wild birds, endangered species, certain marine mammals, inland sport fisheries, and specific fishery and wildlife research activities."*³³

Refuge System: Mission and Goals -- The National Wildlife Refuge System (System) is the only existing system of federally owned lands managed chiefly for the conservation of wildlife. The System mission is a derivative of the Service mission. This mission was most recently revised by the President of the United States in Executive Order 12996 to reflect the importance of conserving natural resources for the benefit of present and future generations of people. The Executive Order states:

The mission of the National Wildlife Refuge System is to preserve a national network of lands and waters for the conservation and management of fish, wildlife, and plant resources of the United States for the benefit of present and future generations.

The Executive Order continues by specifying broad guiding principles describing a level of responsibility and concern for the nation's wildlife resources for the ultimate benefit of the people. These principles are as follows:

Public Use: The Refuge System provides important opportunities for compatible wildlife-dependent recreational activities involving hunting, fishing, wildlife observation and photography, and environmental education and interpretation.

Habitat: Fish and wildlife will not prosper without high-quality habitat, and without fish and wildlife, traditional uses of refuges cannot be sustained. The Refuge System will continue to conserve and enhance the quality and diversity of fish and wildlife habitat within refuges.

Partnerships: America's sportsmen and women were the first partners who insisted on protecting valuable wildlife habitat within wildlife refuges. Conservation partnerships with other Federal agencies, State agencies, Tribes, organizations, industry, and the general public can make significant contributions to the growth and management of the Refuge System.

³³ Departmental Manual 142 DM 1.1.

Public Involvement. The public should be given a full and open opportunity to participate in decisions regarding acquisition and management of our National Wildlife Refuges.

4.3 Refuge Purpose Statements ³⁴

Formal establishment of a unit of the National Wildlife Refuge System is usually based upon a specific statute or executive order specifically enumerating the purpose of the particular unit. However, refuges can also be established by the Service under the authorization offered in such laws as the Endangered Species Act of 1973 or the Fish and Wildlife Act of 1956. In these cases, lands are identified by the Service that have the right elements to contribute to the recovery of a species or the maintenance of habitat types. Oftentimes, the Service works in cooperation with private nonprofit organizations in efforts to acquire suitable lands. This is the case for the LRGV and Santa Ana NWRs. Both refuges were established under the authority of the Fish and Wildlife Act of 1956 and Migratory Bird Conservation Act.

LRGV NWR Purpose -- "... for the development, advancement, management, conservation, and protection of fish and wildlife resources..." 16 U.S.C. 742f(a)(4) "...for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude..." 16 U.S.C. f(b)(1) (Fish and Wildlife Act of 1956, 16 U.S.C. 742(a)-754, as amended.

Santa Ana NWR Purpose -- "...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." 16 U.S.C.715d (Migratory Bird Conservation Act)

"...suitable for -- (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species..." 16 U.S.C. 460k-1 (Refuge Recreation Act)

5.0 Lower Rio Grande Valley NWR Management Program

³⁴ Refuge purpose statements are primary to the management of each refuge within the refuge system. The purpose statement is the basis upon which primary management activities are determined. Additionally, these statements are the foundation from which "allowed" uses of refuge are determined through a defined "compatibility process."

5.1 Biological Diversity, Land Protection, and Wildlife and Habitat Management

GOAL: *To restore, enhance, and protect the natural diversity of the Lower Rio Grande Valley including threatened and endangered species on and off refuge lands, through (1) land acquisition when appropriate, (2) the management of habitat and wildlife resources on refuge lands; and, (3) by strengthening existing, and establishing new cooperative efforts with public and private conservation agencies, and other government jurisdictions including Mexico.*

A. Acquisition and Land Status Objectives

1. Continue to pursue acquisition goal of 132,500 acres for the Lower Rio Grande Valley NWR by purchasing fee title lands or conservation easements within the river corridor from willing sellers and other lands within the four county area that will contribute to the preservation and enhancement of any of the 11 biotic communities. Close escrow on approximately a minimum of 5,000 acres per year.³⁵
2. Acquire lands (tracts) that will: (1) Provide for the protection of endangered species; (2) Assist in the achievement of a contiguous river wildlife corridor; (3) Enlarge established brush tracts or create corridors connecting tracts of native habitat; (4) Enhance or connect existing refuge tracts not on or near the river; and, (5) Protect isolated tracts of desirable habitat.
3. Rank lands to be acquired by degree of disturbance or vulnerability as follows: (1) Uncleared native brush land or old regrowth brush land with good species diversity; (2) Wetlands; (3) Tracts of regrowth brush land with lower species diversity but potential for enhancement; (4) Agricultural land (farmed or pasture), especially tracts that would connect substantially uncleared tracts or moderate to high successional stage revegetated tracts; (5) developed lands that if acquired, could connect tracts of native habitat.

³⁵ This minimum objective is based upon existing acquisition dollars. Should Congress appropriate additional dollars, the Service's objectives would be increased. The Service would prefer to complete the corridor as soon as possible so long as dollars and willing sellers are available.

4. In lieu of fee title acquisition, develop more opportunities to work with private landowners leading to the protection of biodiversity on private lands.
5. Investigate the feasibility of acquiring salt extraction subsurface rights in the Sal del Rey Tract (#85) (Bentson family).
6. Develop a process for efficiently researching pipeline, power, and oil and gas development rights-of-ways affecting refuge lands and develop a comprehensive land status map showing easements and county roads.
7. Develop a comprehensive Environmental Impact Statement for international bridge projects in cooperation with the State Department, IBWC, and the Environmental Protection Agency.
8. Establish guidelines and standards for the construction of bridges across the Rio Grande so that they will not interfere with the purpose of the Rio Grande wildlife habitat corridor, in coordination with the State Department, IBWC, and the Environmental Protection Agency. The Pharr-Reynosa Bridge will be used as a model.

B. Research Objectives.

1. Conduct floral and faunal inventories throughout the area of ecological concern, and develop monitoring strategies to detect significant population trends.
2. Enhance international coordination of habitat research and natural resources conservation with Mexican agencies and partners; promote binational efforts to protect natural habitats, wetlands, endangered species, and water quality.
3. Develop and encourage research on wildlife habitat/corridor requirements and benefits to the overall biodiversity of the LRGV ecosystem. This should be done in coordination with universities and State organizations, as well as existing Service programs (i.e., Partners in Flight).
4. Conduct research on revegetation techniques and their associated cost/benefit analyses. Monitor plant survival and growth rates, ecological succession, wildlife utilization, and exotic species occurrence on specific revegetated tracts. Whenever possible, coordinate these efforts with university, State, and Federal organizations.

5. Continue to work cooperatively with Mexican governmental agencies and universities to monitor and protect populations of rare and endangered flora and fauna. This objective includes ongoing conservation work on corridor segments linking the Rio Grande/Rio Bravo corridor to the Laguna Madre of Tamaulipas and the Sierra de los Picachos in the State of Nuevo Leon.

C. Endangered Species Objectives

1. Monitor populations of threatened and endangered floral and faunal species on Refuge tracts and throughout the area of ecological concern. Use GIS and Global Positioning Systems to document locations of populations of species of management concern.

2. Implement recovery objectives identified in the various T/E Recovery Plans.

3. In conjunction with the various lead offices for T/E species, determine T/E species needs on the Refuge and develop strategies to provide for such needs. These strategies include habitat enhancement and restoration, support for research and recovery actions through Section 6 or other funding sources, and propagation and reintroduction into appropriate sites.

4. Conduct Intra-Service consultations with the Ecological Services division, in compliance with Section 7 of the Endangered Species Act, for all refuge projects and actions which "may effect" a T/E species.

5. In coordination with the Ecological Services division, provide a forum for the general public and special interest groups to express and resolve concerns regarding perceived T/E species conflicts arising from the creation of the Refuge. This could include preparation and issuance of safe harbor agreements.

6. Strengthen the existing educational and interpretive programs regarding the presence and importance of T/E species in the LRGV ecosystem.

D. Revegetation and Habitat Management Objectives

1. Continue to protect and restore refuge lands containing any of the 11 biotic communities identified in the Land Protection Plan (LPP).
2. Continue to revegetate up to 1000 acres of refuge cropland per year with appropriate native plant species, based upon FY 1996 staffing and funding levels (see District Level Strategies). Continue to utilize Cooperative Farming Agreements, in coordination with refuge personnel and other funding sources, to implement revegetation of approximately 5% to 15% of refuge cropland each year. Prioritize revegetation of fields according to the following scale (with A being the highest priority):
 - A) Fields located immediately adjacent to the Rio Grande which would directly link habitat corridor segments.
 - B) All other fields adjacent to the Rio Grande, or which would directly link habitat corridor segments, or are adjacent to existing protected habitat tracts.
 - C) Fields (or strips) that would form firebreaks or visual barriers adjacent to roads or developed areas.
 - D) All other cultivated fields.
 - E) All other fallow or weedy fields.

Within this set of priorities, it should be noted that each Cooperative Farmer normally conducts revegetation work on the same tract(s), or as close as possible, to the refuge fields being farmed. Fallow and weedy fields are all those that were previously farmed, but have been abandoned or were unsuccessfully revegetated in the past.

3. The primary objective of revegetation is to restore high-quality habitat on disturbed sites (mainly croplands), modeled on undisturbed sites with similar characteristics, in the minimum length of time.
4. Utilize revegetation strategies and techniques that optimize the following objectives, prioritized in the order listed:
 - A) Provide a diversity and composition of native plant species modeled on the vegetation of undisturbed sites with similar characteristics.

- B) Yield the highest possible cost/benefit ratio (the balance of the greatest quality and amount of habitat produced for the lowest cost). Within this objective, achieving quality restoration work is more important than quantity, although both are important. Quality is a somewhat subjective judgement based on adherence to the diversity and composition objective (above), plant survival rates, growth rates and *in-situ* reproduction. Quantity of restoration is based on acreage, *after* adjusting for failure rates.
- C) Enhance the post-planting ecological succession of restored sites to generate diverse biotic communities resembling habitat on undisturbed sites. This objective is accomplished through planting patterns, spacing, composition and site preparation which will stimulate *in-situ* regeneration of plants, introduction of additional native plants through faunal and abiotic vectors, and colonization by native fauna.
- D) Minimize the impact of perennial exotic species, the most significant of which are the exotic grass species and Russian thistle (*Salsola kali*).

5. Identify areas believed to have been grasslands or savanna at the time of Spanish colonization; possible sites may be found at the Sal del Rey Tract (#85) and Rudman portion of the Teniente Tract (#41) in the Northern Hidalgo County District. Develop techniques for restoring these unique plant communities and implement their restoration at suitable sites.

6. Identify areas subject to gully erosion and plant native grass waterways.

7. Develop and stimulate research on revegetation techniques and results, in coordination with university, State, and Federal entities.

8. Construct and maintain existing fencing on those revegetated refuge tracts prone to trespassing, illegal dumping, and illegal burning.

9. Evaluate the feasibility of enhancing revegetation efforts through an experimental grazing program. The objective of this grazing program would be to suppress exotic grasses that have invaded previously revegetated sites. Additionally, grazing could reduce fuel loads and wildfire potential. This would entail coordination with experts in the County Agricultural Extension Program for development, implementation, and monitoring of effects. As part of the development of an overall experimental grazing program, design an experimental grazing allotment

with assistance from the County extension agent specifically on the Noriega Tract (#57), Cameron County District, and the Teniente (#41) or Sal del Rey (#85) tracts in the Upper Hidalgo/ Willacy County District.

E. Fire Management

1. Use a combination of strategies such as discing, prescribed fire, and herbicides (depending on location and other factors) to control and lessen fuel loads in areas susceptible to high growth levels of bermuda and other exotic grasses and Russian thistle, especially tracts within the Hidalgo County District as 40% of all suppressed fires in the LRGV are in that area. Areas would not be reforested until these exotics are removed.

2. Presuppression / Suppression -- The refuge will maintain a standing force of fire program personnel whose primary duty will be to detect and suppress those wildfires found on the refuge.³⁶

3. Prescribed fire

A) Fire management staff will inventory small riparian areas and other refuge holdings where exotic plants have become prolific and for wildland/urban reasons, adjacent threatened native habitat or possible road hazards where wildfire could occur.

³⁶ The Standard or average burning or wildfire season for the LRGV has been determined to be 10 months per year. Occasionally, there are seasons of 12 months. A great number of wildfire ignitions occur on the Complex's property each year (approximately 50-75 ignitions per year). Suppression is mandated by Agency policy and Federal Law for all fires that are not naturally ignited or ignited intentionally by the agency for an accepted purpose and they must be burned in accordance with a pre-approved prescribed burn plan. Due to the Wildland/Urban interface presence next to a number of refuge tracts, the fact that the complex is continuing to acquire land and the probability that criminal activities such as smuggling etc. will continue to increase it is anticipated that the wildfire ignitions will also remain an upward trend. This requires and will require a standing force of fire program personnel whose primary duty will be to detect and suppress those wildfires found on the refuge.

- B) Develop plans for approval that would mitigate the impacts from a hazard mitigation standpoint and from the possible socio-economic and political implications.
- C) Inventory in cooperation with biological staff those areas of the refuge that might be in need of habitat enhancement prescribed burning strategies in an effort to mimic historic natural fires and thus benefit overall habitat health.

4. Staffing and Equipment -- In order to meet the needs of this expanding work load ongoing assessments of property acquisitions, fire occurrence, illegal activity (i.e., human presence) will have to be made annually to insure that the refuge's needs are being met

5. Coordination with Other Agencies -- Please refer to Section F. Below, Partnerships and Cooperative Efforts.

F. Law Enforcement

- 1. In order to ensure the protection of refuge lands' resources, the LRGV will establish a total of five full time permanent law enforcement positions in accordance with the LRGV NWR Complex Law Enforcement Review of 1993.

G. Partnerships and Cooperative Efforts

- 1. The Service would continue to seek partnership opportunities with TPWD leading to the resolution of wildlife, plant, and habitat issues in the LRGV especially for tracts which have common borders. Partnerships could include cooperative management efforts with respect to: law enforcement; biological inventories, monitoring, and research; public use; and, other activities in a manner that would provide mutual benefits to each agency with a greater efficiency of available resources.
- 2. The Service would continue to seek partnership opportunities with Mexico, other Federal, State and local government agencies, and non-governmental organizations to meet common goals and objectives.
- 3. Fire Management -- Due to the great number of local, State, and Federal agencies operating in and around the LRGV and refuge holdings, it is essential that a great deal of effort be committed to coordination. Close working relationships will be established with all concerned fire agencies as well as with other overlapping jurisdictions such as emergency rescue, law enforcement, and civil disaster preparedness agencies. Since all fire management resources are regional and national

resources as well as refuge resources, it is necessary for the program supervisor to maintain close coordination with the zone dispatch center managers, and the Service's regional coordinator. It is also necessary for the fire program supervisor to keep the appropriate refuge line officer appraised and up to date on refuge fire situations as well as anticipated needs off refuge.

5.2 Water Rights, Water Management and the Management of Wetlands

GOALS: (1) To protect existing water rights holdings in the Area of Ecological Concern and obtain additional water rights, to the extent needed. (2) To improve the efficiency of water delivery systems and more effectively gauge water use for the benefit of refuge revegetation purposes and wetland restoration and enhancement purposes. (3) To achieve wetlands protection, enhancement, and rehabilitation within the Area of Ecological Concern.

OBJECTIVES:

1. Protect and enhance 44 various wetland areas consisting of approximately 193 acres refuge wide by completion of various restoration projects to include installation and/or repair of water control structure, delivery systems, culverts, and dikes (See Refuge District Strategies).
2. Continue to acquire tracts with restorable or existing wetlands.
3. Develop an inventory of existing and historic wetlands on Refuge lands.
4. Establish criteria to determine baseline conditions for wetland restoration/enhancement projects prior to implementation.
5. Develop a monitoring program to determine the long term success of wetland conservation/restoration projects in terms of water quality, animal use, etc...(in coordination with E.S., universities, etc...)
6. Use prescribed burning in wetland areas to maintain or stimulate desirable plant and water conditions.
7. Without adversely affecting other entitlement holders, protect 16,000 acre feet of existing allocated water rights (purchased fee simple) by working with Texas Water Commission to ensure that refuges uses are judged to be "beneficial uses."

8. Acquire additional water rights when they become available refuge-wide.
9. Continue to assist non-refuge conservation entities such as Sabal Palm Grove with refuge allocated water.
10. Continue to maintain La Selva Verde Tract (470 acres) and Laguna Atascosa NWR water right from the Nueces/Rio Grande Basin right of 750 acre/feet.
11. Work with Regional Department of the Interior Solicitor and TNRCC in developing a water right policy defining water right flexibility to include an understanding of the following:
 - (a) the legalities of contracting or selling water to maintain right,
 - (b) the possible exchange of water rights for work performed, whether property could be traded for water rights.

Based upon the findings and recommendations of the Solicitor and the State of Texas develop a water right management objectives.

12. Investigate the possible use of subsurface waters through the use of windmills and stock tanks, especially on tracts farthest away from the river.
13. Continue to record and document the need and use of water on the refuge. Advise regional water rights coordinator of water rights use and activities.
14. Improve the efficiency of water delivery systems and effectively gauge water use for the ultimate benefit and enhancement of habitat and wildlife.
15. Coordinate water management activities with the Bureau of Reclamation, Corps of Engineers/IBWC/ and the State in the development of a system-wide water management plan.
16. Continue to work with irrigation districts throughout the Lower Rio Grande Valley to minimize water use costs derived from assessment fees.
17. Continue to use irrigation districts to pump and deliver water when necessary.

18. Continue to maintain, develop, restore, or improve water systems for the following groupings of Tracts:

- A. Abram (#22), La Parida B. (#23), Palmview (#24) and El Morillo B. (#25).
- B. Gabrielson (#28), Granjeno (#29), and Cottam (#30)
- C. Marinoff (#35), Milagro (#72), and Monterrey B. (#38)
- D. Santa Maria (#45), Villitas (#46), La Gloria (#82), Resaca del Rancho Viejo (#49), and Resaca Fresnos (#68)
- E. Ranchito (#54), Tahuachal Banco (#69), Garza-Cavazos (#55)
- F. Boscaje (#59), Jeronimo Banco (#88)

19. Initiate and/or complete the following wetland restoration projects in order of priority as presented in the following table:

TRACT	County District	WETLANDS	ACRES	% complete	PROJECT TYPE
(1) El Morillo Banco (#25)	Hidalgo	1	50	30%	delivery, control structure
(2) Teniente (#41)	Willacy	17	143	50%	ditch plugs, control structure, delivery
(3) Ranchito (#54)	Cameron	8	170	75%	control structure, delivery
(4) La Selva Verde (#78)	Cameron	6	397	75%	control structure, ditch plugs, delivery
(5) Resaca del Rancho Viejo (#49)	Cameron	1	25	50%	delivery
(6) La Gloria (#82)	Cameron	1	20	75%	dike install., control structures
(7) Valadeces Banco (#11)	Starr	1	35	0%	delivery, land agreement
(8) Tahuachal Banco (#69)	Cameron	1	20	0%	delivery, dike install
(9) Los Velas (#66)	Starr	1	15	0%	control structure

20. Work with IBWC to insure major components of Memorandum of Agreement are adhered to with respect to reducing width of mowed areas from 235 feet to 75 feet along a 34 mile stretch of river beginning at the weir above Brownsville.

21. Pursue development of a revegetation management plan for the riparian edges along the flood control system in cooperation with the IBWC.

22. Perfect water rights in the lower Rio Grande Basin and the Nueces/ Rio Grande Coastal Basin areas. Investigate rights needed to pump from Coastal Basin drainage ditches.

5.3 Water Quality and Contaminants

GOAL: *(1) To improve refuge water quality and ensure water management projects are monitored for contamination and, (2) to reduce contaminant related fish and wildlife resource losses on lands and waters and minimize any impacts that are unavoidable.*

OBJECTIVES:

1. Improve understanding of the effects of contamination on Lower Rio Grande Valley species in coordination with state and federal entities.
2. Establish consistent implementation of state and federal water quality standards by establishing long term cooperation with the State's water quality officials.
3. Continue to work with the Division of Ecological Services, and TNRCC by providing data regarding salt content of the Rio Grande as well as other non-point source contaminants that affect soils and resources on Service lands.
4. Using an ecosystem approach, coordinate with the Division of Ecological Services, IBWC, and Corps of Engineers, and other state and federal agencies in periodically sampling water in various segments of the river, drainage ways, resacas, and wetland areas within refuge lands.
5. Using an ecosystem approach, coordinate periodic meetings with Division of Ecological Services and the Texas Water Commission to discuss water concerns within the LRGV ecosystem.
6. Monitor public uses, concentrations, and effects on water, land, and wildlife resources in an effort to understand the effects of human uses on the LRGV ecosystem.
7. In coordination with the Division of Ecological Services, continue to identify and categorize those areas on the Refuge in need of contaminant clean-up.
8. Prioritize, in coordination with Division of Ecological Services, areas on the Refuge in need of sampling for possible contaminants (soil, water, etc.).

9. In coordination with the Division of Ecological Services, prioritize those areas on the refuge consisting of illegal dump-sites containing household garbage and implement clean-up.

10. Educate local communities about the need to reduce illegal trash dumping on Service and other LRGV corridor lands and participate and assist in Lower Rio Grande Valley clean up days and tire amnesty days.

11. Work with County officials in the counties along the river to develop additional legal dump sites. Increase patrols of gates and fences.

12. Work with oil and gas developers to reduce soil and water contamination incidents resulting from oil and gas leaks.

5.4 Cultural Resources

GOAL: *To protect, maintain, and plan for Service managed cultural resources on the Lower Rio Grande Valley / Santa Ana NWR for the benefit of present and future generations.*

OBJECTIVES:

1. Coordinate with SHPO to identify cultural resources on the refuge. Evaluate the status of new sites such as the Casa Yanqui ruins in the Starr County District and submit for additional protection (i.e., National Register) if necessary.

2. Develop mechanisms and tools to assist in the education of local communities of the importance of Lower Rio Grande Valley cultural resources.

3. Develop opportunities for the public appreciation of identified cultural resource areas in coordination with the Camino del Rio project.

4. Integrate a cultural resource information component into the interpretive program at Santa Ana NWR.

5. Establish interpretive kiosk, or site at La Sal del Rey Tract (#85) Historic Site, the Hidalgo Pump House (Pate Bend Tract (#31), and establish an interpretive/ rest stop for the Palmito Ranch Battlefield (National Historical Landmark) in cooperation with the State at Tulosa Ranch Tract (#60) and Palmito Hill Tract (#61) [See also, Goal 5 below.].

6. Research and record history of LRGV NWR tracts and consider developing a specific tract displays in the refuge visitor center.

5.5 Public Use, Recreation, and Wildlife Interpretation & Education

GOALS: (1) To continue to offer a quality wildlife observational trail system on Santa Ana NWR. (2) To offer compatible wildlife-dependent public access and recreational opportunities on tracts of the Lower Rio Grande Valley NWR that result in furthering the public's appreciation of Lower Rio Grande Valley Area of Ecological Concern and the National Wildlife Refuge System. This will be done by the provision of wildlife observation, photography, fishing, and hunting recreational opportunities in accordance with Executive Order 12996.³⁷ (3) To continue wildlife interpretation and educational efforts at Santa Ana NWR and initiate interpretive efforts for Lower Rio Grande Valley NWR in coordination with private groups and other jurisdictions.

OBJECTIVES

1. Work with local conservation organizations to develop a long range plan to reestablish and continue tram Services at Santa Ana NWR.
2. Strengthen the existing educational and interpretive programs and develop new approaches towards describing and disseminating information on the interrelationships between all the organisms (plant/animal/insect) which contribute to Lower Rio Grande Valley biological diversity.
3. Establish 3 interpretive centers on refuge lands in Cameron County District, Hidalgo County District, and Starr County District either by the placement of kiosks or eventual establishment of satellite offices.
4. Consider establishment of limited levels of compatible public access for wildlife observation and, photography on the following LRGV NWR Tracts: Ytrurria Brush Tract (#18), La Sal Vieja-Sal del Rey Tracts (#85), Monte Cristo Tract (#26), La Puerta (#5), Boca Chica Area, and/or the Schaleben Tract (#37).³⁸

³⁷ Recreational uses are considered Compatible when they do not "materially detract from or interfere with the purposes for which a refuge is established."

³⁸ With respect to considering opening up certain tracts to limited access, the Service has given priority to those tracts away from the main river channel and corridor for two reasons: (1) The river areas consist of smaller tracts that may not be appropriate for access; (2) Existing opportunities for wildlife observation are present at Santa Ana NWR, Sabal Palm Grove, Bentsen-Rio Grande and the Falcon Dam area. Opportunities exist at other sites along the river for fishing access. At any point where the Service decides to consider implementation of public access on sites presently closed, the new use will be analyzed with respect to its "compatibility." In addition, the Service would have to filter proposed actions through the Refuge Recreation Act Funding Certification analysis. Finally, additional site specific NEPA consideration may also be necessary.

5. Work with TPWD to evaluate deer herd population (5-year) trends in the East Lake Teniente Tract (#41). Establish a deer hunt if the trend analysis demonstrates a harvestable surplus and if the proposed activity is determined compatible in accordance with policy and law.
6. Establish interpretive kiosk, or site at La Sal del Rey Tract (#85), the Hidalgo Pump House (Pate Bend Tract (#31), and establish an interpretive/ rest stop for the Palmito Hill Battlefield (National Historical Landmark) in cooperation with the State at Caja Pinta Banco Tract (#79), Tulosa Ranch Tract (#60) and Palmito Hill Tract (#61).
7. Strengthen Refuge public outreach in the Starr County District by developing a bilingual outreach capability for that area.
8. Establish a "Friends" support organization in order to improve community relations and achieve refuge objectives.
9. Initiate strategies leading to enhanced cooperative efforts between the Service, TPWD, other state and federal agencies, Mexico, and non governmental organizations as delineated in Goal 1 F.

Establishing public access at some of the larger off-river sites is justified because of their size and they can accommodate very simple forms of public access [wildlife photography and observation] where disturbance can be monitored and minimized. The smaller tracts along the corridor are much less able to absorb effects and impacts of access and uses. The exception might be the sizeable Boca Chica Tract at the delta where beach access will continue. The Service is also willing to consider continuing access to fishing areas on river portions of the Boca Chica Tract.

6.0 Santa Ana NWR Management Program

6.1 Biological Diversity, Land Protection, and Wildlife and Habitat Management

GOAL: *To restore, enhance, and protect the natural diversity of the Lower Rio Grande Valley including threatened and endangered species on and off refuge lands, through (1) land acquisition when appropriate, (2) the management of habitat and wildlife resources on refuge lands; and, (3) by strengthening existing, and establishing new cooperative efforts with public and private conservation agencies, and other government jurisdictions including Mexico.*

A. Acquisition and Land Status Objectives

1. Continue to investigate the feasibility of acquiring the farm fields along the east and west boundary of Santa Ana.
2. Investigate the feasibility of acquiring the Mesa family land in the northwest corner of the Santa Ana headquarters area.

B. Scientific Data Objectives

1. Develop and implement a biological Inventory and Monitoring Plan (IMP) for Santa Ana in accordance with 701 FW 2. The IMP will enable the refuge to focus limited resources on data collection that is pertinent to Service policies and programs and to management objectives of Santa Ana NWR.
2. Continue and improve coordination of international habitat research and conservation with Mexican agencies and partners especially those pertaining to native habitat protection including wetlands, endangered species, and water quality.
3. Develop and encourage cooperative research on the refuge with university and state entities, as well as with existing Service programs (e.g., Partners in Flight). Cooperative research will make efficient use of limited funds, help avoid duplication of effort, and promote an ecosystem approach to land management.

C. Endangered Species Objectives

1. Determine the existence of threatened and endangered floral and faunal species on Santa Ana NWR by developing and implementing a long term Inventory and Monitoring Plan. Use GIS and GPS to document locations of endangered flora.
2. Implement recovery objectives identified in the various T/E Recovery Plans.
3. In conjunction with the various T/E species' lead offices, determine T/E species needs on the Refuge and develop strategies to provide for such needs. These strategies should include habitat enhancement, funding and research opportunities, (Section 6, University, conservation organization, Service Division of Research etc.), propagation and others.
4. Ensure protection of T/E species through compliance with Section 7 of the Endangered Species Act by initiating Intra-Service Section 7 consultations with the Services Office for projects/actions which "may affect" T/E species.
5. Strengthen existing educational and interpretive programs and develop new approaches towards describing and disseminating information regarding the presence and importance of T/E species in the LRGV ecosystem.

D. Revegetation and Habitat Management Objectives

1. Revegetate grassy areas near the refuge entrance road and visitor center with native brush species.
2. Revegetate grassy areas in "Bravo Woods" with native brush species.
3. Remove buildings from old headquarters area. Revegetate to return area to wildlife habitat.
4. Develop pilot program to control non-native grasses on roadsides and replant with native grass species.
5. Maintain fencing, gates, and boundary signs on the refuge to prevent plant poaching and illegal dumping. Increase patrols. Promptly clean up any dump sites.

E. Fire Management

1. Continue to keep roadsides mowed to reduce fuel load.

2. Avoid stacking fuel on the refuge when trimming trees and brush. Use chipper when feasible.

F. Law Enforcement

1. Ensure visitor safety and the protection of refuge resources by establishing a total of five full time permanent law enforcement positions in accordance with the LRGV NWR Complex Law Enforcement Review of 1993.
2. Increase presence of uniformed staff and volunteers on trails and in the parking lot.
3. Investigate possible upgrade of surveillance camera equipment for the visitor parking lot.
4. Install sign in visitor center parking area reminding visitors to lock their vehicles and stow valuables.

G. Partnerships and Cooperative Efforts

1. Continue to seek partnership opportunities with TPWD leading to the resolution of wildlife, plant, and habitat issues in the LRGV especially for tracts which have common borders. Partnerships could include cooperative management efforts in: law enforcement; biological inventories, monitoring, and research; public use; and other activities in a manner that would provide mutual benefits to each agency with a greater efficiency of available resources.
2. Continue to seek partnership opportunities with Mexico, other Federal, State and local government agencies, and non-governmental organizations to meet common goals and objectives.

6.2 Water Rights, Water Management and the Management of Wetlands

GOALS: (1) To protect existing water rights holdings in the Area of Ecological Concern and obtain additional water rights, to the extent needed. (2) To improve the efficiency of water delivery systems and more effectively gauge water use for the benefit of refuge revegetation purposes and wetland restoration and enhancement purposes. (3) To achieve wetlands protection, enhancement, and rehabilitation within the Area of Ecological Concern.

OBJECTIVES

1. Continue to update and implement the Santa Ana NWR Water Management Plan.
2. Protect and enhance wetland areas on Santa Ana by installation and/or repair of water control structures, delivery systems, culverts, and dikes for the ultimate benefit of habitat and wildlife.
3. Continue to document the need for and use of water on the refuge. Develop and maintain a computerized inventory of water use and wetland water levels.
4. Restore the historic flooding regime in Santa Ana flood forest areas each spring by pumping water from the Rio Grande. Use GPS and GIS to delineate the boundaries of the flooded area. Develop program to monitor long term effects of the restored flooding regime.
5. Continue to maintain a diversity of water levels and habitat conditions in refuge resacas to benefit a broad spectrum of wetland-dependent native flora and fauna.
6. Use a program of drying, mowing, disking, and prescribed burning in wetland areas to maintain or stimulate desirable plant and water conditions.
7. As part of IMP, develop and implement monitoring program to evaluate success of wetland management program in terms of water quality, habitat quality, animal use, etc.

6.3 Water Quality and Contaminants

GOAL: (1) *To improve refuge water quality and ensure water management projects are monitored for contamination and, (2) to reduce contaminant-related fish and wildlife resource losses on lands and waters and minimize any impacts that are unavoidable.*

OBJECTIVES

1. Improve understanding of the effects of contamination on Lower Rio Grande Valley species in coordination with state and federal entities. Coordinate periodic meetings with Division of Ecological Services and the Texas Water Commission to discuss water concerns within the LRGV ecosystem.
2. Prioritize areas on the refuge in need of sampling for contaminant levels (soil, water, etc.) as part of the Inventory and Monitoring Plan.

3. Using an ecosystem approach, coordinate with other state and federal agencies to begin studies on contaminant levels in Santa Ana wetlands, the effects of contaminants on local flora and fauna, and possible mitigation strategies.
4. Continue efforts to reduce, reuse, and recycle waste in all refuge programs.
5. Educate local communities about the need to reduce illegal trash dumping and participate and assist in Lower Rio Grande Valley clean up days and tire amnesty days.

6.4 Cultural Resources

GOAL: *To protect, maintain, and plan for Service managed cultural resources on the Lower Rio Grande Valley / Santa Ana NWR for the benefit of present and future generations.*

OBJECTIVES

1. Develop mechanisms and tools to assist in the education of local communities of the importance of Lower Rio Grande Valley cultural resources.
2. Develop opportunities for the public appreciation of identified cultural resource areas in coordination with the Caminos del Rio project.
3. Integrate a cultural resource information component into the interpretive program at Santa Ana NWR.
4. Develop a cultural resource brochure and display for the visitor center.
5. Maintain and landscape historic areas on refuge such as the Old Cemetery and the Santa Ana Land Grant interpretive sign near the visitor center.

6.5 Public Use, Recreation, and Wildlife Interpretation & Education

GOALS: *(1) To continue to offer a quality wildlife observational trail system on Santa Ana NWR.. (2) To offer compatible wildlife-dependent public access and recreational opportunities on tracts of the Lower Rio Grande Valley NWR that result in furthering the public's appreciation of Lower Rio Grande Valley Area of Ecological Concern and the National Wildlife Refuge System. This will be done by the provision of wildlife observation, photography, fishing, and hunting recreational opportunities in accordance with Executive Order 12996. (3) To continue wildlife interpretation and educational efforts at Santa Ana NWR and initiate interpretive efforts for Lower Rio Grande Valley NWR in coordination with private groups and other jurisdictions.*

OBJECTIVES

1. Work with local conservation organizations to develop a long-range plan to continue tram services at Santa Ana NWR.
2. Develop and implement an updated sign plan. Replace worn and outdated interpretive signs and develop additional ones. Replace entrance sign. Work with the Texas Department of Transportation to place additional Santa Ana directional signs on area highways.
3. Develop and install updated visitor center exhibits.
4. Develop new interpretive materials for visitors, e.g. brochures on plant communities, the Wildlife Corridor, and general Santa Ana NWR information; and an interpretive audio cassette for visitors driving the tour loop.
5. Strengthen outreach, environmental education, and wildlife-oriented recreational opportunities for Spanish-speaking visitors. Develop more interpretive programs and materials in Spanish.
6. Strengthen communication between federal, state, local, and private agencies interested in environmental education and public outreach. Establish a Valley-wide working group of environmental educators to share ideas, coordinate activities, and develop a joint effort to promote quality environmental education in south Texas and Mexico.
7. Maintain trails, signs, parking lot, visitor center, and public restrooms to high standards of cleanliness and repair.
8. Investigate the feasibility of initiating a fee collection program at Santa Ana NWR.
9. Establish a "Friends" support organization to improve community relations and achieve refuge objectives.
10. Continue to seek funding for tour loop and parking lot repair.
11. Evaluate the need for new overlooks, photo blinds, and parking areas along refuge roads and trails. Initiate necessary improvements.

7.0 Refuge Management Strategies by District

7.1 Starr County District Strategies

1. Reassess acquisition needs in Starr County and improve the connection of the fragmented small parcels that have not coalesced into a manageable unit especially in the Grulla Tract area.
2. Improve habitat and wildlife suitability by developing small fresh water sites on lands farther away from the River such as Los Olmos Tract (#86) and La Puerta Tract (#5). If possible repair old windmills present on the sites.
3. Increase monitoring of fencing and repair when necessary on revegetated tracts such as Los Velas Tract (#66) to prevent entry by people or cattle. Hire an additional law enforcement person to provide more presence on these tracts to prevent poaching of deer, javelina, and peyote.
4. Continue to monitor and protect threatened and endangered plant species such as Walker's Manioc, Johnston's Frankenia, Zapata Bladderpod, Ashy Dogweed and Star Cactus by placing each known plant on the GPS system coordinates.
5. Use GIS and GPS to conduct improved floristic surveys, especially on tracts subject to oil and gas exploration.
6. Continue to revegetate cropland in proportion to total farm acreage managed by the refuge in Starr County. In September, 1997, 418.0 acres of refuge cropland were covered under Cooperative Farming agreements in Starr County; this represents 4% of the total refuge Cooperative Farming acreage of 10,370.7 acres.
7. Restore Starr County District wetlands as follows: Valadeces Banco (#11) 1 wetland totaling 35 acres, (priority 9 of 11); and, Los Velas Tract (#66) 1 wetland totaling 15 acres, (priority 11 of 11).
8. Dedicate a new Full Time Equivalent (FTE)T to concentrate on oil and gas issues including assessing value on vegetation in areas subject to exploration or development, Section 7 consultations, Section 404 wetland permits, and developing cooperative agreements with owners of mineral rights.
9. Evaluate status and explore elevating level of protection (i.e., national register) of the Casa Yanqui ruins.
10. Strengthen Refuge public outreach in the Starr County District by developing a bilingual outreach capability for that area. Outreach should include contacts with schools and chamber of commerce offices in Rio Grande City.

11. Develop cooperative agreements with farmers to farm tracts prone to be fire hazards because of grasses and weeds, provide extra protection until fire danger is reduced.

7.2 Southern Hidalgo District Strategies

1. Continue to revegetate cropland in proportion to total farm acreage managed by the refuge in Hidalgo County (exclusive of the area covered in section 7.4). In September, 1997, 1,501.7 acres of refuge cropland were covered under Cooperative Farming agreements in lower Hidalgo County; this represents 14% of the total refuge Cooperative Farming acreage of 10,370.7 acres. Revegetation will be completed on 144.2 acres in lower Hidalgo County by February, 1998.

2. Develop cooperative agreements with farmers to farm tracts prone to be fire hazards because of grasses and weeds, provide extra protection until fire danger is reduced.

3. Work with Hidalgo County to establish more legal trash dump sites. Increase monitoring of fences and gates and along roads and areas between refuge tracts and adjacent owners. Target tracts for illegal trash reduction include: Sam Fordyce (#19), Havana (#20).

4. Develop educational outreach training or seminars for Border Patrol agents, and USDA (Tick Eradication Program) so they better understand the Service's mission in the Lower Rio Grande Valley, and request that the Border Patrol and USDA provide additional training and orientation with respect to their mission, goals and objectives in the Lower Rio Grande Valley.

5. Continue efforts to improve and restore El Morillo Banco Tract (#25) wetlands. Design and install improved pump site and investigate funding options to be able to deliver water seasonally. Options include paying a water district, or to use the Refuge water rights.

6. Restore and manage wetlands in the following tracts in this management district: El Morillo Banco (#25), 1 wetland totaling 50 acres, (priority 3 of 11); Willow Lake at Santa Ana NWR, 6 wetlands totaling 38 acres, (priority 1 of 11); Cattail Lake at Santa Ana NWR, 1 wetland totaling 70 acres, (priority 2 of 11).

7. Request the Office of the Solicitor to answer pending legal questions with respect to the legitimacy of water district assessments.

8. Develop interpretive materials for the Hidalgo Bend pump house in coordination with the Camino del Rio program. Participate in development of guided tram program and/or trail.

9. Develop and/or update interpretive materials for the Santa Ana NWR National Natural Landmark along with the grave yard, and Texas historical monuments.

10. Develop interpretive signing on boundary of lands adjacent to parks or lands with high public use inviting them to look in but not walk in. Includes tracts such as: El Morillo Banco (#25) and La Parida Banco (#23).

11. Continue to reduce the level of trespass in the Otha Holland Wildlife Corridor / Delta Lake Canal (#75). Continue to patrol and maintain signs and fences. Within 5 years, amend or renegotiate corridor agreement to exclude the lake from the agreement. Terminate the corridor at the highway and exclude fencing from the agreement and exclude other problem areas that are of little wildlife benefit.

12. Continue to monitor and protect threatened and endangered plant species such as *Ayenia limitaris* by placing each known plant on the GPS system coordinates.

13. Use GIS and GPS to conduct improved floristic surveys, especially on tracts subject to oil and gas exploration.

Santa Ana NWR Specific Strategies

14. Continue to investigate the feasibility of acquiring the farm fields along the east and west boundary of Santa Ana.

15. Investigate the feasibility of acquiring the Mesa family land in the northwest corner of the Santa Ana headquarters area.

16. Develop and implement a biological Inventory and Monitoring Plan (IMP) for Santa Ana in accordance with 701 FW 2. The IMP will enable the refuge to focus limited resources on data collection that is pertinent to Service policies and programs and to management objectives of Santa Ana NWR.

17. Continue and improve coordination of international habitat research and conservation with Mexican agencies and partners especially those pertaining to native habitat protection including wetlands, endangered species, and water quality.

18. Develop and encourage cooperative research on the refuge with university and state entities, as well as with existing Service programs (e.g., Partners in Flight). Cooperative research will make efficient use of limited funds, help avoid duplication of effort, and promote an ecosystem approach to land management.
19. Determine the existence and habitat needs of threatened and endangered species on Santa Ana NWR by developing and implementing a long term Inventory and Monitoring Plan. Use GIS and GPS to document locations of endangered flora.
20. Implement recovery objectives identified in the various T/E Recovery Plans.
21. In conjunction with the various T/E species' lead offices, determine T/E species needs on the Refuge and develop strategies to provide for such needs. These strategies should include habitat enhancement, funding and research opportunities, (Section 6, University, conservation organization, Service Division of Research etc.), propagation and others.
22. Ensure protection of T/E species through compliance with Section 7 of the Endangered Species Act by initiating Intra-Service Section 7 consultations with the Services Office for projects/actions which "may affect" T/E species.
23. Strengthen existing educational and interpretive programs and develop new approaches towards describing and disseminating information regarding the presence and importance of T/E species in the LRGV ecosystem.
24. Revegetate grassy areas near the refuge entrance road and visitor center with native brush species.
25. Revegetate grassy areas in "Bravo Woods" with native brush species.
26. Remove buildings from old headquarters area. Revegetate to return area to wildlife habitat.
27. Develop pilot program to control non-native grasses on roadsides and replant with native grass species.
28. Maintain fencing, gates, and boundary signs on the refuge to prevent plant poaching and illegal dumping. Increase patrols. Promptly clean up any dump sites.
29. Continue to keep roadsides mowed to reduce fuel load.
30. Avoid stacking fuel on the refuge when trimming trees and brush. Use chipper when feasible.

31. Ensure visitor safety and the protection of refuge resources by establishing a total of five full time permanent law enforcement positions in accordance with the LRGV NWR Complex Law Enforcement Review of 1993.
32. Increase presence of uniformed staff and volunteers on trails and in the parking lot.
33. Investigate possible upgrade of surveillance camera equipment for the visitor parking lot.
34. Install sign in visitor center parking area reminding visitors to lock their vehicles and stow valuables.
35. Continue to seek partnership opportunities with TPWD leading to the resolution of wildlife, plant, and habitat issues in the LRGV especially for tracts which have common borders. Partnerships could include cooperative management efforts in: law enforcement; biological inventories, monitoring, and research; public use; and other activities in a manner that would provide mutual benefits to each agency with a greater efficiency of available resources.
36. Continue to seek partnership opportunities with Mexico, other Federal, State and local government agencies, and non-governmental organizations to meet common goals and objectives.
37. Continue to update and implement the Santa Ana NWR Water Management Plan.
38. Protect and enhance wetland areas on Santa Ana by installation and/or repair of water control structures, delivery systems, culverts, and dikes for the ultimate benefit of habitat and wildlife.
39. Continue to document the need for and use of water on the refuge. Develop and maintain a computerized inventory of water use and wetland water levels.
40. Restore the historic flooding regime in Santa Ana flood forest areas each spring by pumping water from the Rio Grande. Use GPS and GIS to delineate the boundaries of the flooded area. Develop program to monitor long term effects of the restored flooding regime.
41. Continue to maintain a diversity of water levels and habitat conditions in refuge resacas to benefit a broad spectrum of wetland-dependent native flora and fauna.
42. Use a program of drying, mowing, disking, and prescribed burning in wetland areas to maintain or stimulate desirable plant and water conditions.
43. As part of IMP, develop and implement monitoring program to evaluate success of wetland management program in terms of water quality, habitat quality, animal use, etc.

44. Improve understanding of the effects of contamination on Lower Rio Grande Valley species in coordination with state and federal entities. Coordinate periodic meetings with Division of Ecological Services and the Texas Water Commission to discuss water concerns within the LRGV ecosystem.
45. Prioritize areas on the refuge in need of sampling for contaminant levels (soil, water, etc.) as part of the Inventory and Monitoring Plan.
46. Using an ecosystem approach, coordinate with other state and federal agencies to begin studies on contaminant levels in Santa Ana wetlands, the effects of contaminants on local flora and fauna, and possible mitigation strategies.
47. Continue efforts to reduce, reuse, and recycle waste in all refuge programs.
48. Educate local communities about the need to reduce illegal trash dumping and participate and assist in Lower Rio Grande Valley clean up days and tire amnesty days.
49. Develop mechanisms and tools to assist in the education of local communities of the importance of Lower Rio Grande Valley cultural resources.
50. Develop opportunities for the public appreciation of identified cultural resource areas in coordination with the Caminos del Rio project.
51. Integrate a cultural resource information component into the interpretive program at Santa Ana NWR.
52. Develop a cultural resource brochure and display for the visitor center.
53. Maintain and landscape historic areas on refuge such as the Old Cemetery and the Santa Ana Land Grant interpretive sign near the visitor center.
54. Work with local conservation organizations to develop a long-range plan to continue tram services at Santa Ana NWR.
55. Develop and implement an updated sign plan. Replace worn and outdated interpretive signs and develop additional ones. Replace entrance sign. Work with the Texas Department of Transportation to place additional Santa Ana directional signs on area highways.
56. Develop and install updated visitor center exhibits.
57. Develop new interpretive materials for visitors, e.g. brochures on plant communities, the Wildlife Corridor, and general Santa Ana NWR information; and an interpretive audio cassette for visitors driving the tour loop.

58. Strengthen outreach, environmental education, and wildlife-oriented recreational opportunities for Spanish-speaking visitors. Develop more interpretive programs and materials in Spanish.

59. Strengthen communication between federal, state, local, and private agencies interested in environmental education and public outreach. Establish a Valley-wide working group of environmental educators to share ideas, coordinate activities, and develop a joint effort to promote quality environmental education in south Texas and Mexico.

60. Maintain trails, signs, parking lot, visitor center, and public restrooms to high standards of cleanliness and repair.

61. Investigate the feasibility of initiating a fee collection program at Santa Ana NWR.

62. Establish a "Friends" support organization to improve community relations and achieve refuge objectives.

63. Continue to seek funding for tour loop and parking lot repair.

64. Evaluate the need for new overlooks, photo blinds, and parking areas along refuge roads and trails. Initiate necessary improvements.

7.3 Cameron County District Strategies

1. Restore and manage wetlands in the following tracts in this management district: Ranchito (#54), 8 wetlands totaling 170 acres (priority 5 of 11); La Selva Verde (#78), 6 wetlands totaling 397 acres (priority 6 of 11); Resaca del Rancho Viejo (#49), 1 wetland totaling 25 acres, (priority 7 of 11); La Gloria (#82), 1 wetland totaling 20 acres, (priority 8 of 11); Tahuachal Banco (#69), 1 wetland totaling 20 acres, (priority 10 of 11).

2. Locate county roads adjacent to refuge tracts that would allow for the development of interpretive pull-offs, such as the Resaca del Rancho Viejo Tract (#49) which as a county road goes through it. Provide interpretive panels, signs, and brochures relating wildlife benefits provided by restored wetlands.

3. Continue to revegetate cropland in proportion to total farm acreage managed by the refuge in Cameron County. In September, 1997, 3,157.7 acres of refuge cropland were covered under Cooperative Farming agreements in Cameron County; this represents 30% of the total refuge Cooperative Farming acreage of 10,370.7 acres. Revegetation will be completed on 435.3 acres in Cameron County by February, 1998.

4. Continue wetland restoration work at La Selva Verde Tract (#78) near Laguna Atascosa NWR. Investigate and determine the grazing potential for some of the upland portions of this tract.
5. Increase monitoring of fences, signs and gates on the Loma Preserve (#62) which is leased from the Port of Brownsville.
6. Highway 4 to the Gulf should be maintained as access for traditional uses of the Playa del Rio beach areas for fishing and other recreational access. Develop a cooperative management agreement with TPWD and Cameron County for the management of the shore and beach areas and develop interpretive pull-offs from Highway 4.
7. Develop more comprehensive management plan for Playa del Rio area when acquisition is completed.
8. Establish a practical and reasonable protocol on establishing water quality before it is pumped because of salt water intrusion especially in the Boscaje Tract (#59) and Sabal Palm Grove which share a resaca.
9. Develop cooperative agreements with farmers to farm tracts prone to be fire hazards because of grasses and weeds, provide extra protection until fire danger is reduced.
10. Continue to monitor and protect threatened and endangered plant species such as *Ayenia limitaris* by placing each known plant on the GPS system coordinates.
11. Use GIS and GPS to conduct improved floristic surveys, especially on tracts subject to oil and gas exploration.

7.4 Upper Hidalgo and Willacy County District Strategies

1. Continue to revegetate cropland in proportion to total farm acreage managed by the refuge in upper Hidalgo and Willacy Counties. In September, 1997, 5,293.3 acres of refuge cropland were covered under Cooperative Farming agreements in this area; this represents 51% of the total refuge Cooperative Farming acreage of 10,370.7 acres. Revegetation will be completed on 405.4 acres in upper Hidalgo and Willacy Counties by February, 1998.
2. Continue to protect the National Historic Register District surrounding the 530 acre salt lake within the 5,384 acre La Sal del Rey Tract (#85).
3. Develop and implement grassland and savanna restoration techniques on upland sites at the La Sal del Rey Tract (#85), mainly north and west of the lake.

4. Continue wetland management projects in the Teniente Tract (#41), 17 wetland areas totaling 143 acres (priority 4 of 11). Restore wetland basins and potholes
5. Attempt to acquire mineral rights and associated leasehold rights, or develop a cooperative agreement or letter of understanding with the salt/brine extraction lease holders to minimize damages caused by extraction activities.
6. If determined compatible, establish limited public access for wildlife observation and, photography on the Sal del Rey Tract (#85) and/or the Schaleben Tract (#37).
7. Work with TPWD to evaluate deer herd population (5-year) trends in the East Lake Teniente Tract (#41). Establish a deer hunt if the trend analysis demonstrates a harvestable surplus and if the proposed activity is determined compatible in accordance with policy and law.
8. Maintain hog traps throughout Refuge Tracts.
9. Develop migratory bird food plots on some of the District's tracts adjacent to TPWD lands as a five year test project. Choose lands adjacent to brushy habitat.
10. Continue efforts to work with oil and gas developers on designing access to sites which cause the least amount of impacts to the wildlife and habitat resources.
11. Perfect water rights in the lower Rio Grande Basin and the Nueces/ Rio Grande Coastal Basin areas. Investigate rights needed to pump from Coastal Basin drainage ditches.
12. Pursue possible land exchanges involving the Monte Christo tract.
13. Develop cooperative agreements with farmers to farm tracts prone to be fire hazards because of grasses and weeds, provide extra protection until fire danger is reduced.
14. Use GIS and GPS to conduct improved floristic surveys, especially on tracts subject to oil and gas exploration.

Appendix

APPENDIX A

Butterflies of the LRGV/Santa Ana NWR Complex

Species listed have been recorded as of August 1997. List will enlarge as biological surveys continue and new refuge tracts are added.

Swallowtails Family Papilionidae

Pipevine Swallowtail	<i>Battus philenor</i>
Polydamas Swallowtail	<i>Battus polydamas</i>
Dark Kite-Swallowtail	<i>Eurytides philolaus</i>
Black Swallowtail	<i>Papilio polyxenes</i>
Thoas Swallowtail	<i>Papilio thoas</i>
Giant Swallowtail	<i>Papilio cresphontes</i>
Broad-banded Swallowtail	<i>Papilio astyalus</i>
Three-tailed Swallowtail	<i>Papilio pilumnus</i>
Ornythion Swallowtail	<i>Papilio ornythion</i>
Palamedes Swallowtail	<i>Papilio palamedes</i>
Victorine Swallowtail	<i>Papilio victorinus</i>
Ruby-spotted Swallowtail	<i>Papilio anchisiades</i>

Whites and Sulphurs Family Pieridae

Whites Subfamily Pierinae

Florida White	<i>Appias drusilla</i>
Checkered White	<i>Pontia protodice</i>
Cabbage White	<i>Pieris rapae</i>
Great Southern White	<i>Ascia monuste</i>
Giant White	<i>Ganyra josephina</i>
Falcate Orangetip	<i>Anthocharis midea</i>

Sulphurs Subfamily Coliadinae

Clouded Sulphur	<i>Colias philodice</i>
Orange Sulphur	<i>Colias eurytheme</i>
Southern Dogface	<i>Colias cesonia</i>
White Angled-Sulphur	<i>Anteos clorinde</i>
Yellow Angled-Sulphur	<i>Anteos maerula</i>
Cloudless Sulphur	<i>Phoebis sennae</i>
Orange-barred Sulphur	<i>Phoebis philea</i>
Apricot Sulphur	<i>Phoebis argante</i>
Large Orange Sulphur	<i>Phoebis agarithe</i>
Tailed Sulphur	<i>Phoebis neocypris</i>

Statira Sulphur
 Lyside Sulphur
 Barred Yellow
 Boisduval's Yellow
 Mexican Yellow
 Salome Yellow
 Tailed Orange
 Little Yellow
 Mimosa Yellow
 Dina Yellow
 Sleepy Orange
 Dainty Sulphur

Phoebis statira
Kricogonia lyside
Eurema daira
Eurema boisduvaliana
Eurema mexicana
Eurema salome
Eurema proterpia
Eurema lisa
Eurema nise
Eurema dina
Eurema nicippe
Nathalis iole

Mimic-Whites Subfamily Dismorphiinae
 Costa-spotted Mimic-White

Enantia albania

Gossamer-wing Butterflies Family Lycaenidae
Hairstreaks Subfamily Theclinae

Strophius Hairstreak
 Grest Purple Hairstreak
 Gold-bordered Hairstreak
 Marius Hairstreak
 Black Hairstreak
 Telea Hairstreak
 Silver-banded Hairstreak
 Clench's Greenstreak
 Goodson's Greenstreak
 Tropical Greenstreak
 Xami Hairstreak
 Aquamarine Hairstreak
 Gray Hairstreak
 Red-crescent Scrub-Hairstreak
 Red-lined Scrub-Hairstreak
 Yojoa Scrub-Hairstreak
 White Scrub-Hairstreak
 Lacey's Scrub-Hairstreak
 Tailless Scrub-Hairstreak
 Lantana Scrub-Hairstreak
 Ruddy Hairstreak
 Dusky-blue Groundstreak
 Red-spotted Hairstreak
 Clytie Ministreak
 Gray Ministreak

Allosmaitia strophius
Atlides halesus
Rekoa palegon
Rekoa marius (=spurina)
Ocaria ocrisia
Chlorostrymon telea
Chlorostrymon simaethis
Cyanophrys miserabilis
Cyanophrys goodsoni
Cyanophrys herodotus
Callophrys xami
Oenomaus ortygnus
Strymon melinus
Strymon rufofusca
Strymon bebrycia
Strymon yojoa
Strymon albata
Strymon alea
Strymon cestri
Strymon bazochii
Electrostrymon sangala (=cyphara)
Calycopis isobeaon
Tmolus echion
Ministrymon clytie
Ministrymon azia

Blues Subfamily Polyommatainae

Western Pygmy-Blue
Cassius Blue
Marine Blue
Cyna Blue
Ceraunus Blue
Reakirt's Blue
Eastern Tailed-Blue

Brephidium exilis
Leptotes cassius
Leptotes marina
Zizula cyna
Hemiargus ceraunus
Hemiargus isola
Everes comyntas

Metalmarks Family Riodinidae

Fatal Metalmark
Rounded Metalmark
Red-bordered Metalmark
Blue Metalmark
Red-bordered Pixie
Curve-winged Metalmark
Narrow-winged Metalmark
Walker's Metalmark

Calephelis nemesis
Calephelis nilus
Caria ino
Lasaia sula
Melanis pixie
Emesis emesis
Apodemia multiplaga
Apodemia walkeri

Brush-footed Butterflies Family Nymphalidae

Snouts Subfamily Libytheinae

American Snout

Libytheana carinenta
(includes bachmanni and motya)

Heliconians and Fritillaries Subfamily Heliconiinae

Gulf Fritillary
Mexican Silverspot
Banded Orange Heliconian
Julia
Isabella's Heliconian
Zebra
Erato Heliconian
Variegated Fritillary
Mexican Fritillary

Agraulis vanillae
Dione moneta
Dryadula phaetusa
Dryas Iulia
Eueides isabella
Heliconius charitonia
Heliconius erato
Euptoieta claudia
Euptoieta hegesia

True Brush-foots Subfamily Nymphalinae

Theona Checkerspot	<i>Thessalia theona</i>
Bordered Patch	<i>Chlosyne lacinia</i>
Definite Patch	<i>Chlosyne definita</i>
Banded Patch	<i>Chlosyne endeis</i>
Crimson Patch	<i>Chlosyne janaeis</i>
Rosita Patch	<i>Chlosyne rosita</i>
Red-spotted Patch	<i>Chlosyne marina</i>
Elf	<i>Microtia elva</i>
Tiny Checkerspot	<i>Dymasia dymas</i>
Elada Checkerspot	<i>Texola elada</i>
Texan Crescent	<i>Phyciodes texana</i>
Cuban Crescent	<i>Phyciodes frisia</i>
Black Crescent	<i>Phyciodes ptolyca</i>
Vesta Crescent	<i>Phyciodes vesta</i>
Phaon Crescent	<i>Phyciodes phaon</i>
Pearl Crescent	<i>Phyciodes tharos</i>
Question Mark	<i>Polygonia interrogationis</i>
Mourning Cloak	<i>Nymphalis antiopa</i>
American Lady	<i>Vanessa virginiensis</i>
Painted Lady	<i>Vanessa cardui</i>
Red Admiral	<i>Vanessa atalanta</i>
Common Buckeye	<i>Junonia coenia</i>
Mangrove Buckeye	<i>Junonia evarate</i>
White Peacock	<i>Anartia jatrophae</i>
Banded Peacock	<i>Anartia fatima</i>
Malachite	<i>Siproeta stelenes</i>

Admirals and Relatives Subfamily Limenitidinae

Viceroy	<i>Limenitis archippus</i>
Band-celled Sister	<i>Adelpha fessonia</i>
Common Banner	<i>Epiphile adrasta</i>
Mexican Bluewing	<i>Myscelia ethusa</i>
Blackened Bluewing	<i>Myscelia cyananthe</i>
Dingy Purplewing	<i>Eunica monima</i>
Florida Purplewing	<i>Eunica tatila</i>
Blue-eyed Sailor	<i>Dynamine dyonis</i>
Mexican Eighty-eight	<i>Diaethria asteria</i>
Common Mestra	<i>Mestra amymone</i>
Red Rim	<i>Biblis hyperia</i>
Red Cracker	<i>Hamadryas amphinome</i>
Gray Cracker	<i>Hamadryas februa</i>

Variable Cracker
Guatemalan Cracker
Karwinski's Beauty
Waiter Daggerwing
Many-banded Daggerwing
Ruddy Daggerwing

Hamadryas feronia
Hamadryas guatemalena
Smyrna karwinskii
Marpesia zerynthia (=coresia)
Marpesia chiron
Marpesia petreus

Leafwings Subfamily Charaxinae

Tropical Leafwing
Goatweed Leafwing
Angled Leafwing
Pale-spotted Leafwing

Anaea aidea
Anaea andria
Anaea glycerium
Anaea pithyusa

Emperors Subfamily Apaturinae

Hackberry Emperor
Empress Leilia
Tawny Emperor
Pavon Emperor
Silver Emperor

Asterocampa celtis
Asterocampa leilia
Asterocampa cyton
Doxocopa pavon
Doxocopa laure

Satyrs Subfamily Satyrinae

Gemmed Satyr
Carolina Satyr

Cyllopsis gemma
Hermeuptychia sossybius

Monarchs Subfamily Danainae

Monarch
Queen
Soldier

Danaus Plexippus
Danaus Gilippus
Danaus Eresimus

Skippers Family Hesperiiidae

Spread-wing Skippers Subfamily Pyrginae

Guava Skipper
Mercurial Skipper
Broken Silverdrop
Hammock Skipper
White-striped Longtail
Zilpa Longtail
Golden-spotted Aguna
Emerald Aguna

Phocides palemon (=polybius)
Proteides mercurius
Epargyreus exadeus
Polygonus leo
Chioides catillus
Chioides zilpa
Aguna asander
Aguna claxon

Tailed Aguna
 Mexican Longtail
 Eight-spotted Longtail
 White-crescent Longtail
 Long-tailed Skipper
 Pronus Longtail
 Esmeraldus Longtail
 Dorantes Longtail
 Teleus Longtail
 Tanna Longtail
 Plain Longtail
 Brown Longtail
 White-tailed Longtail
 Two-barred Flasher
 Small-spotted Flasher
 Frosted Flasher
 Gilbert's Flasher
 Yellow-tipped Flasher
 Coyote Cloudywing
 Skinner's Cloudywing
 Jalapus Cloudywing
 Potrillo Skipper
 Fritzgaetner's Flat
 Stallings' Flat
 Falcate Skipper
 Mimosa Skipper
 Acacia Skipper
 Purplish-black Skipper
 Glazed Pellicia
 Mottled Bolla
 Obscure Skipper
 Golden-headed Scallopwing
 Mazans Scallopwing
 Variegated Skipper
 Blue-studded Skipper
 Hoary Skipper
 Glassy-winged Skipper
 Sickie-winged Skipper
 Hermit Skipper
 Brown-banded Skipper
 White-patched Skipper
 False Duskywing
 Zarucco Duskywing
 Common Checkered-Skipper

Aguna metophis
Polythrix mexicana
Polythrix octomaculata
Codatractus alcaeus
Urbanus proteus
Urbanus pronus
Urbanus esmeraldus
Urbanus dorantes
Urbanus teleus
Urbanus tanna
Urbanus simplicius
Urbanus procne
Urbanus doryssus
Astrapes fulgurator
Astrapes egregius
Astrapes alardus
Astrapes gilberti
Astrapes anaphus
Achalarus toxus
Achalarus albociliatus
Achalarus jalapus
Cabares potrillo
Celaenorrhinus fritzgaetneri
Celaenorrhinus stallingsi
Spathilepia clonius
Cogia calchas
Cogia hippalus
Nisoniades rubescens
Pellicia arina
Bolla clytius
Bolla brennus
Staphylus ceos
Staphylus mazans
Gorgythion begga
Sostrata bifasciata
Carrhenes canescens
Xenophanes tryxus
Achlyodes mithridates (=thraso)
Grais stigmatica
Timochares ruptifasciatus
Chiomara asychis
Gesta gesta
Erynnis zarucco
Pyrgus communis

Tropical Checkered-Skipper
 Desert Checkered-Skipper
 Erichson's White-Skipper
 Laviana White-Skipper
 Turk's-cap White-Skipper
 Veined White-Skipper
 Common Streaky-Skipper
 Common Sootywing

Pyrgus oileus
Pyrgus philetas
Heliopetes domicella
Heliopetes laviana
Heliopetes macaira
Heliopetes arsalte
Celotes nessus
Pholisora catullus

Grass Skippers Subfamily Hesperinae

Small-spotted Skipperling
 Malicious Skipper
 Salenus Skipper
 Redundant Skipper
 Pale-rayed Skipper
 Violet-patched Skipper
 Julia's Skipper
 Fawn-spotted Skipper
 Clouded Skipper
 Green-backed Ruby-eye
 Osca Skipper
 Double-dotted Skipper
 Hidden-ray Skipper
 Least Skipper
 Tropical Least Skipper
 Orange Skipperling
 Southern Skipperling
 Fiery Skipperling
 Whirlabout
 Southern Broken-Dash
 Sachem
 Delaware Skipper
 Eulogius Skipper
 Dun Skipper
 Nysa Roadside-Skipper
 Celia's Roadside-Skipper
 Eufala Skipper
 Violet-clouded Skipper
 Brazilian Skipper
 Ocola Skipper
 Hecebolus Skipper
 Purple-washed Skipper
 Evan's Skipper

Piruna microsticta
Synapte malitiosa
Synapte salenus
Corticea corticea
Vidius perigenes
Monca telata
Nastra julia
Cymaenes odilia
Lerema accius
Perichares philetas
Rhinthon osca
Decinea percosius
Conga chydaea
Ancyloxpha numitor
Ancyloxpha arena
Copaeodes aurantiacus
Copaeodes minimus
Hylephila phyleus
Polites vibex
Wallengrenia otho
Atalopedes campestris
Atrytone logan
Mellana eulogius
Euphyes vestris
Amblyscirtes nysa
Amblyscirtes celia
Lerodea eufala
Lerodea arabus
Calpodes ethlius
Panoquina ocola
Panoquina hecebola
Panoquina sylvicola
Panoquina fusina

Violet-banded Skipper
Chestnut-marked Skipper

Nyctelius nyctelius
Thespieus macareus

Giant-Skippers Subfamily Megathyminae

Yucca Giant-Skipper
Manfreda Giant-Skipper

Megathymus yuccae
Stallingsia maculosa

APPENDIX B

Fishes of the LRGV/Santa Ana NWR Complex

Species listed have been recorded as of August 1997. List will enlarge as biological surveys continue and new refuge tracts are added.

MUGILIDAE

Striped Mullet

Mugil cephalus

ANGUILLIDAE

American Eel

Anguilla rostrata

LEPISOSTEIDAE

Alligator Gar

Atractosteus spatula

Longnose Gar

Lepisosteus osseus

Spotted Gar

Lepisosteus oculatus

CHARACIDAE

Mexican Tetra

Astyanax mexicanus

ICTALURIDAE

Channel Catfish

Ictalurus punctatus

CLUPEIDAE

Gizzard Shad

Dorosoma cepedianum

Threadfin Shad

Dorosoma petenense

CYPRINIDAE

Red Shiner

Cyprinella lutrensis

Common Carp

Cyprinus carpio

Buffalofish

Ictiobus bubalus

BELONIDAE

Atlantic Needlefish

Strongylura marina

CYPRINODONTIDAE

Gulf Killifish

Fundulis grandis

Variegated Pupfish

Cyprinodon variegatus

Black-spotted Topminnow

Fundulis olivarius

Rainwater Killifish

Lucania parva

POECILIIDAE

Mosquitofish
Sailfin Molly

Gambusia affinis
Poecilia latipinna

ATHERINIDAE

Inland Silverside

Menidia beryllina

CICHLIDAE

Rio Grande Cichlid
Blue Tilapia

Cichlasoma cyanoguttatum
Tilapia aurea

SCIAENIDAE

Freshwater Drum

Aplodinotus grunniens

ELEOTRIDAE

Fat Sleeper

Dormitator maculatus

PERCICHTHYDIDAE

White Bass

Morone chrysops

CENTRARCHIDAE

Bluegill
Largemouth Bass
Black Crappie
White Crappie

Lepomis macrochirus
Micropterus salmoides
Pomoxis nigromaculatis
Pomoxis annularis

APPENDIX C

Amphibians of LRGV NWR / Santa Ana NWR Complex

Species listed have been recorded as of August 1997. List will enlarge as biological surveys continue and new refuge tracts are added.

SIRENIDAE

Rio Grande Lesser Siren

Siren intermedia texana

AMBYSTOMATIDAE

Barred Tiger Salamander

Ambystoma tigrinum mavortium

SALAMANDRIDAE

Black-spotted Newt

Notophthalmus meridionalis

PELOBATIDAE

Plains Spadefoot

Scaphiopus bombifrons

Couch's Spadefoot

Scaphiopus couchi

LEPTODACTYLIDAE

Rio Grande Chirping Frog

Syrhophus cystignathoides campi

HYLIDAE

Spotted Chorus Frog

Pseudacris clarki

Mexican Treefrog

Smilisca baudinii

BUFONIDAE

Eastern Green Toad

Bufo debilis debilis

Giant Toad

Bufo marinus

Texas Toad

Bufo speciosus

Gulf Coast Toad

Bufo valliceps valliceps

RANIDAE

Rio Grande Leopard Frog

Rana berlandieri

Bullfrog

Rana catesbeiana

MICROHYLIDAE

Great Plains Narrowmouth Toad

Gastrophryne olivacea

Sheep Frog

Hypopachus variolosus

APPENDIX D

Reptiles of LRGV NWR / Santa Ana NWR Complex

Species listed have been recorded as of August 1997. List will enlarge as biological surveys continue and new refuge tracts are added.

ALLIGATORIDAE

American Alligator

Alligator mississippiensis

EMYDIDAE

Red-eared Slider

Chrysemys scripta elegans

TRIONYCHIDAE

Texas Spiny Softshell

Apalone spinifera emoryi

TESTUDINIDAE

Texas Tortoise

Gopherus berlandieri

KINOSTERNIDAE

Yellow Mud Turtle

Kinosternon flavescens flavescens

POLYCHRIDAE

Green Anole

Anolis carolinensis

TEIIDAE

Texas Spotted Whiptail

Cnemidophorus gularis gularis

Laredo Striped Whiptail

Cnemidophorus laredoensis

Prairie Racerunner

Cnemidophorus sexlineatus viridis

GEKKONIDAE

Texas Banded Gecko

Coleonyx brevis

PHRYNOSOMATIDAE

Texas Earless Lizard

Cophosaurus texanus texanus

Keeled Earless Lizard

Holbrookia popinqua popinqua

Texas Horned Lizard

Phrynosoma cornutum

Mesquite Lizard

Sceloporus grammicus

Texas Spiny Lizard

Sceloporus olivaceus

Blue Spiny

Sceloporus cyanogenys

Southern Prairie Lizard

Sceloporus undulatus consobrinus

Rosebelly Lizard

Sceloporus variabilis marmoratus

CROTAPHYTIDAE

Reticulate Collared Lizard

Crotaphytus reticulatus

SCINCIDAE

Great Plains Skink

Eumeces obsoletus

Four-lined Skink

Eumeces tetragrammus tetragrammus

Ground Skink

Scincella lateralis

EUBLEPHARIDAE

Mediterranean Gecko

Hemidactylus turcicus

LEPTOTYPHLOPIDAE

Plains Blind Snake

Leptotyphlops dulcis dulcis

COLUBRIDAE

Texas Glossy Snake

Arizona elegans arenicola

Mexican Racer

Coluber constrictor oaxaca

Black-Striped Snake

Coniophanes imperialis imperialis

Texas Indigo Snake

Drymarchon corais erebennus

Speckled Racer

Drymobius m. margaritiferus

Great Plains Rat Snake

Elaphe guttata emoryi

Mexican Hooknose Snake

Ficimia streckeri

Mexican Hognose Snake

Heterodon nasicus kennerlyi

Texas Night Snake

Hypsiglena torquata jani

Desert Kingsnake

Lampropeltis getulus splendida

Desert Kingsnake

Lampropeltis getula splendida

Mexican Milk Snake

Lampropeltis triangulum annulata

Western Coachwhip

Mastecophis flagellum testaceus

Striped Whipsnake

Masticophis taeniatus

Diamondback Water Snake

Nerodia rhombifer rhombifer

Rough Green Snake

Opheodrys aestivus

Bullsnake

Pituophis catenifer sayi

Texas Longnose Snake

Rhinocheilus lecontei tessellatus

Texas Patchnose Snake

Salvadora grahamiae lineata

Texas Brown Snake

Storeria dekayi texana

Plains Blackhead Snake

Tantilla nigriceps

Checkered Garter Snake

Thamnophis marcianus marcianus

Western Ribbon Snake

Thamnophis proximus

ELAPIDAE

Texas Coral Snake

Micrurus fulvius tener

VIPERIDAE

Western Diamondback Rattlesnake

Crotalus atrox

Number of reptile species = 49

APPENDIX E

Birds of the LRGV/ Santa Ana NWR Complex

Species listed have been recorded as of August 1997. List will enlarge as biological surveys continue and new refuge tracts are added.

GAVIIDAE

Common Loon

Gavia immer

PODICIPEDIDAE

Least Grebe

Tachybaptus dominicus

Pied-billed Grebe

Podilymbus podiceps

Horned Grebe

Podiceps auritus

Eared Grebe

Podiceps nigricollis

PELECANIDAE

American White Pelican

Pelecanus erythrorhynchos

Brown Pelican

Pelecanus occidentalis

PHALACROCORACIDAE

Double-crested Cormorant

Phalacrocorax auritus

Neotropic Cormorant

Phalacrocorax olivaceus

ANHINGIDAE

Anhinga

Anhinga anhinga

FREGATIDAE

Magnificent Frigatebird

Fregata magnificens

ARDEIDAE

American Bittern

Botaurus lentiginosus

Least Bittern

Ixobrychus exilis

Great Blue Heron

Ardea herodias

Great Egret

Ardea alba

Snowy Egret

Egretta thula

Little Blue Heron

Egretta caerulea

Tricolored Heron

Egretta tricolor

Reddish Egret

Egretta rufescens

Cattle Egret

Bubulcus ibis

Green Heron

Butorides striatus

Black-crowned Night-Heron

Nycticorax nycticorax

Yellow-crowned Night-Heron

Nycticorax violacea

THRESKIORNITHIDAE

White Ibis
Glossy Ibis
White-faced Ibis
Roseate Spoonbill

Eudocimus albus
Plegadis falcinellus
Plegadis chihi
Ajaia ajaja

CICONIIDAE

Wood Stork

Mycteria americana

CATHARTIDAE

Black Vulture
Turkey Vulture

Coragyps atratus
Cathartes aura

ANATIDAE

Fulvous Whistling-Duck
Black-bellied Whistling-Duck
Tundra Swan
Trumpeter Swan
Greater White-fronted Goose
Snow Goose
Canada Goose
Muscovy Duck
Wood Duck
Green-winged Teal
American Black Duck
Mottled Duck
Mallard
Northern Pintail
Blue-winged Teal
Cinnamon Teal
Northern Shoveler
Gadwall
American Wigeon
Canvasback
Redhead
Ring-necked Duck
Greater Scaup
Lesser Scaup
Common Goldeneye
Bufflehead
Hooded Merganser
Common Merganser
Red-breasted Merganser
Masked Duck
Ruddy Duck

Dendrocygna bicolor
Dendrocygna autumnalis
Cygnus columbianus
Cygnus buccinator
Anser albifrons
Chen caerulescens
Branta canadensis
Cairina moschata
Aix sponsa
Anas crecca
Anas rubripes
Anas fulvigula
Anas platyrhynchos
Anas acuta
Anas discors
Anas cyanoptera
Anas clypeata
Anas strepera
Anas americana
Aythya valisineria
Aythya americana
Aythya collaris
Aythya marila
Aythya affinis
Bucephala clangula
Bucephala albeola
Lophodytes cucullatus
Mergus merganser
Mergus serrator
Nomonyx dominicus
Oxyura jamaicensis

ACCIPITRIDAE

Osprey
Hook-billed Kite
Swallow-tailed Kite
White-tailed Kite
Mississippi Kite
Bald Eagle
Crane Hawk
Northern Harrier
Sharp-shinned Hawk
Cooper's Hawk
Northern Goshawk
Common Black Hawk
Harris' Hawk
Gray Hawk
Roadside Hawk
Red-shouldered Hawk
Broad-winged Hawk
Swainson's Hawk
White-tailed Hawk
Zone-tailed Hawk

Pandion haliaetus
Chondrohierax uncinatus
Elanoides forficatus
Elanus caeruleus
Ictinia mississippiensis
Haliaeetus leucocephalus
Geranospiza caerulescens
Circus cyaneus
Accipiter striatus
Accipiter cooperii
Accipiter gentilis
Buteogallus anthracinus
Parabuteo unicinctus
Buteo nitidus
Buteo magnirostris
Buteo lineatus
Buteo platypterus
Buteo swainsoni
Buteo albicaudatus
Buteo albonotatus

ACCIPITIDRAE

Short-tailed Hawk

Buteo brachyurus

ACCIPITRIDAE

Red-tailed Hawk
Ferruginous Hawk
Rough-legged Hawk
Golden Eagle

Buteo jamaicensis
Buteo regalis
Buteo lagopus
Aquila chrysaetos

FALCONIDAE

Crested Caracara
Collared Forest Falcon
American Kestrel
Merlin
Aplomado Falcon
Peregrine Falcon
Prairie Falcon

Caracara plancus
Micrastur semitorquatus
Falco sparverius
Falco columbarius
Falco femoralis
Falco peregrinus
Falco mexicanus

CRACIDAE

Plain Chachalaca

Ortalis vetula

PHASIANIDAE

Wild Turkey
Northern Bobwhite

Meleagris gallopavo
Colinus virginianus

Scaled Quail

Callipepla squamata

RALLIDAE

Yellow Rail

Coturnicops noveboracensis

Clapper Rail

Rallus longirostris

King Rail

Rallus elegans

Virginia Rail

Rallus limicola

Sora

Porzana carolina

Purple Gallinule

Porphyryla martinica

Common Moorhen

Gallinula chloropus

American Coot

Fulica americana

Caribbean Coot

Fulica caribaea

GRUIDAE

Sandhill Crane

Grus canadensis

CHARADRIIDAE

Black-bellied Plover

Pluvialis squatarola

American Golden-Plover

Pluvialis dominica

Snowy Plover

Charadrius alexandrinus

Wilson's Plover

Charadrius wilsonia

Semipalmated Plover

Charadrius semipalmatus

Piping Plover

Charadrius melodus

Killdeer

Charadrius vociferus

Mountain Plover

Charadrius montanus

HAEMATOPODIDAE

American Oystercatcher

Haematopus palliatus

RECURVIROSTRIDAE

Black-necked Stilt

Himantopus mexicanus

American Avocet

Recurvirostra americana

JACANIDAE

Northern Jacana

Jacana spinosa

SCOLOPACIDAE

Greater Yellowlegs

Tringa melanoleuca

Lesser Yellowlegs

Tringa flavipes

Solitary Sandpiper

Tringa solitaria

Willet

Catoptrophorus semipalmatus

Spotted Sandpiper

Actitis macularia

Upland Sandpiper

Bartramia longicauda

Whimbrel

Numenius phaeopus

Long-billed Curlew
Hudsonian Godwit
Marbled Godwit
Ruddy Turnstone
Red Knot
Sanderling
Semipalmated Sandpiper
Western Sandpiper
Least Sandpiper
White-rumped Sandpiper
Baird's Sandpiper
Pectoral Sandpiper
Dunlin
Stilt Sandpiper
Buff-breasted Sandpiper
Short-billed Dowitcher
Long-billed Dowitcher
Common Snipe
American Woodcock
Wilson's Phalarope

Numenius americanus
Limosa haemastica
Limosa fedoa
Arenaria interpres
Calidris canutus
Calidris alba
Calidris pusilla
Calidris mauri
Calidris minutilla
Calidris fuscicollis
Calidris bairdii
Calidris melanotos
Calidris alpina
Calidris himantopus
Tryngites subruficollis
Limnodromus griseus
Limnodromus scolopaceus
Gallinago gallinago
Scolopax minor
Phalaropus tricolor

LARIDAE

Laughing Gull
Franklin's Gull
Bonaparte's Gull
Ring-billed Gull
Herring Gull
Gull-billed Tern
Caspian Tern
Royal Tern
Sandwich Tern
Common Tern
Forster's Tern
Least Tern
Sooty Tern
Black Tern

Larus atricilla
Larus pipixcan
Larus philadelphia
Larus delawarensis
Larus argentatus
Sterna nilotica
Sterna caspia
Sterna maxima
Sterna sandvicensis
Sterna hirundo
Sterna forsteri
Sterna antillarum
Sterna fuscata
Chlidonias niger
Rynchops niger

COLUMBIDAE

Rock Dove
Red-billed Pigeon
White-winged Dove
Mourning Dove

Columba livia
Columba flavirostris
Zenaida asiatica
Zenaida macroura

Inca Dove
Common Ground-dove
Ruddy Ground-dove
White-tipped Dove

Columbina inca
Columbina passerina
Columbina talpacoti
Leptotila verreauxi

PSITTACIDAE

Military Macaw
Budgerigar
Green Parakeet
Canary-winged Parakeet
Red-crowned Parrot
Red-lored Parrot
Yellow-headed Parrot

Ara militaris
Melopsittacus undulatus
Aratinga holochlora
Brotogeris versicolurus
Amazona viridigenalis
Amazona autumnalis
Amazona ochrocephala

CUCULIDAE

Black-billed Cuckoo
Yellow-billed Cuckoo
Mangrove Cuckoo
Greater Roadrunner
Groove-billed Ani

Coccyzus erythrophthalmus
Coccyzus americanus
Coccyzus minor
Geococcyx californianus
Crotophaga sulcirostris

TYTONIDAE

Barn Owl

Tyto alba

STRIGIDAE

Eastern Screech-Owl
Great Horned Owl
Ferruginous Pygmy-Owl
Elf Owl
Burrowing Owl
Barred Owl
Long-eared Owl
Short-eared Owl

Otus asio
Bubo virginianus
Glaucidium brasilianum
Micrathene whitneyi
Athene cunicularia
Strix varia
Asio otus
Asio flammeus

CAPRIMULGIDAE

Lesser Nighthawk
Common Nighthawk
Pauraque
Common Poorwill
Chuck-will's-widow
Whip-poor-will

Chordeiles acutipennis
Chordeiles minor
Nyctidromus albicollis
Phalaenoptilus nuttallii
Caprimulgus carolinensis
Caprimulgus vociferus

APODIDAE

Chimney Swift

Chaetura pelagica

TROCHILIDAE

Green Violet-ear
Green-breasted Mango
Broad-billed Hummingbird
Buff-bellied Hummingbird
Blue-throated Hummingbird
Ruby-throated Hummingbird
Black-chinned Hummingbird
Anna's Hummingbird
Rufous Hummingbird
White-eared Hummingbird

Colibri thalassinus
Anthracothorax prevostii
Cynanthus latirostris
Amazilia yucatanensis
Lampornis clemenciae
Archilochus colubris
Archilochus alexandri
Calypte anna
Selasphorus rufus
Hylocharis leucotis

TROGONIDAE

Elegant Trogon

Trogon elegans

ALCEDINIDAE

Ringed Kingfisher
Belted Kingfisher
Green Kingfisher

Ceryle torquata
Ceryle alcyon
Chloroceryle americana

PICIDAE

Golden-fronted Woodpecker
Red-bellied Woodpecker
Yellow-bellied Sapsucker
Ladder-backed Woodpecker
Northern Flicker

Melanerpes aurifrons
Melanerpes carolinus
Sphyrapicus varius
Picoides scalaris
Colaptes auratus

TYRANNIDAE

Northern Beardless-Tyrannulet
Olive-sided Flycatcher
Western Wood-Pewee
Eastern Wood-Pewee
Yellow-bellied Flycatcher
Acadian Flycatcher
Alder Flycatcher
Willow Flycatcher
Least Flycatcher
Empidonax Flycatcher
Black Phoebe
Eastern Phoebe
Say's Phoebe
Vermilion Flycatcher
Ash-throated Flycatcher
Great Crested Flycatcher

Camptostoma imberbe
Contopus cooperi
Contopus sordidulus
Contopus virens
Empidonax flaviventris
Empidonax virescens
Empidonax alnorum
Empidonax traillii
Empidonax minimus
Empidonax sp.
Sayornis nigricans
Sayornis phoebe
Sayornis saya
Pyrocephalus rubinus
Myiarchus cinerascens
Myiarchus crinitus

Brown-crested Flycatcher
Great Kiskadee
Tropical Kingbird
Couch's Kingbird
Cassin's Kingbird
Western Kingbird
Eastern Kingbird
Scissor-tailed Flycatcher
Rose-throated Becard

ALAUDIDAE

Horned Lark

HIRUNDINIDAE

Purple Martin
Tree Swallow
Northern Rough-winged Swallow
Bank Swallow
Barn Swallow
Cliff Swallow
Cave Swallow

CORVIDAE

Blue Jay
Green Jay
Brown Jay
Tamaulipan Crow
Chihuahuan Raven

PARIDAE

Carolina Chickadee
Tufted Titmouse

REMIZIDAE

Verdin

SITTIDAE

Red-breasted Nuthatch

CERTHIIDAE

Brown Creeper

TROGLODYTIDAE

Cactus Wren

Myiarchus tyrannulus
Pitangus sulphuratus
Tyrannus melancholicus
Tyrannus couchii
Tyrannus vociferans
Tyrannus verticalis
Tyrannus tyrannus
Tyrannus forficatus
Pachyramphus agiaiae

Eremophila alpestris

Progne subis
Tachycineta bicolor
Stelgidopteryx serripennis
Riparia riparia
Hirundo rustica
Petrochelidon pyrrhonota
Petrochelidon fulva

Cyanocitta cristata
Cyanocorax yncas
Cyanocorax morio
Corvus imparatus
Corvus cryptoleucus

Parus carolinensis
Parus bicolor

Auriparus flaviceps

Sitta canadensis

Certhia Americana

Campylorhynchus brunneicapillus

Rock Wren
Carolina Wren
Bewick's Wren
House Wren
Winter Wren
Sedge Wren
Marsh Wren

Salpinctes obsoletus
Thryothorus ludovicianus
Thryomanes bewickii
Troglodytes aedon
Troglodytes troglodytes
Cistothorus platensis
Cistothorus palustris

REGULIDAE

Golden-crowned Kinglet
Ruby-crowned Kinglet

Regulus satrapa
Regulus calendula

MUSCICAPIDAE

Blue-gray Gnatcatcher
Black-tailed Gnatcatcher
Eastern Bluebird
Western Bluebird
Mountain Bluebird
Townsend's Solitaire
Veery
Gray-cheeked Thrush
Swainson's Thrush
Hermit Thrush
Wood Thrush
Clay-colored Robin
Rufous-backed Robin
American Robin
Aztec Thrush

Polioptila caerulea
Polioptila melanura
Sialis sialis
Sialis mexicana
Sialis currucoides
Myadestes townsendi
Catharus fuscescens
Catharus minimus
Catharus ustulatus
Catharus guttatus
Hylocichla mustelina
Turdus grayi
Turdus rufopalliat
Turdus migratorius
Ridgwayia pinicola

MIMIDAE

Gray Catbird
Northern Mockingbird
Sage Thrasher
Brown Thrasher
Long-billed Thrasher
Curve-billed Thrasher

Dumetella carolinensis
Mimus polyglottos
Oreoscoptes montanus
Toxostoma rufum
Toxostoma longirostre
Toxostoma curvirostre

STURNIDAE

European Starling

Sturnus vulgaris

MOTACILLIDAE

American Pipit
Sprague's Pipit

Anthus spinoletta
Anthus spragueii

BOMBYCILLIDAE

Cedar Waxwing

Bombycilla cedrorum

PTILOGONATIDAE

Phainopepla

Phainopepla nitens

LANIIDAE

Loggerhead Shrike

Lanius ludovicianus

VIREONIDAE

White-eyed Vireo

Vireo griseus

Bell's Vireo

Vireo bellii

Black-capped Vireo

Vireo atricapillus

Blue-Headed Vireo

Vireo solitarius

Yellow-throated Vireo

Vireo flavifrons

Warbling Vireo

Vireo gilvus

Philadelphus Vireo

Vireo philadelphicus

Red-eyed Vireo

Vireo olivaceus

Yellow-green Vireo

Vireo olivaceus flaviventri

EMBERIZIDAE

Blue-winged Warbler

Vermivora pinus

Golden-winged Warbler

Vermivora chrysoptera

Tennessee Warbler

Vermivora peregrina

Orange-crowned Warbler

Vermivora celata

Nashville Warbler

Vermivora ruficapilla

Virginia's Warbler

Vermivora virginiae

Northern Parula

Parula americana

Tropical Parula

Parula pitaiayumi

Yellow Warbler

Dendroica petechia

Chestnut-sided Warbler

Dendroica pensylvanica

Magnolia Warbler

Dendroica magnolia

Black-throated Blue Warbler

Dendroica caerulecins

Yellow-rumped Warbler

Dendroica coronata

Black-throated Gray Warbler

Dendroica nigrescens

Townsend's Warbler

Dendroica townsendi

Black-throated Green Warbler

Dendroica virens

Blackburnian Warbler

Dendroica fusca

Yellow-throated Warbler

Dendroica dominica

Pine Warbler

Dendroica pinus

Prairie Warbler

Dendroica discolor

Palm Warbler

Dendroica palmarum

Bay-breasted Warbler

Dendroica castanea

Cerulean Warbler

Dendroica cerulea

Black-and-White Warbler

Mniotilta variaa

American Redstart

Setophaga ruticilla

Prothonotary Warbler
 Worm-eating Warbler
 Ovenbird
 Northern Waterthrush
 Louisiana Waterthrush
 Connecticut Warbler
 Mourning Warbler
 MacGillivray's Warbler
 Common Yellowthroat
 Gray-crowned Yellowthroat
 Hooded Warbler
 Wilson's Warbler
 Canada Warbler
 Golden-crowned Warbler
 Yellow-breasted Chat
 Summer Tanager
 Scarlet Tanager
 Crimson-collared Grosbeak
 Northern Cardinal
 Pyrrhuloxia
 Rose-Breasted Grosbeak
 Black-headed Grosbeak
 Blue Bunting
 Blue Grosbeak
 Lazuli Bunting
 Indigo Bunting
 Varied Bunting
 Painted Bunting
 Dickcissel
 Olive Sparrow
 Green-Tailed Towhee
 Eastern Towhee
 White-collared Seedeater
 Yellow-faced Grassquit
 Botteri's Sparrow
 Cassin's Sparrow
 Chipping Sparrow
 Clay-colored Sparrow
 Brewer's Sparrow
 Field Sparrow
 Vesper Sparrow
 Lark Sparrow
 Black-throated Sparrow
 Lark Bunting
 Savannah Sparrow

Protonotaria citrea
Helmitheros vermivorus
Seiurus aurocapillus
Seiurus noveboracensis
Seiurus motacilla
Oporornis agilis
Oporornis philadelphia
Oporornis tolmiei
Geothlypis trichas
Geothlypis poliocephala
Wilsonia citrina
Wilsonia pusilla
Wilsonia canadensis
Basileuterus culicivorus
Icteria virens
Piranga rubra
Piranga olivacea
Rhodothraupis celaeno
Cardinalis cardinalis
Cardinalis sinuatus
Pheucticus ludovicianus
Pheucticus melanocephalus
Cyanocompsa parellina
Guiraca caerulea
Passerina amoena
Passerina cyanea
Passerina versicolor
Passerina ciris
Spiza americana
Arremonops rufivirgatus
Pipilo chlorurus
Pipilo erythrophthalmus
Sporophila torqueola
Tiaris olivacea
Aimophila aestivalis
Aimophila cassinii
Spizella passerina
Spizella pallida
Spizella breweri
Spizella pusilla
Pooecetes gramineus
Chondestes grammacus
Amphispiza bilineata
Calamospiza melanocorys
Passerculus sandwichensis

Baird's Sparrow
 Grasshopper Sparrow
 LeConte's Sparrow
 Nelson's Sharp-Tailed Sparrow
 Seaside Sparrow
 Fox Sparrow
 Song Sparrow
 Lincoln's Sparrow
 Swamp Sparrow
 White-throated Sparrow
 White-crowned Sparrow
 Dark-eyed Junco
 Smith's Longspur
 Red-winged Blackbird
 Eastern Meadowlark
 Western Meadowlark
 Yellow-headed Blackbird
 Brewer's Blackbird
 Great-tailed Grackle
 Common Grackle
 Bronzed Cowbird
 Brown-headed Cowbird
 Orchard Oriole
 Hooded Oriole
 Streak-backed Oriole
 Altamira Oriole
 Audubon's Oriole
 Baltimore Oriole
 Bullock's Oriole
 Scott's Oriole

FRINGILLIDAE

Purple Finch
 House Finch
 Red Crossbill
 Pine Siskin
 Lesser Goldfinch
 Lawrence's Goldfinch
 American Goldfinch

PASSERIDAE

House Sparrow

Ammodramus bairdii
Ammodramus savannarum
Ammodramus leconteii
Ammodramus nelsoni
Ammodramus maritimus
Passerella iliaca
Melospiza melodia
Melospiza lincolnii
Melospiza georgiana
Zonotrichia albicollis
Zonotrichia leucophrys
Junco hyemalis
Calcarius pictus
Agelaius phoeniceus
Sturnella magna
Sturnella neglecta
Xanthocephalus xanthocephalus
Euphagus cyanocephalus
Quiscalus mexicanus
Quiscalus quiscula
Molothrus aeneus
Molothrus ater
Icterus wagleri
Icterus cucullatus
Icterus pustulatus
Icterus gularis
Icterus graduacauda
Icterus galbula
Icterus bullockii
Icterus parisorum

Carpodacus purpureus
Carpodacus mexicanus
Loxia curvirostra
Carduelis pinus
Carduelis psaltria
Carduelis lawrencei
Carduelis tristis

Passer domesticus

Number of bird species = 413

APPENDIX F

Mammals of The LRGV/ Santa Ana NWR Complex

Species listed have been recorded as of August 1997. List will enlarge as biological surveys continue and new refuge tracts are added.

DIDELPHIDAE

Virginia Opossum

Didelphis virginiana californica

SORICIDAE

Least Shrew

Cryptotis parva berlandieri

PHYLLOSTOMATIDAE

Peter's Ghost-faced Bat

Mormoops megalophylla megalophylla

VESPERTILIONIDAE

Cave Myotis

Myotis velifer incautus

Eastern Pipistrelle

Pipistrellus subflavus subflavus

Big Brown Bat

Eptesicus fuscus fuscus

Evening Bat

Nycticeius humeralis mexicanus

Northern Yellow Bat

Lasiurus intermedius intermedius

Red Bat

Lasiurus borealis borealis

Hoary Bat

Lasiurus cinereus cinereus

Pallid Bat

Antrozous pallidus obscurus

MOLOSSIDAE

Mexican Free-tailed Bat

Tadarida brasiliensis mexicana

DASYPODIDAE

Nine-banded Armadillo

Dasypos novemcinctus mexicanus

LEPORIDAE

Eastern Cottontail

Sylvilagus floridanus chapmani

Black-tailed Jackrabbit

Lepus californicus merriami

SCIURIDAE

Mexican Ground Squirrel

Spermophilus mexicanus parvidens

Spotted Ground Squirrel

Spermophilus spilosoma annectens

*Fox Squirrel

Sciurus niger

HETEROMYIDAE

Silky Pocket Mouse

Perognathus flavus merriami

Hispid Pocket Mouse

Chaetodipus hispidus hispidus

Ord Kangaroo Rat
South Texas Kangaroo Rat
Mexican Spiny Pocket Mouse

Dipodomys ordii durranti
Dipodomys compactus
Liomys irroratus texensis

CASTORIDAE

Beaver

Castor canadensis mexicanus

MURIDAE

Coues' Rice Rat
Fulvous Harvest Mouse
White-footed Mouse
Northern Pygmy Mouse
Northern Grasshopper Mouse
Hispid Cotton Rat
South Plains Wood Rat
*Black Rat
*Norway Rat
*House Mouse

Oryzomys palustris couesi
Reithrodontomys fulvescus
Peromyscus leucopus texanus
Baiomys taylori taylori
Onychomys leucogaster longipes
Sigmodon hispidus berlandieri
Neotoma micropus micropus
Rattus rattus
Rattus norvegicus
Mus musculus

CAPROMYIDAE

*Nutria

Myocastor coypus

CANIDAE

Coyote
Gray Fox

Canis latrans microdon
Urocyon cinereoargenteus scottii

PROCYONIDAE

Raccoon

Procyon lotor fuscipes

MUSTELIDAE

Long-tailed Weasel
Badger
Eastern Spotted Skunk
Striped Skunk

Mustela frenata frenata
Taxidea taxus berlandieri
Spilogale putorius interrupta
Mephitis mephitis varians

FELIDAE

Mountain Lion
Ocelot
Jaguarundi
Bobcat

Felis concolor
Felis pardalis albescens
Felis yagouaroundi cacomitli
Felis rufus texensis

SUIDAE

*Feral Hog

Sus scrofa

TAYASSUIDAE
Collared Peccary

Dicotyles tajacu angulatus

CERVIDAE
White-tailed Deer

Odocoileus virginianus texanus

BOVIDAE
*Nilgai

Boselaphus tragocamelus

Total number of mammal species = 50

*** Indicates introduced species**

Plant Species List
Lower Rio Grande Valley NWR and Santa Ana NWR
Update: September 12, 1997

This table contains all plant species that have been reported on tracts of Lower Rio Grande Valley NWR, or on other conservation lands in the Area of Ecological Concern. A total of 776 entries are included in the table; approximately 1,200 are believed to occur in the Area of Ecological Concern. Some species have not been independently verified. Furthermore, in cases where more than one valid taxonomic treatment exists, all synonyms are included. This is especially true in the Cactaceae, due to the taxonomic problems in that family. This table includes 31 entries in Cactaceae, which represent only 23 taxa.

<u>FAMILY</u>	<u>GENUS</u>	<u>SPECIES</u>	<u>VARIETY</u>	<u>NAME</u>	<u>SPANISH NAME</u>
Acanthaceae	<i>Carlowrightia</i>	<i>parviflora</i>			
Acanthaceae	<i>Dicliptera</i>	<i>vahlia</i>			
Acanthaceae	<i>Elytraria</i>	<i>bromoides</i>			
Acanthaceae	<i>Jacobinia</i>	<i>spicigera</i>			
Acanthaceae	<i>Justicia</i>	<i>runyonii</i>		Runyon's Waterwillow	
Acanthaceae	<i>Ruellia</i>	<i>corzoi</i>			
Acanthaceae	<i>Ruellia</i>	<i>occidentalis</i>		Wild Petunia	
Acanthaceae	<i>Ruellia</i>	<i>runyonii</i>		Runyon's Ruellia	
Acanthaceae	<i>Siphonoglossa</i>	<i>greggii</i>			
Acanthaceae	<i>Siphonoglossa</i>	<i>pilosella</i>		Hairy Tube-Tongue	
Acanthaceae	<i>Stenandrium</i>	<i>dulce</i>			
Acanthaceae	<i>Stenandrium</i>	<i>floridanum</i>		Sweet Stenandrium	
Aizoaceae	<i>Glinus</i>	<i>lotoides</i>			
Aizoaceae	<i>Glinus</i>	<i>radiatus</i>			
Aizoaceae	<i>Sesuvium</i>	<i>erectum</i>		Sea Purslane	
Aizoaceae	<i>Sesuvium</i>	<i>portulacastrum</i>			
Aizoaceae	<i>Sesuvium</i>	<i>sessile</i>			
Aizoaceae	<i>Trianthema</i>	<i>portulacastrum</i>			
Alismataceae	<i>Echinodorus</i>	<i>cordifolius</i>			
Alismataceae	<i>Echinodorus</i>	<i>rostratus</i>			
Alismataceae	<i>Sagittaria</i>	<i>longiloba</i>			
Amaranthaceae	<i>Achyranthes</i>	<i>aspera</i>			
Amaranthaceae	<i>Alternanthera</i>	<i>caracasana</i>		Mat Chaff-flower	Verdolaga de Puerco
Amaranthaceae	<i>Amaranthus</i>	<i>berlandieri</i>			
Amaranthaceae	<i>Amaranthus</i>	<i>palmeri</i>			
Amaranthaceae	<i>Amaranthus</i>	<i>scleropoides</i>			
Amaranthaceae	<i>Celosia</i>	<i>nitida</i>			Albahaca
Amaranthaceae	<i>Froelichia</i>	<i>gracilis</i>		Snake-cotton	
Amaranthaceae	<i>Gossypianthus</i>	<i>lanuginosus</i>		Cotton Flower	
Amaranthaceae	<i>Iresine</i>	<i>palmeri</i>			
Amaranthaceae	<i>Tidestromia</i>	<i>lanuginosa</i>			Espanta Vaqueros
Amaryllidaceae	<i>Agave</i>	<i>americana</i>		Century Plant	Maguey
Amaryllidaceae	<i>Agave</i>	<i>lecheguilla</i>			Lechuguilla
<u>FAMILY</u>	<u>GENUS</u>	<u>SPECIES</u>	<u>VARIETY</u>	<u>NAME</u>	<u>SPANISH NAME</u>

Amaryllidaceae	<i>Agave</i>	<i>lophantha</i>		Thorn-crested Agave	
Amaryllidaceae	<i>Agave</i>	<i>scabra</i>			
Amaryllidaceae	<i>Aloe</i>	<i>barbadensis</i>		Aloe Vera	Sábila
Amaryllidaceae	<i>Cooperia</i>	<i>drummondii</i>		Showy Zephyr-lily	Cebolleta
Amaryllidaceae	<i>Manfreda</i>	<i>longiflora</i>		Runyon's Huaco	Huaco
Amaryllidaceae	<i>Manfreda</i>	<i>sileri</i>			
Amaryllidaceae	<i>Manfreda</i>	<i>variegata</i>		Texas Tuberose	Huaco
Amaryllidaceae	<i>Zephyranthes</i>	<i>brazosensis</i>		Showy Zephyr-Lily	Cebolleta
Amaryllidaceae	<i>Zephyranthes</i>	<i>pulchella</i>			
Anacardiaceae	<i>Schinus</i>	<i>longifolius</i>			
Anacardiaceae	<i>Schinus</i>	<i>molle</i>			
Anacardiaceae	<i>Schinus</i>	<i>terrebinthefolius</i>		Brazilian Pepper	
Apiaceae	<i>Ammoselinum</i>	<i>popei</i>			
Apiaceae	<i>Bowlesia</i>	<i>incana</i>			
Apiaceae	<i>Ciclospermum</i>	<i>leptophyllum</i>		Slimlobe Celery	
Apiaceae	<i>Daucus</i>	<i>pusillus</i>			
Apiaceae	<i>Eryngium</i>	<i>nasturtiifolium</i>			
Apiaceae	<i>Hydrocotyle</i>	<i>bonariensis</i>			
Apocynaceae	<i>Macrosiphonia</i>	<i>macrosiphon</i>	Rock Trumpet	Flor de San Juan	
Apocynaceae	<i>Macrosiphonia</i>	<i>lanuginosa</i>	macrosiphon	Rock Trumpet	Flor de San Juan
Apocynaceae	<i>Nerium</i>	<i>oleander</i>		Common Oleander	
Arecaceae	<i>Sabal</i>	<i>mexicana</i>		Texas Sabal Palm	Palma Sabal
Arecaceae	<i>Sabal</i>	<i>texana</i>		Texas Sabal Palm	Palma Sabal
Arecaceae	<i>Washingtonia</i>	<i>filifera</i>		Washington Palm	
Arecaceae	<i>Washingtonia</i>	<i>robusta</i>		Washington Palm	
Aristolochiaceae	<i>Aristolochia</i>	<i>pentandra</i>			
Asclepiadaceae	<i>Asclepias</i>	<i>curassavica</i>			
Asclepiadaceae	<i>Asclepias</i>	<i>linearis</i>			
Asclepiadaceae	<i>Cynanchum</i>	<i>barbigerum</i>			
Asclepiadaceae	<i>Cynanchum</i>	<i>laeve</i>		Blue-vine, Sand-vine	
Asclepiadaceae	<i>Matelea</i>	<i>reticulata</i>		Reticulated Milkvine	
Asclepiadaceae	<i>Matelea</i>	<i>sagittifolia</i>			
Asclepiadaceae	<i>Matelea</i>	<i>woodsonii</i>			
Asclepiadaceae	<i>Periploca</i>	<i>graeca</i>			
Asclepiadaceae	<i>Sarcostemma</i>	<i>cynanchoides</i>		Twinevine	
Asteraceae	<i>Acourtia</i>	<i>runcinata</i>		Peonia	Peonia
Asteraceae	<i>Ambrosia</i>	<i>confertiflora</i>			
Asteraceae	<i>Ambrosia</i>	<i>psilostachya</i>		Western Ragweed	
Asteraceae	<i>Ambrosia</i>	<i>trifida</i>		Giant Ragweed	
Asteraceae	<i>Aphanostephus</i>	<i>kidderi</i>		Lazy Daisy	
Asteraceae	<i>Aphanostephus</i>	<i>skirrhobasis</i>	ramosissimus	Lazy Daisy	
Asteraceae	<i>Aphanostephus</i>	<i>skirrhobasis</i>		Saltmarsh Aster	
Asteraceae	<i>Aster</i>	<i>subulatus</i>		False Willow	Jarilla
Asteraceae	<i>Baccharis</i>	<i>neglecta</i>			
<u>FAMILY</u>	<u>GENUS</u>	<u>SPECIES</u>	<u>VARIETY</u>	<u>NAME</u>	<u>SPANISH NAME</u>

Asteraceae	<i>Baccharis</i>	<i>salicifolia</i>		Seepwillow	Jara
Asteraceae	<i>Baccharis</i>	<i>salicina</i>	neglecta	False Willow	Jara Dulce
Asteraceae	<i>Baccharis</i>	<i>salicina</i>		Seep Willow	Jara
Asteraceae	<i>Baccharis</i>	<i>texana</i>			
Asteraceae	<i>Bahia</i>	<i>absinthifolia</i>			
Asteraceae	<i>Bahia</i>	<i>pedata</i>			
Asteraceae	<i>Borrichia</i>	<i>frutescens</i>		Sea Ox-Eye	
Asteraceae	<i>Calypocarpus</i>	<i>vialis</i>			Malva del Caballo
Asteraceae	<i>Centaurea</i>	<i>americana</i>			
Asteraceae	<i>Chaetopappa</i>	<i>asteroides</i>			
Asteraceae	<i>Cirsium</i>	<i>texanum</i>		Texas Thistle	
Asteraceae	<i>Clappia</i>	<i>suaedifolia</i>			
Asteraceae	<i>Conyza</i>	<i>canadensis</i>		Horseweed	
Asteraceae	<i>Conyza</i>	<i>coulteri</i>			
Asteraceae	<i>Coreopsis</i>	<i>tinctoria</i>		Tickseed	
Asteraceae	<i>Coreopsis</i>	<i>tinctoria</i>	cardaminifolia	Tickseed	
Asteraceae	<i>Eclipta</i>	<i>prostrata</i>			
Asteraceae	<i>Ericameria</i>	<i>austrotexana</i>			
Asteraceae	<i>Erigeron</i>	<i>ortegae</i>		Spiny Aster	
Asteraceae	<i>Erigeron</i>	<i>ortegae</i>	spinosus	Mexican Devil-weed	
Asteraceae	<i>Erigeron</i>	<i>tenellus</i>			
Asteraceae	<i>Eupatorium</i>	<i>azureum</i>		Blue Boneset	
Asteraceae	<i>Eupatorium</i>	<i>betonicifolium</i>		Betony-Leaf	
Asteraceae	<i>Eupatorium</i>	<i>coelestinum</i>		Mist-flower	
Asteraceae	<i>Eupatorium</i>	<i>incarnatum</i>			
Asteraceae	<i>Eupatorium</i>	<i>odoratum</i>		Crucita	
Asteraceae	<i>Evax</i>	<i>verna</i>		Rabbit-Tobacco	
Asteraceae	<i>Florestina</i>	<i>tripteris</i>			
Asteraceae	<i>Gaillardia</i>	<i>pulchella</i>		Indian Blanket	
Asteraceae	<i>Gnaphalium</i>	<i>obtusifolium</i>		Fragrant Cudweed	
Asteraceae	<i>Gnaphalium</i>	<i>pensilvanicum</i>		Everlasting Cudweed	
Asteraceae	<i>Gnaphalium</i>	<i>peregrinum</i>		Everlasting Cudweed	
Asteraceae	<i>Gochnatia</i>	<i>hypoleuca</i>			
Asteraceae	<i>Gutierrezia</i>	<i>texana</i>			
Asteraceae	<i>Gymnosperma</i>	<i>glutinosum</i>			
Asteraceae	<i>Helenium</i>	<i>amarum</i>			
Asteraceae	<i>Helenium</i>	<i>amarum</i>	badium	Basin Sneezeweed	
Asteraceae	<i>Helenium</i>	<i>amphibolum</i>		Presidio Sneezeweed	Rosilla
Asteraceae	<i>Helenium</i>	<i>elegans</i>		Sneezeweed	
Asteraceae	<i>Helenium</i>	<i>quadridentatum</i>		Presidio Sneezeweed	Rosilla
Asteraceae	<i>Helianthus</i>	<i>annuus</i>		Common Sunflower	
Asteraceae	<i>Heterotheca</i>	<i>latifolia</i>		Camphor Weed	
Asteraceae	<i>Isocarpha</i>	<i>oppositifolia</i>			
Asteraceae	<i>Isocoma</i>	<i>coronopifolia</i>		Goldenweed	
<u>FAMILY</u>	<u>GENUS</u>	<u>SPECIES</u>	<u>VARIETY</u>	<u>NAME</u>	<u>SPANISH NAME</u>
Asteraceae	<i>Isocoma</i>	<i>drummondii</i>			

Asteraceae	<i>Iva</i>	<i>annua</i>			
Asteraceae	<i>Lactuca</i>	<i>hirsuta</i>	albiflora		
Asteraceae	<i>Machaeranthera</i>	<i>phyllocephala</i>			
Asteraceae	<i>Melampodium</i>	<i>cinereum</i>			
Asteraceae	<i>Melampodium</i>	<i>cinereum</i>	ramosissimum	Climbing Hemp Vine	
Asteraceae	<i>Mikania</i>	<i>scandens</i>			
Asteraceae	<i>Palafoxia</i>	<i>rosea</i>			
Asteraceae	<i>Palafoxia</i>	<i>texana</i>	texana	Texas Palafoxia	
Asteraceae	<i>Palafoxia</i>	<i>texana</i>	ambigua	Texas Palafoxia	
Asteraceae	<i>Parthenium</i>	<i>confertum</i>			
Asteraceae	<i>Parthenium</i>	<i>hysterophorus</i>		False Ragweed	Cicutilla
Asteraceae	<i>Parthenium</i>	<i>incanum</i>			
Asteraceae	<i>Pectis</i>	<i>angustifolia</i>	tenella		
Asteraceae	<i>Pluchea</i>	<i>odorata</i>		Camphor Weed	
Asteraceae	<i>Pterocaulon</i>	<i>virgatum</i>			
Asteraceae	<i>Pyrrhopappus</i>	<i>multicaulis</i>			
Asteraceae	<i>Ratibida</i>	<i>columnaris</i>		Mexican Hat	
Asteraceae	<i>Rudbeckia</i>	<i>hirta</i>			
Asteraceae	<i>Sanvitalia</i>	<i>ocymoides</i>			
Asteraceae	<i>Sclerocarpus</i>	<i>uniserialis</i>		Mexican Bonebract	
Asteraceae	<i>Senecio</i>	<i>ampullaceus</i>		Texas Groundsel	
Asteraceae	<i>Senecio</i>	<i>tampicanus</i>		Groundsel	
Asteraceae	<i>Simsia</i>	<i>calva</i>			
Asteraceae	<i>Sonchus</i>	<i>asper</i>		Prickly Sowthistle	Alchicoria Dulce
Asteraceae	<i>Sonchus</i>	<i>oleraceus</i>		Common Sowthistle	
Asteraceae	<i>Thymophylla</i>	<i>acerosa</i>		Dogweed	
Asteraceae	<i>Thymophylla</i>	<i>aurea</i>			
Asteraceae	<i>Thymophylla</i>	<i>pentachaeta</i>		Dogweed	
Asteraceae	<i>Thymophylla</i>	<i>tenuiloba</i>			
Asteraceae	<i>Trixis</i>	<i>californica</i>			
Asteraceae	<i>Trixis</i>	<i>inula</i>		Mexican Trixis	
Asteraceae	<i>Varilla</i>	<i>texana</i>			Saladillo
Asteraceae	<i>Verbesina</i>	<i>encelioides</i>		Golden Crownbeard	
Asteraceae	<i>Verbesina</i>	<i>microptera</i>			Capitana
Asteraceae	<i>Verbesina</i>	<i>virginica</i>		Frostweed	
Asteraceae	<i>Viguiera</i>	<i>stenoloba</i>	chihuahuensis	Skeleton Bush	
Asteraceae	<i>Wedelia</i>	<i>hispida</i>		Orange Zexmenia	
Asteraceae	<i>Xanthium</i>	<i>chinense</i>		American Cocklebur	Abrojo
Asteraceae	<i>Xanthium</i>	<i>spinsum</i>		Cocklebur	
Asteraceae	<i>Xanthium</i>	<i>strumarium</i>		American Cocklebur	Abrojo
Asteraceae	<i>Zexmenia</i>	<i>brevifolia</i>			
Asteraceae	<i>Zinnia</i>	<i>acerosa</i>			
Basellaceae	<i>Anredera</i>	<i>baselloides</i>			
<u>FAMILY</u>	<u>GENUS</u>	<u>SPECIES</u>	<u>VARIETY</u>	<u>NAME</u>	<u>SPANISH NAME</u>
Basellaceae	<i>Anredera</i>	<i>leptostachys</i>	Madeira Vine	Sacasile	
Basellaceae	<i>Anredera</i>	<i>scandens</i>			

Batidaceae	<i>Batis</i>	<i>maritima</i>		Wild Olive	Anacahuita
Boraginaceae	<i>Cordia</i>	<i>boissieri</i>			
Boraginaceae	<i>Cryptantha</i>	<i>mexicana</i>		Anacua	Anacua
Boraginaceae	<i>Ehretia</i>	<i>anacua</i>		White Heliotrope	
Boraginaceae	<i>Heliotropium</i>	<i>angiospermum</i>		Seaside Heliotrope	
Boraginaceae	<i>Heliotropium</i>	<i>confertifolium</i>		Turnsole Heliotrope	
Boraginaceae	<i>Heliotropium</i>	<i>curassavicum</i>			
Boraginaceae	<i>Heliotropium</i>	<i>indicum</i>			
Boraginaceae	<i>Heliotropium</i>	<i>procumbens</i>			
Boraginaceae	<i>Lithospermum</i>	<i>matamorensense</i>			
Boraginaceae	<i>Tiquilia</i>	<i>canescens</i>			Oreja de Perro
Boraginaceae	<i>Tiquilia</i>	<i>hispidissima</i>			
Brassicaceae	<i>Capsella</i>	<i>bursa-pastoris</i>			
Brassicaceae	<i>Descurainia</i>	<i>pinnata</i>		Purple Rocket	
Brassicaceae	<i>Iodanthus</i>	<i>pinnatifidus</i>			
Brassicaceae	<i>Lepidium</i>	<i>austrinum</i>		Peppergrass	Lentrilla
Brassicaceae	<i>Lepidium</i>	<i>densiflorum</i>			
Brassicaceae	<i>Lepidium</i>	<i>lasiocarpum</i>			
Brassicaceae	<i>Lepidium</i>	<i>virginicum</i>			
Brassicaceae	<i>Lesquerella</i>	<i>argyrea</i>			
Brassicaceae	<i>Lesquerella</i>	<i>lasiocarpa</i>		Zapata Bladderpod	
Brassicaceae	<i>Lesquerella</i>	<i>thamnophila</i>		Radish	Rábano
Brassicaceae	<i>Raphanus</i>	<i>sativus</i>		Tansyleaf Yellowcress	
Brassicaceae	<i>Rorippa</i>	<i>teres</i>			
Brassicaceae	<i>Selenia</i>	<i>grandis</i>			
Brassicaceae	<i>Sibara</i>	<i>runcinata</i>			
Brassicaceae	<i>Sisymbrium</i>	<i>irio</i>		London Rocket	
Bromeliaceae	<i>Hechtia</i>	<i>glomerata</i>			Guapilla
Bromeliaceae	<i>Tillandsia</i>	<i>baileyi</i>		Bailey's Ball Moss	
Bromeliaceae	<i>Tillandsia</i>	<i>recurvata</i>		Ball Moss	Gallitos
Bromeliaceae	<i>Tillandsia</i>	<i>usneoides</i>		Spanish Moss	Paxtle
Cactaceae	<i>Acanthocereus</i>	<i>pentagonus</i>		Barbed Wired Cactus	Jacobillo
Cactaceae	<i>Ancistrocactus</i>	<i>scheeri</i>		Fishhook Cactus	
Cactaceae	<i>Coryphantha</i>	<i>macromeris</i>	runyonii	Runyon's Cory Cactus	
Cactaceae	<i>Coryphantha</i>	<i>roberti</i>		Runyon's Escobaria	
Cactaceae	<i>Echinocactus</i>	<i>bicolor</i>	schottii	Glory of Texas	
Cactaceae	<i>Echinocactus</i>	<i>hamatacanthus</i>		Turk's Head	Biznaga
Cactaceae	<i>Echinocactus</i>	<i>scheeri</i>		Fishhook Cactus	
Cactaceae	<i>Echinocactus</i>	<i>setispinus</i>	hamatus	Twisted-Rib Cactus	
Cactaceae	<i>Echinocactus</i>	<i>setispinus</i>	setaceus	Hedgehog Cactus	
Cactaceae	<i>Echinocactus</i>	<i>sinuatus</i>		LRGV Barrel Cactus	
Cactaceae	<i>Echinocactus</i>	<i>texensis</i>		Horse Crippler	Manca Caballo
<u>FAMILY</u>	<u>GENUS</u>	<u>SPECIES</u>	<u>VARIETY</u>	<u>NAME</u>	<u>SPANISH NAME</u>
Cactaceae	<i>Echinocereus</i>	<i>berlandieri</i>		Berlandier's Alicoche	
Cactaceae	<i>Echinocereus</i>	<i>blackii</i>			Alicoche
Cactaceae	<i>Echinocereus</i>	<i>enneacanthus</i>		Strawberry Cactus	Pitaya

Cactaceae	<i>Echinocereus</i>	<i>fitchii</i>		Rainbow Cactus	
Cactaceae	<i>Echinocereus</i>	<i>pentalophus</i>		Lady-Finger Alicoche	
Cactaceae	<i>Echinocereus</i>	<i>reichenbachii</i>	fitchii	Rainbow Cactus	
Cactaceae	<i>Lophophora</i>	<i>williamsii</i>			Peyote
Cactaceae	<i>Mammillaria</i>	<i>gummifera</i>		Pincushion Cactus	Pichilinga
Cactaceae	<i>Mammillaria</i>	<i>heyderi</i>		Pincushion Cactus	Pichilinga
Cactaceae	<i>Mammillaria</i>	<i>longimamma</i>	sphaerica	Pale Pincushion Cactus	
Cactaceae	<i>Mammillaria</i>	<i>multiceps</i>		Hair Covered Pincushion	
Cactaceae	<i>Mammillaria</i>	<i>prolifera</i>		Hair Covered Pincushion	
Cactaceae	<i>Mammillaria</i>	<i>robertii</i>		Runyon's Escobaria	
Cactaceae	<i>Mammillaria</i>	<i>runyonii</i>		Runyon's Cory Cactus	
Cactaceae	<i>Mammillaria</i>	<i>sphaerica</i>		Pale Pincushion Cactus	
Cactaceae	<i>Opuntia</i>	<i>engelmannii</i>		Prickly Pear	Nopal
Cactaceae	<i>Opuntia</i>	<i>lindheimeri</i>		Prickly Pear	Nopal
Cactaceae	<i>Opuntia</i>	<i>leptocaulis</i>		Pencil Cactus	Tasajillo
Cactaceae	<i>Opuntia</i>	<i>schottii</i>		Dog Cholla	Clavellina
Cactaceae	<i>Wilcoxia</i>	<i>poselgeri</i>		Pencil Cactus	Sacasil
Capparidaceae	<i>Capparis</i>	<i>incana</i>			
Capparidaceae	<i>Cleome</i>	<i>aculeata</i>		Spiderflower	
Capparidaceae	<i>Polanisia</i>	<i>dodecandra</i>			
Caryophyllaceae	<i>Arenaria</i>	<i>benthamii</i>		Sandwort	
Caryophyllaceae	<i>Stellaria</i>	<i>prostrata</i>			
Celastraceae	<i>Maytenus</i>	<i>phyllanthoides</i>			
Celastraceae	<i>Mortonia</i>	<i>greggii</i>		Gregg's Mortonia	Afinador
Celastraceae	<i>Schaefferia</i>	<i>cuneifolia</i>		Desert Yaupon	Capul
Chenopodiaceae	<i>Atriplex</i>	<i>acanthocarpa</i>		Armed Saltbush	Huaha
Chenopodiaceae	<i>Atriplex</i>	<i>canescens</i>		Four-Wing Saltbush	
Chenopodiaceae	<i>Atriplex</i>	<i>matamorensis</i>			Quelite Cenizo
Chenopodiaceae	<i>Atriplex</i>	<i>pentandra</i>			
Chenopodiaceae	<i>Chenopodium</i>	<i>ambrosioides</i>			
Chenopodiaceae	<i>Chenopodium</i>	<i>berlandieri</i>			
Chenopodiaceae	<i>Chenopodium</i>	<i>murale</i>			
Chenopodiaceae	<i>Salicornia</i>	<i>bigelovii</i>		Glasswort	Saladilla
Chenopodiaceae	<i>Salicornia</i>	<i>virginica</i>			
Chenopodiaceae	<i>Salsola</i>	<i>australis</i>		Russian Thistle	Rodeadora
Chenopodiaceae	<i>Salsola</i>	<i>kali</i>		Russian Thistle	Rodeadora
Chenopodiaceae	<i>Suaeda</i>	<i>conferta</i>		Sea Blite, Seepweed	
Chenopodiaceae	<i>Suaeda</i>	<i>linearis</i>		Sea Blite, Seepweed	
Cochlospermaceae	<i>Amoreuxia</i>	<i>wrightii</i>		Yellow-Show	
Commelinaceae	<i>Commelina</i>	<i>diffusa</i>			
Commelinaceae	<i>Commelina</i>	<i>elegans</i>			
<u>FAMILY</u>	<u>GENUS</u>	<u>SPECIES</u>	<u>VARIETY</u>	<u>NAME</u>	<u>SPANISH NAME</u>
Commelinaceae	<i>Commelina</i>	<i>erecta</i>			Hierba del Pollo
Commelinaceae	<i>Tradescantia</i>	<i>micrantha</i>			
Convolvulaceae	<i>Convolvulus</i>	<i>equitans</i>		Texas Bindweed	
Convolvulaceae	<i>Cressa</i>	<i>nudicaulis</i>			

Convolvulaceae	<i>Cuscuta</i>	<i>indecora</i>			
Convolvulaceae	<i>Dichondra</i>	<i>carolinensis</i>			
Convolvulaceae	<i>Dichondra</i>	<i>micrantha</i>			
Convolvulaceae	<i>Evolvulus</i>	<i>alsinoides</i>			Ojo de Víbora
Convolvulaceae	<i>Evolvulus</i>	<i>sericeus</i>			
Convolvulaceae	<i>Ipomoea</i>	<i>amnicola</i>			
Convolvulaceae	<i>Ipomoea</i>	<i>aristolochiifolia</i>	fistulosa	Tree Morning Glory	
Convolvulaceae	<i>Ipomoea</i>	<i>carnea</i>		Shrubby Morning Glory	
Convolvulaceae	<i>Ipomoea</i>	<i>cordatotriloba</i>		Tie Vine	
Convolvulaceae	<i>Ipomoea</i>	<i>sinuata</i>		Alamo Vine	Correhuela de las Doce
Crassulaceae	<i>Kalanchoë</i>	<i>verticillata</i>			
Crassulaceae	<i>Sedum</i>	<i>texanum</i>			
Cucurbitaceae	<i>Cucumis</i>	<i>melo</i>			
Cucurbitaceae	<i>Ibervillea</i>	<i>lindheimeri</i>			
Cucurbitaceae	<i>Ibervillea</i>	<i>tenella</i>		Slender Globeberry	
Cucurbitaceae	<i>Ibervillea</i>	<i>tripartita</i>		Slender Globeberry	
Cucurbitaceae	<i>Melothria</i>	<i>pendula</i>			Meloncito
Cyperaceae	<i>Carex</i>	<i>brittoniana</i>			
Cyperaceae	<i>Cyperus</i>	<i>aristatus</i>			
Cyperaceae	<i>Cyperus</i>	<i>articulatus</i>			
Cyperaceae	<i>Cyperus</i>	<i>erythrorhizos</i>			
Cyperaceae	<i>Cyperus</i>	<i>macrocephalus</i>			
Cyperaceae	<i>Cyperus</i>	<i>ochraceus</i>			
Cyperaceae	<i>Cyperus</i>	<i>odoratus</i>			
Cyperaceae	<i>Cyperus</i>	<i>polystachyos</i>	texensis		
Cyperaceae	<i>Cyperus</i>	<i>rotundus</i>			
Cyperaceae	<i>Cyperus</i>	<i>uniflorus</i>			
Cyperaceae	<i>Cyperus</i>	<i>virens</i>			
Cyperaceae	<i>Eleocharis</i>	<i>caribaea</i>			
Cyperaceae	<i>Eleocharis</i>	<i>macrostachya</i>			
Cyperaceae	<i>Eleocharis</i>	<i>parvula</i>			
Cyperaceae	<i>Fimbristylis</i>	<i>vahlia</i>			
Cyperaceae	<i>Scirpus</i>	<i>californicus</i>		Giant Bulrush	Tule
Cyperaceae	<i>Scirpus</i>	<i>maritimus</i>			
Cyperaceae	<i>Scirpus</i>	<i>pungens</i>			
Cyperaceae	<i>Scirpus</i>	<i>pungens</i>	longispicatus	Three-square Bulrush	
Cyperaceae	<i>Scirpus</i>	<i>supinus</i>			
Cyperaceae	<i>Scirpus</i>	<i>validus</i>	Soft-Stem Bulrush	Tule	
Ebenaceae	<i>Diospyros</i>	<i>texana</i>		Texas Persimmon	Chapote
Elatinaceae	<i>Bergia</i>	<i>texana</i>			
<u>FAMILY</u>	<u>GENUS</u>	<u>SPECIES</u>	<u>VARIETY</u>	<u>NAME</u>	<u>SPANISH NAME</u>
Ephedraceae	<i>Ephedra</i>	<i>antisyphilitica</i>		Clapweed	Popote
Ephedraceae	<i>Ephedra</i>	<i>pedunculata</i>		Vine Joint-Fir	Comida de Víbora
Euphorbiaceae	<i>Acalypha</i>	<i>monostachya</i>			
Euphorbiaceae	<i>Acalypha</i>	<i>poiretii</i>			
Euphorbiaceae	<i>Adelia</i>	<i>vaseyi</i>			

Euphorbiaceae	<i>Argythamnia</i>	<i>humilis</i>	humilis	Wild Mercury	
Euphorbiaceae	<i>Argythamnia</i>	<i>neomexicana</i>			
Euphorbiaceae	<i>Bernardia</i>	<i>myricifolia</i>		Hogwort	
Euphorbiaceae	<i>Croton</i>	<i>capitatus</i>		Mexican Croton	Solimán
Euphorbiaceae	<i>Croton</i>	<i>ciliatoglandulifer</i>			
Euphorbiaceae	<i>Croton</i>	<i>cortesianus</i>			
Euphorbiaceae	<i>Croton</i>	<i>glandulosus</i>			
Euphorbiaceae	<i>Croton</i>	<i>humilis</i>			
Euphorbiaceae	<i>Croton</i>	<i>incanus</i>			Vara Blanca
Euphorbiaceae	<i>Croton</i>	<i>leucophyllus</i>			
Euphorbiaceae	<i>Croton</i>	<i>lindheimerianus</i>			
Euphorbiaceae	<i>Croton</i>	<i>parksii</i>			
Euphorbiaceae	<i>Croton</i>	<i>punctatus</i>		Beach-tea	Hierba Del Jabalí
Euphorbiaceae	<i>Euphorbia</i>	<i>albomarginata</i>		Spurge	
Euphorbiaceae	<i>Euphorbia</i>	<i>cinerascens</i>			
Euphorbiaceae	<i>Euphorbia</i>	<i>cyathophora</i>		Painted Euphorbia	
Euphorbiaceae	<i>Euphorbia</i>	<i>heterophylla</i>			Catalina
Euphorbiaceae	<i>Euphorbia</i>	<i>hypericifolia</i>		Tropical Euphorbia	
Euphorbiaceae	<i>Euphorbia</i>	<i>laredana</i>			
Euphorbiaceae	<i>Euphorbia</i>	<i>maculata</i>		Spurge	
Euphorbiaceae	<i>Euphorbia</i>	<i>nutans</i>			
Euphorbiaceae	<i>Euphorbia</i>	<i>serpens</i>			
Euphorbiaceae	<i>Euphorbia</i>	<i>spathulata</i>			
Euphorbiaceae	<i>Jatropha</i>	<i>cathartica</i>			Jicamilla
Euphorbiaceae	<i>Jatropha</i>	<i>dioica</i>		Leather Stem	Sangre De Drago
Euphorbiaceae	<i>Julocroton</i>	<i>argenteus</i>			
Euphorbiaceae	<i>Manihot</i>	<i>walkerae</i>		Walker's Manioc	
Euphorbiaceae	<i>Phyllanthus</i>	<i>abnormis</i>			
Euphorbiaceae	<i>Phyllanthus</i>	<i>polygonoides</i>			
Euphorbiaceae	<i>Ricinus</i>	<i>communis</i>		Castor-bean	Higuerilla
Euphorbiaceae	<i>Sapium</i>	<i>sebiferum</i>		Chinese Tallow Tree	
Euphorbiaceae	<i>Stillingia</i>	<i>treculiana</i>			
Euphorbiaceae	<i>Tragia</i>	<i>brevispica</i>			
Euphorbiaceae	<i>Tragia</i>	<i>glanduligera</i>			
Fabaceae	<i>Acacia</i>	<i>berlandieri</i>			Guajillo
Fabaceae	<i>Acacia</i>	<i>farnesiana</i>		Huisache	Huizache
Fabaceae	<i>Acacia</i>	<i>gregii</i>		Gregg's Acacia	Uña de Gato
Fabaceae	<i>Acacia</i>	<i>rigidula</i>		Black Brush	Chaparro Prieto
Fabaceae	<i>Acacia</i>	<i>schaffneri</i>			Huizachillo
<u>FAMILY</u>	<u>GENUS</u>	<u>SPECIES</u>	<u>VARIETY</u>	<u>NAME</u>	<u>SPANISH NAME</u>
Fabaceae	<i>Acacia</i>	<i>smallii</i>		Huisache	Huizache
Fabaceae	<i>Acacia</i>	<i>texensis</i>		Prairie Acacia	
Fabaceae	<i>Acacia</i>	<i>wrightii</i>		Wright's Acacia	Uña de Gato
Fabaceae	<i>Caesalpinia</i>	<i>mexicana</i>		Mexican Poinciana	Hierba del Potro
Fabaceae	<i>Calliandra</i>	<i>conferta</i>			
Fabaceae	<i>Cercidium</i>	<i>macrum</i>		Border Palo Verde	Palo Verde

Fabaceae	<i>Cercidium</i>	<i>texanum</i>		Palo Verde	Palo Verde
Fabaceae	<i>Clitoria</i>	<i>mariana</i>		Pigeon Wings	
Fabaceae	<i>Coursetia</i>	<i>axillaris</i>		Texas Baby-Bonnets	
Fabaceae	<i>Dalea</i>	<i>emarginata</i>		Wedgeleaf Prairie Clover	
Fabaceae	<i>Dalea</i>	<i>pogonathera</i>			
Fabaceae	<i>Dalea</i>	<i>scandens</i>	paucifolia	Thyrsus Dalea	
Fabaceae	<i>Dalea</i>	<i>thyrsiflora</i>		Thyrsus Dalea	
Fabaceae	<i>Desmanthus</i>	<i>virgatus</i>	depressus	Prostrate Butterfly	
Fabaceae	<i>Erythrina</i>	<i>herbacea</i>		Coral Bean	Colorín
Fabaceae	<i>Eysenhardtia</i>	<i>texana</i>		Kidney Wood	Vara Dulce
Fabaceae	<i>Galactia</i>	<i>canescens</i>			
Fabaceae	<i>Lespedeza</i>	<i>virginica</i>		Slender Bush Cover	
Fabaceae	<i>Leucaena</i>	<i>leucocephala</i>		Popinac	Guaje
Fabaceae	<i>Leucaena</i>	<i>pulverulenta</i>			Tepeguaje
Fabaceae	<i>Lupinus</i>	<i>subcarnosus</i>		Texas Bluebonnet	
Fabaceae	<i>Lupinus</i>	<i>texensis</i>		Texas Bluebonnet	
Fabaceae	<i>Medicago</i>	<i>polymorpha</i>	vulgaris	Bur-clover	
Fabaceae	<i>Melilotus</i>	<i>albus</i>		White Sweet Clover	Hubam
Fabaceae	<i>Mimosa</i>	<i>malacophylla</i>		Vine Mimosa	Raspa Huevos
Fabaceae	<i>Mimosa</i>	<i>pigra</i>	berlandieri	Black Mimosa	Coatante
Fabaceae	<i>Mimosa</i>	<i>strigillosa</i>		Powderpuff	Vergonzosa
Fabaceae	<i>Mimosa</i>	<i>wherryana</i>		Wherry Mimosa	
Fabaceae	<i>Parkinsonia</i>	<i>aculeata</i>		Retama	Retama
Fabaceae	<i>Pedimelum</i>	<i>rhombifolium</i>			
Fabaceae	<i>Pithecellobium</i>	<i>ebano</i>		Texas Ebony	Ebono
Fabaceae	<i>Pithecellobium</i>	<i>pallens</i>			Tenaza
Fabaceae	<i>Prosopis</i>	<i>glandulosa</i>		Honey Mesquite	Mezquite
Fabaceae	<i>Prosopis</i>	<i>reptans</i>	cinerascens	Dwarf Screw-Bean	Tornillo
Fabaceae	<i>Rhynchosia</i>	<i>minima</i>		Least Snoutbean	
Fabaceae	<i>Schrankia</i>	<i>latidens</i>			
Fabaceae	<i>Senna</i>	<i>bauhinioides</i>		Two-leaved Senna	
Fabaceae	<i>Senna</i>	<i>durangensis</i>	iselyi		
Fabaceae	<i>Senna</i>	<i>roemeriana</i>			
Fabaceae	<i>Sesbania</i>	<i>drummondii</i>		Rattlebush	
Fabaceae	<i>Sesbania</i>	<i>macrocarpa</i>			Bequilla
Fabaceae	<i>Sophora</i>	<i>secundiflora</i>		Mescal Bean	Frijollilo
Fabaceae	<i>Sophora</i>	<i>tomentosa</i>	occidentalis	Yellow Sophora	
Fabaceae	<i>Vicia</i>	<i>leavenworthii</i>			
<u>FAMILY</u>	<u>GENUS</u>	<u>SPECIES</u>	<u>VARIETY</u>	<u>NAME</u>	<u>SPANISH NAME</u>
Fabaceae	<i>Vigna</i>	<i>luteola</i>			
Flacourtiaceae	<i>Xylosma</i>	<i>flexuosa</i>		Brush-Holly	Coronilla
Frankeniaceae	<i>Frankenia</i>	<i>johnstonii</i>		Johnston's Frankenia	
Gentianaceae	<i>Centaurium</i>	<i>calycosum</i>			
Gentianaceae	<i>Eustoma</i>	<i>exaltatum</i>			
Gentianaceae	<i>Eustoma</i>	<i>grandiflorum</i>		Bluebells	Lira de San Pedro
Geraniaceae	<i>Geranium</i>	<i>texanum</i>			

Hydrophyllaceae	<i>Nama</i>	<i>hispidum</i>			
Hydrophyllaceae	<i>Nama</i>	<i>jamaicense</i>			
Hydrophyllaceae	<i>Nama</i>	<i>stenocarpum</i>		Slimpod Nama	
Hydrophyllaceae	<i>Phacelia</i>	<i>congesta</i>		Blue Curls	
Hydrophyllaceae	<i>Phacelia</i>	<i>patuliflora</i>			
Juglandaceae	<i>Carya</i>	<i>illinoensis</i>		Pecan	Nuez Encarcelada
Koeberliniaceae	<i>Koeberlinia</i>	<i>spinosa</i>		Allthorn	Junco
Krameriaceae	<i>Krameria</i>	<i>ramosissima</i>			
Lamiaceae	<i>Hedeoma</i>	<i>drummondii</i>		Pennyroyal	
Lamiaceae	<i>Lamium</i>	<i>amplexicaule</i>			
Lamiaceae	<i>Micromeria</i>	<i>brownei</i>	pilosiuscula		
Lamiaceae	<i>Monarda</i>	<i>citriodora</i>			
Lamiaceae	<i>Salvia</i>	<i>azurea</i>		Blue Sage	
Lamiaceae	<i>Salvia</i>	<i>ballotiflora</i>		Shrubby Blue Sage	Mejorana
Lamiaceae	<i>Salvia</i>	<i>coccinea</i>		Tropical Sage	
Lamiaceae	<i>Stachys</i>	<i>crenata</i>		Shade Betony	
Lamiaceae	<i>Stachys</i>	<i>drummondii</i>		Pink Mint	
Lamiaceae	<i>Teucrium</i>	<i>canadense</i>			
Lamiaceae	<i>Teucrium</i>	<i>cubense</i>		Coast Germander	
Lamiaceae	<i>Teucrium</i>	<i>laciniatum</i>		Germander	
Lemnaceae	<i>Lemna</i>	<i>minor</i>		Duckweed	
Lemnaceae	<i>Wolffia</i>	<i>columbiana</i>			
Liliaceae	<i>Echeandia</i>	<i>chandleri</i>		Chandler's Crag-Lily	Lila de los Llanos
Liliaceae	<i>Nothoscordum</i>	<i>bivalve</i>		Crow-Poison	
Liliaceae	<i>Smilax</i>	<i>bona-nox</i>		Cat-briar	Zarzaparrilla
Liliaceae	<i>Yucca</i>	<i>constricta</i>			Izote
Liliaceae	<i>Yucca</i>	<i>treculeana</i>		Spanish Dagger	Palma Pita
Loasaceae	<i>Cevallia</i>	<i>sinuata</i>		Stinging Cevallia	
Loasaceae	<i>Mentzelia</i>	<i>incisa</i>			
Loganiaceae	<i>Buddleja</i>	<i>sessiliflora</i>		Butterfly Bush	
Lythraceae	<i>Ammannia</i>	<i>coccinea</i>			
Lythraceae	<i>Heimia</i>	<i>salicifolia</i>			Hachinal
Lythraceae	<i>Lythrum</i>	<i>californicum</i>			
Malpighiaceae	<i>Galphimia</i>	<i>angustifolia</i>			
Malpighiaceae	<i>Malpighia</i>	<i>glabra</i>		Barbados Cherry	Manzanita
Malvaceae	<i>Abutilon</i>	<i>abutiloides</i>			
Malvaceae	<i>Abutilon</i>	<i>berlandieri</i>			
<u>FAMILY</u>	<u>GENUS</u>	<u>SPECIES</u>	<u>VARIETY</u>	<u>NAME</u>	<u>SPANISH NAME</u>
Malvaceae	<i>Abutilon</i>	<i>fruticosum</i>			Pelotazo
Malvaceae	<i>Abutilon</i>	<i>hulseanum</i>			
Malvaceae	<i>Abutilon</i>	<i>hypoleucum</i>			
Malvaceae	<i>Abutilon</i>	<i>lignosum</i>		Indian-mallow	
Malvaceae	<i>Abutilon</i>	<i>trisulcatum</i>		Amantillo	Amantillo
Malvaceae	<i>Abutilon</i>	<i>umbellatum</i>			
Malvaceae	<i>Abutilon</i>	<i>wrightii</i>		Indian Mallow	
Malvaceae	<i>Allowissadula</i>	<i>holosericea</i>			

Malvaceae	<i>Allowissadula</i>	<i>lozanii</i>			
Malvaceae	<i>Anoda</i>	<i>pentaschista</i>			
Malvaceae	<i>Bastardia</i>	<i>viscosa</i>			
Malvaceae	<i>Billieturnera</i>	<i>helleri</i>			
Malvaceae	<i>Herissantia</i>	<i>crispa</i>			
Malvaceae	<i>Hibiscus</i>	<i>cardiophyllus</i>		Heart-Leaf Hibiscus	Tulipán del Monte
Malvaceae	<i>Hibiscus</i>	<i>martianus</i>		Heart-Leaf Hibiscus	Tulipán del Monte
Malvaceae	<i>Lavatera</i>	<i>trimestris</i>			
Malvaceae	<i>Malachra</i>	<i>capitata</i>			
Malvaceae	<i>Malvastrum</i>	<i>americanum</i>			Malva Loca
Malvaceae	<i>Malvastrum</i>	<i>aurantiacum</i>			
Malvaceae	<i>Malvastrum</i>	<i>coromandelianum</i>			
Malvaceae	<i>Malvaviscus</i>	<i>arbores</i>	drummondii	Turk-s Cap	
Malvaceae	<i>Meximalva</i>	<i>filipes</i>			
Malvaceae	<i>Modiola</i>	<i>caroliniana</i>			
Malvaceae	<i>Rhynchosida</i>	<i>physocalyx</i>			
Malvaceae	<i>Sida</i>	<i>filicaulis</i>			
Malvaceae	<i>Sida</i>	<i>rhombifolia</i>		Axocatzin	
Malvaceae	<i>Sida</i>	<i>spinosa</i>			
Malvaceae	<i>Sphaeralcea</i>	<i>pedatifida</i>			
Malvaceae	<i>Wissadula</i>	<i>amplissima</i>			
Meliaceae	<i>Melia</i>	<i>azedarach</i>		Chinaberry	Canelón
Menispermaceae	<i>Cocculus</i>	<i>diversifolius</i>		Snail Seed	
Moraceae	<i>Broussonetia</i>	<i>papyrifera</i>		Paper Mulberry	
Moraceae	<i>Ficus</i>	<i>carica</i>		Common Fig	Higuera
Moraceae	<i>Morus</i>	<i>alba</i>		White Mulberry	Mora Blanca
Moraceae	<i>Morus</i>	<i>nigra</i>		Black Mulberry	Mora Negra
Najadaceae	<i>Najas</i>	<i>guadalupensis</i>			
Nyctaginaceae	<i>Acleisanthes</i>	<i>longiflora</i>		Angel Trumpets	
Nyctaginaceae	<i>Acleisanthes</i>	<i>obtus</i>			
Nyctaginaceae	<i>Allionia</i>	<i>incarnata</i>			
Nyctaginaceae	<i>Boerhavia</i>	<i>diffusa</i>			
Nyctaginaceae	<i>Boerhavia</i>	<i>erecta</i>			
Nyctaginaceae	<i>Commicarpus</i>	<i>scandens</i>			
Nyctaginaceae	<i>Mirabilis</i>	<i>jalapa</i>		Common Four-o'clock	
Nyctaginaceae	<i>Nyctaginia</i>	<i>capitata</i>			
<u>FAMILY</u>	<u>GENUS</u>	<u>SPECIES</u>	<u>VARIETY</u>	<u>NAME</u>	<u>SPANISH NAME</u>
Nyctaginaceae	<i>Pisonia</i>	<i>aculeata</i>		Devil's Claw	Garabato Prieto
Nymphaeaceae	<i>Nymphaea</i>	<i>elegans</i>		Blue Water Lily	Lampazos
Nymphaeaceae	<i>Nymphaea</i>	<i>mexicana</i>		Yellow Water-Lily	
Oleaceae	<i>Forestiera</i>	<i>angustifolia</i>		Elbow Bush	Panalero
Oleaceae	<i>Fraxinus</i>	<i>berlandieriana</i>		Rio Grande Ash	Fresno
Oleaceae	<i>Menodora</i>	<i>heterophylla</i>			
Onagraceae	<i>Gaura</i>	<i>coccinea</i>			
Onagraceae	<i>Gaura</i>	<i>parviflora</i>		Small-Flowered Guara	
Onagraceae	<i>Gaura</i>	<i>sinuata</i>		Wavy-leaved Guara	

Onagraceae	<i>Gaura</i>	<i>suffulta</i>		Wild Honeysuckle, Kisses	
Onagraceae	<i>Ludwigia</i>	<i>octovalvis</i>			
Onagraceae	<i>Ludwigia</i>	<i>peploides</i>			
Onagraceae	<i>Oenothera</i>	<i>grandis</i>		Evening Primrose	
Onagraceae	<i>Oenothera</i>	<i>kunthiana</i>			
Onagraceae	<i>Oenothera</i>	<i>laciniata</i>			
Onagraceae	<i>Oenothera</i>	<i>rosea</i>		Showy Evening Primrose	
Onagraceae	<i>Oenothera</i>	<i>speciosa</i>			
Onagraceae	<i>Oenothera</i>	<i>triloba</i>			
Orobanchaceae	<i>Orobanche</i>	<i>ludoviciana</i>		Louisiana Broomrape	
Oxalidaceae	<i>Oxalis</i>	<i>dichondrifolia</i>			
Oxalidaceae	<i>Oxalis</i>	<i>dillenii</i>			
Oxalidaceae	<i>Oxalis</i>	<i>drummondii</i>			
Papaveraceae	<i>Argemone</i>	<i>aenea</i>		Yellow Prickly Poppy	
Papaveraceae	<i>Argemone</i>	<i>albiflora</i>	texana	White Prickly Poppy	Flor de San Juan
Papaveraceae	<i>Argemone</i>	<i>mexicana</i>			
Papaveraceae	<i>Argemone</i>	<i>sanguinea</i>		Red Poppy	
Passifloraceae	<i>Passiflora</i>	<i>filipes</i>			
Passifloraceae	<i>Passiflora</i>	<i>foetida</i>	gossypifolia		Corona de Cristo
Passifloraceae	<i>Passiflora</i>	<i>suberosa</i>		Passion Flower	
Passifloraceae	<i>Passiflora</i>	<i>tenuiloba</i>			
Phytolaccaceae	<i>Petiveria</i>	<i>alliacea</i>		Garlic Weed	Hierba De Las Gallintas
Phytolaccaceae	<i>Phaulothamnus</i>	<i>spinescens</i>		Snake-eyes	Ojo de Víbora
Phytolaccaceae	<i>Rivina</i>	<i>humilis</i>		Pigeon Berry	
Plantaginaceae	<i>Plantago</i>	<i>hybrida</i>		Plantain	
Plantaginaceae	<i>Plantago</i>	<i>rhodosperma</i>		Red-Seeded Plantain	
Plumbaginaceae	<i>Limonium</i>	<i>nashii</i>			
Plumbaginaceae	<i>Plumbago</i>	<i>scandens</i>			Hierba del Alacran
Poaceae	<i>Andropogon</i>	<i>gerardii</i>	gerardii	Big Bluestem	
Poaceae	<i>Andropogon</i>	<i>glomeratus</i>		Bushy Beardgrass	
Poaceae	<i>Andropogon</i>	<i>ternarius</i>		Splitbeard Bluestem	
Poaceae	<i>Aristida</i>	<i>adscensionis</i>		Six-Weeks Three-Awn	
Poaceae	<i>Aristida</i>	<i>longespica</i>		Three-Awn	
Poaceae	<i>Aristida</i>	<i>purpurea</i>		Purple Three-Awn	
Poaceae	<i>Aristida</i>	<i>roemeriana</i>		Roemer Three-Awn	
<u>FAMILY</u>	<u>GENUS</u>	<u>SPECIES</u>	<u>VARIETY</u>	<u>NAME</u>	<u>SPANISH NAME</u>
Poaceae	<i>Aristida</i>	<i>wrightii</i>		Wright Three-Awn	
Poaceae	<i>Arundo</i>	<i>donax</i>		Giant Cane	Carrizo
Poaceae	<i>Bothriochloa</i>	<i>ischaemum</i>	songarica	King Ranch Bluestem	
Poaceae	<i>Bothriochloa</i>	<i>saccharoides</i>	longipaniculata	Longspike Silver Bluestem	
Poaceae	<i>Bouteloua</i>	<i>aristoides</i>		Needle Grama	
Poaceae	<i>Bouteloua</i>	<i>hirsuta</i>		Hairy Grama	
Poaceae	<i>Bouteloua</i>	<i>rigidiseta</i>		Texas Grama	
Poaceae	<i>Bouteloua</i>	<i>trifida</i>		Red Grama	
Poaceae	<i>Bromus</i>	<i>unioloides</i>		Rescuegrass	
Poaceae	<i>Buchloë</i>	<i>dactyloides</i>		Buffalograss	Zacate Chino

Poaceae	<i>Cenchrus</i>	<i>ciliaris</i>		Buffelgrass	
Poaceae	<i>Cenchrus</i>	<i>echinatus</i>		Southern Sandbur	
Poaceae	<i>Cenchrus</i>	<i>incertus</i>		Sandbur, Grassbur	
Poaceae	<i>Cenchrus</i>	<i>myosuroides</i>		Big Sandbur	
Poaceae	<i>Chloris</i>	<i>andropogonoides</i>		Slimspike Windmillgrass	
Poaceae	<i>Chloris</i>	<i>canterai</i>			
Poaceae	<i>Chloris</i>	<i>chloridea</i>		Buryseed Chloris	
Poaceae	<i>Chloris</i>	<i>ciliata</i>		Fringed Chloris	
Poaceae	<i>Chloris</i>	<i>crinita</i>		False Rhodesgrass	
Poaceae	<i>Chloris</i>	<i>cucullata</i>		Hooded Windmillgrass	
Poaceae	<i>Chloris</i>	<i>gayana</i>		Rhodesgrass	
Poaceae	<i>Chloris</i>	<i>pluriflora</i>		Multiflowered False Rhodesgrass	
Poaceae	<i>Chloris</i>	<i>subdolichostachya</i>		Shortspike Windmillgrass	
Poaceae	<i>Chloris</i>	<i>verticillata</i>		Windmillgrass	
Poaceae	<i>Chloris</i>	<i>virgata</i>		Showy Chloris	
Poaceae	<i>Cynodon</i>	<i>dactylon</i>		Bermudagrass	
Poaceae	<i>Dactyloctenium</i>	<i>aegyptium</i>		Crowfoot	
Poaceae	<i>Dichanthium</i>	<i>annulatum</i>		Kleberg Bluestem	
Poaceae	<i>Dichanthium</i>	<i>aristatum</i>		Angleton Bluestem	
Poaceae	<i>Dichanthium</i>	<i>sericeum</i>		Silky Bluestem	
Poaceae	<i>Digitaria</i>	<i>bicornis</i>			
Poaceae	<i>Digitaria</i>	<i>californica</i>		California Cottontop	
Poaceae	<i>Digitaria</i>	<i>cognata</i>	arenicola	Sand Witchgrass	
Poaceae	<i>Digitaria</i>	<i>insularis</i>		Sourgrass	
Poaceae	<i>Digitaria</i>	<i>patens</i>		Texas Cottontop	
Poaceae	<i>Distichlis</i>	<i>spicata</i>		Saltgrass	Zacate Salado
Poaceae	<i>Echinochloa</i>	<i>colona</i>		Junglerice	
Poaceae	<i>Echinochloa</i>	<i>crusgalli</i>		Barnyardgrass	
Poaceae	<i>Eleusine</i>	<i>indica</i>		Goosegrass	
Poaceae	<i>Eragrostis</i>	<i>barrelieri</i>		Mediterranean Lovegrass	
Poaceae	<i>Eragrostis</i>	<i>cilianensis</i>		Stinkgrass	
Poaceae	<i>Eragrostis</i>	<i>curtipedicillata</i>		Gummy Lovegrass	
Poaceae	<i>Eragrostis</i>	<i>lugens</i>		Mourning Lovegrass	
Poaceae	<i>Eragrostis</i>	<i>secundiflora</i>		Red Lovegrass	
<u>FAMILY</u>	<u>GENUS</u>	<u>SPECIES</u>	<u>VARIETY</u>	<u>NAME</u>	<u>SPANISH NAME</u>
Poaceae	<i>Eragrostis</i>	<i>sessilispica</i>		Tumble Lovegrass	
Poaceae	<i>Eragrostis</i>	<i>spectabilis</i>		Purple Lovegrass	
Poaceae	<i>Eragrostis</i>	<i>spicata</i>		Spicate Lovegrass	
Poaceae	<i>Eriochloa</i>	<i>contracta</i>		Prairie Cupgrass	
Poaceae	<i>Eriochloa</i>	<i>punctata</i>		Louisiana Cupgrass	
Poaceae	<i>Eriochloa</i>	<i>sericea</i>		Texas Cupgrass	
Poaceae	<i>Erioneuron</i>	<i>pilosum</i>		Hairy Tridens	
Poaceae	<i>Hemarthria</i>	<i>altissima</i>		African Jointtail	
Poaceae	<i>Hilaria</i>	<i>belangeri</i>		Common Curlymesquite	
Poaceae	<i>Hordeum</i>	<i>pusillum</i>		Little Barley	
Poaceae	<i>Leersia</i>	<i>hexandra</i>		Clubhead Cutgrass	

Poaceae	<i>Leersia</i>	<i>monandra</i>		Bunch Cutgrass	
Poaceae	<i>Leptochloa</i>	<i>dubia</i>		Green Sprangletop	
Poaceae	<i>Leptochloa</i>	<i>fascicularis</i>		Sprangletop	
Poaceae	<i>Leptochloa</i>	<i>filiformis</i>		Red Sprangletop	
Poaceae	<i>Leptochloa</i>	<i>nealleyi</i>		Nealley Sprangletop	
Poaceae	<i>Leptochloa</i>	<i>uninervia</i>		Mexican Sprangletop	
Poaceae	<i>Leptochloa</i>	<i>virgata</i>		Tropic Sprangletop	
Poaceae	<i>Leptoloma</i>	<i>cognatum</i>	cognatum	Fall Witchgrass	
Poaceae	<i>Limnodea</i>	<i>arkansana</i>		Ozarkgrass	
Poaceae	<i>Monanthochloë</i>	<i>littoralis</i>		Shore Grass	
Poaceae	<i>Neeragrostis</i>	<i>reptans</i>		Creeping Lovegrass	
Poaceae	<i>Oplismenus</i>	<i>hirtellus</i>		Basketgrass	
Poaceae	<i>Panicum</i>	<i>antidotale</i>		Blue Panicum	
Poaceae	<i>Panicum</i>	<i>diffusum</i>		Spreading Panicum	
Poaceae	<i>Panicum</i>	<i>fasciculatum</i>		Browntop Panic Grass	
Poaceae	<i>Panicum</i>	<i>hallii</i>	filipes	Filly Panicum	
Poaceae	<i>Panicum</i>	<i>ghiesbreghtii</i>		Ghiesbreght Panicum	
Poaceae	<i>Panicum</i>	<i>hallii</i>	hallii	Halls Panicum	
Poaceae	<i>Panicum</i>	<i>hirsutum</i>		Hairy Panicum	
Poaceae	<i>Panicum</i>	<i>maximum</i>		Guineagrass	
Poaceae	<i>Panicum</i>	<i>obtusum</i>		Vine Mesquite	
Poaceae	<i>Panicum</i>	<i>purpurascens</i>		Paragrass	
Poaceae	<i>Panicum</i>	<i>texanum</i>		Texas Panicum, Millet	
Poaceae	<i>Pappophorum</i>	<i>bicolor</i>		Pink Pappusgrass	
Poaceae	<i>Pappophorum</i>	<i>vaginatum</i>		Whiplash Pappusgrass	
Poaceae	<i>Paspalidium</i>	<i>geminatum</i>			
Poaceae	<i>Paspalum</i>	<i>distichum</i>	Knotgrass		
Poaceae	<i>Paspalum</i>	<i>langei</i>		Rustyseed Paspalum	
Poaceae	<i>Paspalum</i>	<i>lividum</i>		Longtom	
Poaceae	<i>Paspalum</i>	<i>pubiflorum</i>			
Poaceae	<i>Phragmites</i>	<i>australis</i>		Common Reed	
Poaceae	<i>Saccharum</i>	<i>officinarum</i>		Sugar cane	Caña
Poaceae	<i>Setaria</i>	<i>adhaerans</i>			
<u>FAMILY</u>	<u>GENUS</u>	<u>SPECIES</u>	<u>VARIETY</u>	<u>NAME</u>	<u>SPANISH NAME</u>
Poaceae	<i>Setaria</i>	<i>geniculata</i>		Knotroot Bristlegrass	
Poaceae	<i>Setaria</i>	<i>leucopila</i>		Plains Bristlegrass	
Poaceae	<i>Setaria</i>	<i>macrostachya</i>			
Poaceae	<i>Setaria</i>	<i>ramiseta</i>			
Poaceae	<i>Setaria</i>	<i>scheelei</i>			
Poaceae	<i>Setaria</i>	<i>texana</i>			
Poaceae	<i>Sorghum</i>	<i>halepense</i>		Johnsongrass	
Poaceae	<i>Spartina</i>	<i>alterniflora</i>		Smooth Cordgrass	Sacahuiste
Poaceae	<i>Spartina</i>	<i>cynosuroides</i>		Big Cordgrass	Sacahuiste
Poaceae	<i>Spartina</i>	<i>patens</i>		Marshhay Cordgrass	Sacahuiste
Poaceae	<i>Spartina</i>	<i>spartinae</i>		Gulf Cordgrass	Sacahuiste
Poaceae	<i>Sporobolus</i>	<i>buckleyi</i>		Buckley Dropseed	

Poaceae	<i>Sporobolus</i>	<i>contractus</i>		Spike Dropseed	
Poaceae	<i>Sporobolus</i>	<i>cryptandrus</i>		Sand Dropseed	
Poaceae	<i>Sporobolus</i>	<i>pyramidatus</i>		Whorled Dropseed	
Poaceae	<i>Sporobolus</i>	<i>tharpaii</i>		Padre Island Dropseed	
Poaceae	<i>Sporobolus</i>	<i>vaginiflorus</i>			
Poaceae	<i>Sporobolus</i>	<i>virginicus</i>		Seashore Dropseed	
Poaceae	<i>Sporobolus</i>	<i>wrightii</i>		Big Alkali Sacaton	
Poaceae	<i>Stenotaphrum</i>	<i>secundatum</i>		St. Augustine Grass	
Poaceae	<i>Tragus</i>	<i>berteronianus</i>		Spike Burgrass	
Poaceae	<i>Tricholaena</i>	<i>rosea</i>		Natal Grass	
Poaceae	<i>Trichoneura</i>	<i>elegans</i>		Silveusgrass	
Poaceae	<i>Tridens</i>	<i>albescens</i>		White Tridens	
Poaceae	<i>Tridens</i>	<i>eragrostoides</i>			
Poaceae	<i>Tridens</i>	<i>muticus</i>			
Poaceae	<i>Tridens</i>	<i>texanus</i>		Texas Tridens	
Poaceae	<i>Urochloa</i>	<i>panicoides</i>		Liverseed Grass, Cowkiller	
Poaceae	<i>Vaseyochloa</i>	<i>multinervosa</i>		Texasgrass	
Polemoniaceae	<i>Gilia</i>	<i>incisa</i>			
Polemoniaceae	<i>Gilia</i>	<i>rigidula</i>			
Polygalaceae	<i>Polygala</i>	<i>glandulosa</i>			
Polygonaceae	<i>Antigonon</i>	<i>leptopus</i>		Queen's Wreath	Corona de la Reina
Polygonaceae	<i>Eriogonum</i>	<i>greggii</i>			
Polygonaceae	<i>Eriogonum</i>	<i>multiflorum</i>		Wild Buckwheat	
Polygonaceae	<i>Polygonum</i>	<i>densiflorum</i>		Stout Smartweed	
Polygonaceae	<i>Polygonum</i>	<i>pensylvanicum</i>			
Polygonaceae	<i>Polygonum</i>	<i>persicaria</i>		Lady's Thumb	Moco de Guajolote
Polygonaceae	<i>Polygonum</i>	<i>punctatum</i>		Water Smartweed	
Polygonaceae	<i>Rumex</i>	<i>chrysocarpus</i>			
Polygonaceae	<i>Rumex</i>	<i>pulcher</i>		Fiddle Dock	
Polypodiaceae	<i>Azolla</i>	<i>caroliniana</i>			
Polypodiaceae	<i>Cheilanthes</i>	<i>sinuata</i>			
Polypodiaceae	<i>Marsilea</i>	<i>macropoda</i>			
<u>FAMILY</u>	<u>GENUS</u>	<u>SPECIES</u>	<u>VARIETY</u>	<u>NAME</u>	<u>SPANISH NAME</u>
Polypodiaceae	<i>Notholaena</i>	<i>sinuata</i>		Wavy Cloakfern	
Pontederiaceae	<i>Eichhornia</i>	<i>crassipes</i>		Water Hyacinth	
Pontederiaceae	<i>Heteranthera</i>	<i>liebmannii</i>			
Portulacaceae	<i>Portulaca</i>	<i>pilosa</i>		Chisme	
Portulacaceae	<i>Portulaca</i>	<i>umbraticola</i>			
Portulacaceae	<i>Talinum</i>	<i>aurantiacum</i>			
Portulacaceae	<i>Talinum</i>	<i>paniculatum</i>			
Potamogetonaceae	<i>Potamogeton</i>	<i>nodosus</i>			
Potamogetonaceae	<i>Potamogeton</i>	<i>pectinatus</i>			
Primulaceae	<i>Anagallis</i>	<i>arvensis</i>			
Primulaceae	<i>Samolus</i>	<i>ebracteatus</i>			
Primulaceae	<i>Samolus</i>	<i>parviflorus</i>			
Ranunculaceae	<i>Clematis</i>	<i>drummondii</i>		Texas Virgin's Bower	

Resedaceae	<i>Oligomeris</i>	<i>linifolia</i>		Texas Colubrina	
Rhamnaceae	<i>Colubrina</i>	<i>texensis</i>		Brasil	Capul Negro
Rhamnaceae	<i>Condalia</i>	<i>hookeri</i>		Knife-Leaf Condalia	
Rhamnaceae	<i>Condalia</i>	<i>spathulata</i>			Coyotillo
Rhamnaceae	<i>Karwinskia</i>	<i>humboldtiana</i>			Clepe
Rhamnaceae	<i>Ziziphus</i>	<i>obtusifolia</i>		Lotebush	Duranzo
Rosaceae	<i>Prunus</i>	<i>persica</i>		Peach	Zarzamora
Rosaceae	<i>Rubus</i>	<i>trivialis</i>		Southern Dewberry	
Rubiaceae	<i>Cephalanthus</i>	<i>occidentalis</i>		Buttonbush	
Rubiaceae	<i>Cephalanthus</i>	<i>salicifolius</i>		Mexican Buttonbush	
Rubiaceae	<i>Chiococca</i>	<i>alba</i>		David's Milkberry	
Rubiaceae	<i>Galium</i>	<i>aparine</i>			
Rubiaceae	<i>Randia</i>	<i>rhagocarpa</i>			Crucillo
Rubiaceae	<i>Spermacoce</i>	<i>glabra</i>			
Rutaceae	<i>Amyris</i>	<i>madrensis</i>		Sierra Madre Torchwood	
Rutaceae	<i>Amyris</i>	<i>texana</i>			Chapotillo
Rutaceae	<i>Esenbeckia</i>	<i>runyonii</i>			Limoncillo
Rutaceae	<i>Helietta</i>	<i>parvifolia</i>			Barreta
Rutaceae	<i>Thamnosma</i>	<i>texana</i>		Dutchman's Breeches	Ruda Del Monte
Rutaceae	<i>Zanthoxylum</i>	<i>fagara</i>		Lime Prickly-Ash	Colima
Salicaceae	<i>Salix</i>	<i>babylonica</i>			
Salicaceae	<i>Salix</i>	<i>exigua</i>		Sandbar Willow	
Salicaceae	<i>Salix</i>	<i>interior</i>			
Salicaceae	<i>Salix</i>	<i>nigra</i>		Black Willow	Sauz
Sapindaceae	<i>Cardiospermum</i>	<i>corindum</i>		Tropical Heartseed	
Sapindaceae	<i>Cardiospermum</i>	<i>dissectum</i>		Chihuahua Balloon-Vine	
Sapindaceae	<i>Cardiospermum</i>	<i>halicacabum</i>		Common Balloon-Vine	Farolitos
Sapindaceae	<i>Sapindus</i>	<i>drummondii</i>	drummondii	Western Soapberry	Jaboncillo
Sapindaceae	<i>Sapindus</i>	<i>saponaria</i>		Western Soapberry	Jaboncillo
Sapindaceae	<i>Serjania</i>	<i>brachycarpa</i>		Short-Fruited Serjania	
Sapindaceae	<i>Urvillea</i>	<i>ulmacea</i>			
<u>FAMILY</u>	<u>GENUS</u>	<u>SPECIES</u>	<u>VARIETY</u>	<u>NAME</u>	<u>SPANISH NAME</u>
Sapotaceae	<i>Bumelia</i>	<i>celastrina</i>		Coma	Coma
Scrophulariaceae	<i>Agalinis</i>	<i>heterophylla</i>			
Scrophulariaceae	<i>Bacopa</i>	<i>monnieri</i>		Water Hyssop	
Scrophulariaceae	<i>Leucophyllum</i>	<i>frutescens</i>		Purple Sage	Cenizo
Scrophulariaceae	<i>Maurandya</i>	<i>antirrhiniflora</i>			
Scrophulariaceae	<i>Mecardonia</i>	<i>vandellioides</i>		Prostrate Mecardonia	
Scrophulariaceae	<i>Veronica</i>	<i>peregrina</i>			
Simaroubaceae	<i>Castela</i>	<i>texana</i>		Allthorn Goatbush	Chaparro Amargosa
Simaroubaceae	<i>Castela</i>	<i>erecta</i>	texana	Allthorn Goatbush	Chaparro Amargoso
Solanaceae	<i>Capsicum</i>	<i>annuum</i>		Bird Pepper	Chilipiquín
Solanaceae	<i>Chamaesaracha</i>	<i>coronopus</i>			
Solanaceae	<i>Lycium</i>	<i>berlandieri</i>		Berlandier Wolfberry	
Solanaceae	<i>Lycium</i>	<i>carolinianum</i>	quadrifidum	Carolina Wolfberry	
Solanaceae	<i>Lycopersicon</i>	<i>lycopersicum</i>		Cherry Tomato	

Solanaceae	<i>Margaranthus</i>	<i>solanaceus</i>		Netted Globe-berry	
Solanaceae	<i>Nicotiana</i>	<i>glauca</i>		Tree Tobacco	
Solanaceae	<i>Nicotiana</i>	<i>repanda</i>		Fiddle Leaf Tobacco	
Solanaceae	<i>Nicotiana</i>	<i>trigonophylla</i>			
Solanaceae	<i>Petunia</i>	<i>parviflora</i>			
Solanaceae	<i>Physalis</i>	<i>angulata</i>			
Solanaceae	<i>Physalis</i>	<i>cinerascens</i>		Ground Cherry	
Solanaceae	<i>Physalis</i>	<i>mollis</i>	variovestita		
Solanaceae	<i>Physalis</i>	<i>pubescens</i>		Downy Ground Cherry	
Solanaceae	<i>Physalis</i>	<i>viscosa</i>	cinarescens	Ground Cherry	
Solanaceae	<i>Quincula</i>	<i>lobata</i>			
Solanaceae	<i>Solanum</i>	<i>americanum</i>		Black Nightshade	
Solanaceae	<i>Solanum</i>	<i>campechiense</i>		Campeche Nightshade	
Solanaceae	<i>Solanum</i>	<i>carolinense</i>		Carolina Horse Nettle	
Solanaceae	<i>Solanum</i>	<i>elaeagnifolium</i>		Silver-Leaf Nightshade	Trompillo
Solanaceae	<i>Solanum</i>	<i>nodiflorum</i>			
Solanaceae	<i>Solanum</i>	<i>rostratum</i>		Buffalo Bur	
Solanaceae	<i>Solanum</i>	<i>triquetrum</i>		Texas Nightshade	
Sterculiaceae	<i>Ayenia</i>	<i>limitaris</i>			
Sterculiaceae	<i>Ayenia</i>	<i>pilosa</i>			
Sterculiaceae	<i>Melochia</i>	<i>pyramidata</i>		Pyramid-Bush	
Sterculiaceae	<i>Melochia</i>	<i>tomentosa</i>		Woolly Pyramid-Bush	
Sterculiaceae	<i>Waltheria</i>	<i>indica</i>			Hierba del Soldado
Tamaricaceae	<i>Tamarix</i>	<i>aphylla</i>			Tamarisco
Tamaricaceae	<i>Tamarix</i>	<i>gallica</i>			Sabino
Taxodiaceae	<i>Taxodium</i>	<i>mucronatum</i>		Montezuma Bald Cypress	Damiana
Turneraceae	<i>Turnera</i>	<i>diffusa</i>	aphrodisiaca		Tule
Typhaceae	<i>Typha</i>	<i>angustifolia</i>		Narrow-Leaved Cat-Tail	Tule
Typhaceae	<i>Typha</i>	<i>domingensis</i>		Cat-Tail	Palo Blanco
Ulmaceae	<i>Celtis</i>	<i>laevigata</i>		Sugar Hackberry	
<u>FAMILY</u>	<u>GENUS</u>	<u>SPECIES</u>	<u>VARIETY</u>	<u>NAME</u>	<u>SPANISH NAME</u>
Ulmaceae	<i>Celtis</i>	<i>pallida</i>		Spiny Hackberry	Granjeno
Ulmaceae	<i>Ulmus</i>	<i>crassifolia</i>		Cedar Elm	Olmo
Urticaceae	<i>Parietaria</i>	<i>floridana</i>		Pellitory	
Urticaceae	<i>Parietaria</i>	<i>pensylvanica</i>			
Urticaceae	<i>Urtica</i>	<i>chamaedryoides</i>	runyonii		
Verbenaceae	<i>Aloysia</i>	<i>gratissima</i>		Whitebrush	Jazminillo
Verbenaceae	<i>Aloysia</i>	<i>macrostachya</i>		Woolly Bee-Brush	Vara Dulce
Verbenaceae	<i>Avicennia</i>	<i>germinans</i>		Black Mangrove	Mangle Negro
Verbenaceae	<i>Citharexylum</i>	<i>berlandieri</i>		Berlandier's Fiddlewood	Orcajuela
Verbenaceae	<i>Citharexylum</i>	<i>brachyanthum</i>		Mexican Fiddlewood	
Verbenaceae	<i>Citharexylum</i>	<i>spathulatum</i>		Mission Fiddlewood	
Verbenaceae	<i>Lantana</i>	<i>camara</i>		West Indies Lantana	Alfombrilla Hediona
Verbenaceae	<i>Lantana</i>	<i>horrida</i>		Texas Lantana	
Verbenaceae	<i>Lantana</i>	<i>macropoda</i>		Desert Lantana	Mejorana
Verbenaceae	<i>Lantana</i>	<i>microcephala</i>		Hammock Lantanas	Oregano

Verbenaceae	<i>Lippia</i>	<i>alba</i>		Bushy Lippia	Hierba Negra
Verbenaceae	<i>Lippia</i>	<i>graveolens</i>		Redbrush Lippia	Oregano Cimarrón
Verbenaceae	<i>Phyla</i>	<i>nodiflora</i>		Common Frogfruit	
Verbenaceae	<i>Phyla</i>	<i>strigulosa</i>		Diamond-Leaf Frogfruit	
Verbenaceae	<i>Priva</i>	<i>lappulacea</i>			
Verbenaceae	<i>Tetraclea</i>	<i>coulteri</i>			
Verbenaceae	<i>Verbena</i>	<i>bipinnatifida</i>		Mexican Vervain	
Verbenaceae	<i>Verbena</i>	<i>canescens</i>			
Verbenaceae	<i>Verbena</i>	<i>delticola</i>			Alfombrilla
Verbenaceae	<i>Verbena</i>	<i>officinalis</i>		Texas Vervain	
Verbenaceae	<i>Verbena</i>	<i>officinalis</i>	halei	Texas Vervain	
Verbenaceae	<i>Verbena</i>	<i>quadrangulata</i>			
Verbenaceae	<i>Verbena</i>	<i>runyonii</i>			
Verbenaceae	<i>Verbena</i>	<i>xutha</i>		Gulf Vervain	
Violaceae	<i>Hybanthus</i>	<i>verticillatus</i>			
Viscaceae	<i>Phoradendron</i>	<i>tomentosum</i>		Mistletoe	Injerto
Vitaceae	<i>Ampelopsis</i>	<i>arborea</i>		Pepper-Vine	
Vitaceae	<i>Cissus</i>	<i>incisa</i>		Marine Ivy	Hierba Del Buey
Zannichelliaceae	<i>Zannichellia</i>	<i>palustris</i>			
Zygophyllaceae	<i>Guaiacum</i>	<i>angustifolium</i>		Soap-Bush	Guayacán
Zygophyllaceae	<i>Kallstroemia</i>	<i>hirsutissima</i>			
Zygophyllaceae	<i>Porlieria</i>	<i>angustifolia</i>		Soap-Bush	Guayacán
Zygophyllaceae	<i>Tribulus</i>	<i>terrestris</i>		Caltrop	Abrojo De Flor Amarilla

APPENDIX H

FEDERAL LISTING BY COUNTY

08/16/95

COMMON NAME	SCIENTIFIC NAME	STATUS
Cameron County		
American peregrine falcon	<i>Falco peregrinus anatum</i>	E
brown pelican	<i>Pelecanus occidentalis</i>	E
hawksbill sea turtle	<i>Eretmochelys imbricata</i>	E
jaguarundi	<i>Felis yagouaroundi</i>	E
Kemp's ridley sea turtle	<i>Lepidochelys kemp</i>	E
leatherback sea turtle	<i>Dermochelys coriacea</i>	E
northern aplomado falcon	<i>Falco femoralis septentrionalis</i>	E
ocelot	<i>Felis pardalis</i>	E
South Texas ambrosia	<i>Ambrosia cheiranthifolia</i>	E
Texas ayenia	<i>Ayenia limitaris</i>	E
West Indian manatee	<i>Trichechus manatus</i>	E
Arctic peregrine falcon	<i>Falco peregrinus tundrius</i>	T
bald eagle	<i>Haliaeetus leucocephalus</i>	T
green sea turtle	<i>Chelonia mydas</i>	T
loggerhead sea turtle	<i>Caretta caretta</i>	T
piping plover	<i>Charadrius melodus</i>	T
Hidalgo County		
American peregrine falcon	<i>Falco peregrinus anatum</i>	E
jaguarundi	<i>Felis yagouaroundi</i>	E
northern aplomado falcon	<i>Falco femoralis septentrionalis</i>	E
ocelot	<i>Felis pardalis</i>	E
Texas ayenia	<i>Ayenia limitaris</i>	E
Walker's manioc	<i>Manihot walkerae</i>	E
Arctic peregrine falcon	<i>Falco peregrinus tundrius</i>	T
Starr County		
ashy dogweed	<i>Thymophylla tephroleuca</i>	E
interior least tern	<i>Sterna antillarum athalossos</i>	E
jaguarundi	<i>Felis yagouaroundi</i>	E
Johnston's frankenia	<i>Frankenia johnstonii</i>	E
ocelot	<i>Felis pardalis</i>	E
star cactus	<i>Astrophytum asterias</i>	E
Walker's manioc	<i>Manihot walkerae</i>	E
Willacy County		
American peregrine falcon	<i>Falco peregrinus anatum</i>	E
brown pelican	<i>Pelecanus occidentalis</i>	E
hawksbill sea turtle	<i>Eretmochelys imbricata</i>	E
jaguarundi	<i>Felis yagouaroundi</i>	E
Kemp's ridley sea turtle	<i>Lepidochelys kemp</i>	E
leatherback sea turtle	<i>Dermochelys coriacea</i>	E
northern aplomado falcon	<i>Falco femoralis septentrionalis</i>	E
ocelot	<i>Felis pardalis</i>	E
Arctic peregrine falcon	<i>Falco peregrinus tundrius</i>	T
green sea turtle	<i>Chelonia mydas</i>	T
loggerhead sea turtle	<i>Caretta caretta</i>	T
piping plover	<i>Charadrius melodus</i>	T

APPENDIX I

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MAPS

Attachment B



January 27, 2021

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RE: Scoping Comments for Draft Environmental Assessment for Space Exploration Technologies' Starship/Super Heavy Launch Operations from the Boca Chica Launch Site in Cameron County, Texas

Dear Ms. Zee:

This letter is in response to your December 22, 2020 request for scoping comments to assist the Federal Aviation Administration (FAA) to determine the scope of issues for analysis in the Draft Environmental Assessment (EA) being prepared for Space Exploration Technologies' (SpaceX) Starship/Super Heavy Launch Vehicle operations at SpaceX's Boca Chica Launch Site in Cameron County, Texas. The FAA is considering preparing a Programmatic EA for this activity.

According to Texas Parks and Wildlife Code (PWC) section 12.0011(a), Texas Parks and Wildlife Department (TPWD) is the agency with primary responsibility for protecting the state's fish and wildlife resources. Furthermore, TPWD is charged with providing information on fish and wildlife resources to any local, state, and federal agencies or private organizations that make decisions affecting those resources according to PWC section 12.0011(b)(3).

TPWD staff have reviewed available material regarding SpaceX's development and operations at the Boca Chica Launch Site and offers the following comments and recommendations to facilitate a comprehensive National Environmental Policy Act (NEPA) analysis for the proposed activities.

Project Description

SpaceX proposes to conduct Starship/Super Heavy launch operations from the Boca Chica Launch Site in Cameron County, Texas. Proposed launch operations would include suborbital launches, orbital launches, and pre-flight operations (e.g., tank tests, mission rehearsals, static fire engine tests). The proposed operations would require new construction activities, including expanding an existing solar farm; adding infrastructure and facilities at the vertical launch area (VLA); and constructing a liquid natural gas pretreatment system and a liquefier. SpaceX is also proposing to construct a redundant launch pad and commodities, a redundant landing pad, two integration towers, a tank structural test stand, a desalination plant, and an injection well at the VLA.

Environmental Assessment Preparation

The FAA proposes to prepare a Draft EA that would only consider the proposed action and the no-action alternative. The Boca Chica Launch Site was initially selected as a suitable location for development based on criteria to support a launch site for Falcon 9 and Falcon Heavy vehicles. These criteria included: being at a low latitude; being able to support low-orbit and geostationary earth orbit trajectories; safety; and size (being large enough to accommodate all facilities to support Falcon 9/Falcon Heavy launches). The activities currently occurring and proposed to occur at the Boca Chica Launch Site have changed substantially from those described in the 2014 Final Environmental Impact Statement (EIS) and Record of Decision (ROD), for which the site was originally selected.

Recommendation: The site selection criteria published in the 2014 Final EIS may no longer be applicable for an experimental testing facility. TPWD recommends the Draft EA include a detailed and updated Purpose and Need section and a rigorous evaluation of multiple reasonable alternatives considered for the proposed experimental testing facility. An equitable level of critical evaluation should be provided for each alternative throughout the Draft EA. The Draft EA should describe how the Boca Chica site uniquely fulfills the criteria of SpaceX's proposed use of the site as an experimental testing facility.

The 2014 ROD for SpaceX's activities at the Boca Chica Launch Site determined the project would result in unavoidable and significant direct and indirect impacts to several natural and cultural resource categories. Avoidance and minimization measures were to be implemented to reduce impacts to other resource categories including special-status species and Section 4(f) of the U.S. Department of Transportation Act (23 Code of Federal Regulations Part 774) properties. To date, several of the avoidance and minimization measures associated with the 2014 Final EIS and ROD have not been fully implemented, including: mitigating noise impacts by scheduling construction activities to occur between 8 a.m. and 5 p.m.; avoiding lateral light spread and uplighting per the Lighting Management Plan; maintaining cleared shoulders along SH 4; and observing speed limits not to exceed 25 miles per hour between the Control Center Area (CCA) and VLA. Also, to our knowledge, construction of vehicle barriers along SH 4 and monitoring of vegetation changes in piping plover critical habitat has not occurred.

The proposed action the FAA would license will require expanding the physical footprint of the Boca Chica Launch Site facilities for testing larger vehicles at an increased frequency than originally proposed for the site, for which an EIS was prepared and found impacts to be unavoidable and significant.

Recommendation: TPWD recommends preparing an EIS to address the additional short-term and long-term impacts resulting from additional construction and operational tasks related to experimental testing activities that would be licensed by the FAA.

The FAA is considering preparing a Programmatic EA for this effort. It is TPWD's understanding that a Programmatic EA may be appropriate to address a broad group of related actions or to address a program, policy, plan, system, or national level proposal that may later lead to individual actions requiring a subsequent NEPA analysis. Also, the level

of analysis for a Programmatic EA may be broader and less specific than what is done for a specific project.

Comment: While a Programmatic EA may be appropriate for the activities proposed at the Boca Chica Launch Site, TPWD is concerned that the Purpose and Need, Project Description, and scope of analysis in a Programmatic EA could be defined too broadly for resource agencies to anticipate proposed future activities at the site and accurately comment or assess the potential impacts to the state's natural and cultural resources.

Recommendation: TPWD recommends a critical and comprehensive evaluation of significant environmental impacts be conducted during the development of the Draft EA. The evaluations should be informed by the best available scientific information including input from published literature and subject-matter experts; any sources should be clearly cited in the Draft EA.

To assist in the development of the Draft EA, please see the attachment titled, "Resources for Analysis of Potential Environmental Impacts of the Development of the Boca Chica Launch Site."

Development at the Control Center Area (CCA) has expanded significantly over the past two years. Much of the expansion appears to be in support of the development and construction of vehicles for which experimental licenses issued by the FAA are being sought.

Recommendation: TPWD recommends the Draft EA evaluate all facilities and infrastructure related to the development of the spacecraft or other vehicles for which the FAA licenses and experimental permits would be issued as they are connected actions.

Recommendation: TPWD recommends reviewing and addressing all comments provided in the attached TPWD letter dated July 9, 2020, provided for chapters 1 and 2 of an initial Draft EA for SpaceX's Starship/Super Heavy Launch Vehicle as they remain applicable.

Federal Regulations

Endangered Species Act

Federally-listed animal species and their habitat are protected by the Endangered Species Act (ESA) from take on any property. Take of federally-listed species can be allowed if it is incidental to an otherwise lawful activity and must be permitted in accordance with section 7 or 10 of the ESA. Federally-listed plants are not protected from take except on lands under federal or state jurisdiction or for which a federal or state nexus (i.e., permits or funding) exists. Any take of a federally-listed species or its habitat without the required take permit (or allowance) from the U.S. Fish and Wildlife Service (USFWS) is a violation of the ESA.

Portions of the proposed project (e.g., VLA construction activities) are located on tracts of land bound on three sides by land owned by TPWD and managed by the USFWS as part

of the Rio Grande Valley Wildlife Corridor, a long-standing program aimed at preserving, restoring, and managing habitat for wildlife, including threatened and endangered species. The Rio Grande Valley Wildlife Corridor initiative has been an active project of TPWD, USFWS, many private landowners, local communities, and nonprofit organizations such as Audubon, The Nature Conservancy, Valley Land Fund, and others since the 1970s. As part of the Rio Grande Valley Wildlife Corridor, large anchor tracts such as the Boca Chica tract are managed to “conserve biological material to safeguard gene pools and replenish wildlife populations throughout the corridor” (Leslie 2016).

Within or near the proposed project area, occurrences of federally-listed ocelots (*Leopardus pardalis*), piping plover (*Charadrius melodus*), rufa red knot (*Calidris canutus rufa*), and Kemp’s Ridley (*Lepidochelys kempii*) and green sea turtles (*Chelonia mydas*) have been documented. Additionally, for all five species of sea turtles that occur in Texas, suitable nesting habitat is available on the beach less than one-quarter mile east of the VLA. Kemp’s Ridley sea turtles have consistently used Boca Chica beach for nesting; record Kemp’s Ridley sea turtle nesting occurred on Boca Chica beach in 2017. It is well documented that artificial night lighting is a cause of mortality among migratory birds and hatchling sea turtles (Salmon 2006). Considering the current and expected use of artificial lighting at the VLA for operations, TPWD is concerned with the effects that skyglow (the illumination of the night sky by reflected light) may have on hatchling sea turtles. Skyglow can disorient hatchlings as they emerge on the beach, directing them into the dunes rather than toward the ocean, resulting in mortality.

Recommendations: TPWD recommends that analyses pertaining to natural resources impacts from the proposed action, such as those that may occur on threatened, endangered, and candidate species, be based on field surveys performed in collaboration with resource agencies. In the absence of, or supplementary to, field data, the best-available science should be utilized to inform mitigation needs and potential impacts to federally-listed threatened and endangered species. In particular, the USFWS and National Park Service’s (NPS) Division of Sea Turtle Science and Recovery Program should be contacted for information to assist in evaluating potential impacts to nesting sea turtles and turtle hatchlings resulting from artificial night lighting and testing and launch vibrations.

TPWD continues to be concerned with the direct and indirect impacts of noise, heat, vibrations, continual nighttime lighting, emissions, and potential hazardous material spills originating from space vehicle launches, experimental testing, and routine daily activities at the CCA and VLA. The potential impacts associated with these sources should be evaluated with respect to federally-listed species and their habitat. TPWD further recommends a proactive approach regarding the avoidance and minimization of impacts to listed species. The Draft EA should clearly present the process by which these impacts are evaluated and describe mitigation measures that will be required to avoid and minimize these impacts.

TPWD recommends reviewing the lighting plan implemented at the Kennedy Space Center which was developed, in part, to avoid or minimize potential impacts to nesting sea turtles. For example, existing light pollution issues can be corrected by disconnecting and turning off lights to ensure a dark beach (NASA 2017).

The Draft EA should also evaluate the impact additional modification to the operations and landscape at the Boca Chica Launch Site will have on daily and seasonal migrations of wildlife through the area (e.g., the effects of continual nighttime lighting, increases in noise and traffic on ocelot movement through the area) and whether listed species will be permanently displaced from the area. Potential impact analysis, evaluations, and conclusions related to future environmental conditions, such as habitat changes or survival of organisms, should be supported with the best available scientific data.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits direct and affirmative purposeful actions that reduce migratory birds, their eggs, or their nests, by killing or capturing, to human control, except when specifically authorized by the Department of the Interior. This protection applies to most native bird species, including ground nesting species. Additional information regarding the MBTA is available from the USFWS-Southwest Regional Office (Region 2) at (505) 248-7882.

Review of aerial photography and the Ecological Mapping Systems of Texas (EMST), indicate that the project area is among wind tidal flats, deep sand grasslands, sea ox-eye daisy flats, and salty prairie. Areas surrounding the project area are managed or preserved as high-quality wildlife habitat that provide foraging, loafing, and nesting sites for birds. Additionally, the project area occurs in the middle of the Central Flyway Migration Corridor through which millions of birds pass during spring and fall migration. More than 250 bird species have been documented within the Boca Chica Village and Boca Chica Beach areas in recent years. The mud and sand flats surrounding the proposed construction areas are used by numerous shorebirds, including the federally-listed piping plover and rufa red knot, during the winter.

Recommendations: The Draft EA should address direct impacts that expanded infrastructure construction may have on birds. Impacts from noise, heat, vibration, permanent artificial lightning at night, emissions, anomaly debris and debris removal, and hazardous material spills should be evaluated. To minimize potential impacts to birds, TPWD recommends locating proposed infrastructure expansion or new structures in previously disturbed areas.

Additionally, TPWD recommends any vegetation clearing or trampling necessary to accommodate construction be scheduled to occur outside of the March 15 - September 15 migratory bird nesting season. If vegetation clearing must be scheduled to occur during the nesting season, TPWD recommends the vegetation to be impacted should be surveyed for active nests by a qualified biologist. Nest surveys should be conducted no more than five days prior to the scheduled clearing or disturbance to ensure recently constructed nests are identified. If active nests are observed during surveys, TPWD recommends a 150-foot buffer remain around the nests until the young have fledged or the nest is abandoned.

Two integration towers would be constructed as part of the proposed project. The information provided did not include specific information regarding the proposed towers.

The potential exists for birds to be attracted to towers as perching sites and to collide with towers or elevated structures, especially those with associated guy wires lines.

Recommendations: TPWD recommends towers be self-supporting monopoles to eliminate the need for guy wires and minimize perching opportunities for birds in areas that may place birds in imminent danger, whenever possible. All permanent structures or substrates within the proposed development areas should be designed to avoid and/or minimize potential bird impacts. TPWD recommends towers be less than 199-feet in height to eliminate the need for FAA required pilot warning and obstruction lighting which can be a bird attractant.

Preliminary shorebird monitoring conducted by the Coastal Bend Bays and Estuaries Program (CBBEP) indicates that activities attributed to SpaceX (i.e., increased vehicle traffic, construction noise, concussive force) may be a major contributor to an observed reduction in snowy and Wilson's plover nesting at Boca Chica (CBBEP 2020).

Recommendations: The Draft EA should address bird use in the area, especially for shorebirds and wading birds that are known to utilize the habitat within and adjacent to the project areas and migrate daily across the area between roosting and foraging sites. Grassland birds may also utilize available suitable habitat for nesting. The Draft EA should address proposed plans to avoid and or minimize potential impact to nesting and wintering birds. Specifically, the Draft EA should include a detailed discussion of the effects of a permanently-lit facility with upward directed lights in construction areas on bird use.

TPWD recommends SpaceX fund a long-term avian monitoring project to evaluate impacts to birds and their habitat due to construction, operations, anomalies, and debris removal following anomalies. Due to continuous construction and testing, surveys should be conducted at regular intervals (e.g., quarterly) and immediately after unexpected events that discharge material (i.e., solid debris, liquid spills, gaseous emissions), particularly if discharges affect adjacent properties.

Clean Water Act

The Clean Water Act (CWA) provides for the federal protection and regulation of surface water quality. The CWA regulates point and nonpoint sources of water pollution, including dredge and fill activities in waters of the U.S.

The proposed action occurs in the clay loma and wind tidal flats of the Lower Rio Grande Valley in an area known as Boca Chica. In Texas, these expansive sand and algal flats are concentrated within the Laguna Madre system, which in combination with the Laguna Madre of Tamaulipas, Mexico, represents one of six coastal hypersaline lagoon systems worldwide. In the Lower Rio Grande Valley, the clay loma and wind tidal flats represent one of the eleven unique biotic communities that comprise the Matamorán District of the Tamaulipan Biotic Province.

Rare clay dunes, called lomas, dot the flat landscape, and the terrain is also engulfed with shallow bay waters of the South Bay Coastal Preserve which supports seagrass meadows and oysters with fringes of salt marsh and mangroves. These aquatic habitats, along with

the dune, ridge, and swale topography of upland coastal prairie and Tamaulipan thornscrub, serve as migration corridors, as well as feeding, breeding, nesting, roosting, and denning habitat for rare, threatened, and endangered species. Sand and algal flats are essential to shorebirds in general and critical to species with relatively short legs and bills, like plovers, that are physically limited to shallow water habitats. Other tidal flat features utilized by shorebirds include washovers that cut through the coastal dunes and provide a shallow tidal connection with the Gulf of Mexico. When exposed, the sand and algal flats support the dietary requirements of migratory species, such as the state- and federally-listed threatened piping plover and rufa red knot, and provide nesting habitat to resident plovers, stilts, and terns. When inundated, these shallow water features provide forage habitat for finfish, crustaceans, larger shorebirds, and wading birds. Accordingly, critical habitat has been federally designated for wintering piping plover (Unit TX-1) within the vicinity of the project site.

Proposed expansion at the VLA, including a parking and storage area north of State Highway (SH) 4, may result in additional wetland impacts.

Recommendations: Because no successful tidal flat restoration or establishment projects have been documented in Texas, TPWD considers these habitats to be difficult to replace. Consequently, impacts to functions and values of tidal flats should be avoided and minimized to the extent possible.

The Draft EA should address all direct, indirect, and cumulative impacts to the functions and values of aquatic habitats for fish and wildlife resources and include mitigation measures that will be required to avoid, minimize, and potentially compensate for those impacts. TPWD recommends continuing coordination with the U.S. Army Corps of Engineers regarding potential wetland impacts.

Due to the experimental nature of the proposed activity, environmental effects to all aquatic habitats should be evaluated using the worst case scenario for the initial impact of, and subsequent removal of, debris resulting from anomalies associated with all activities which may be authorized under the jurisdiction of FAA.

State Regulations

Parks and Wildlife Code Chapter 64 - Birds

State law prohibits any take or possession of nongame birds, including their eggs and nests. Laws and regulations pertaining to state-protection of nongame birds are contained in PWC chapter 64. Specifically, PWC section 64.002 provides that no person may catch, kill, injure, pursue, or possess a bird that is not a game bird. PWC section 64.003, regarding destroying nests or eggs, provides that no person may destroy or take the nests, eggs, or young and any wild game bird, wild bird, or wild fowl.

It is important to note that 88 species of birds have been identified as Species of Greatest Conservation Need (SGCN) within Texas' Gulf Coast Marshes and Prairies Ecoregion. Fifty-eight of those species (or 65 percent) have been documented within the immediate Boca Chica area in recent years.

Recommendation: Please review the *Federal Regulations: Migratory Bird Treaty Act* section above for recommendations as they are applicable for compliance to PWC chapter 64.

Recommendation: Following testing anomalies, biologists participating in the long-term avian monitoring project recommended above and TPWD staff, should have access to TPWD property immediately after it is declared safe to enter the area to assess for habitat impacts and direct mortalities.

Parks and Wildlife Code Chapter 68 - Endangered Species

PWC section 68.015 regulates state-listed threatened and endangered animal species. The capture, trap, take, or killing (incidental or otherwise) of state-listed threatened and endangered animal species is unlawful unless expressly authorized under a permit issued by the USFWS or TPWD. A copy of TPWD Protection of State-Listed Species Guidelines, which includes a list of penalties for take of species, can be found online at the TPWD Wildlife Habitat Assessment Program website at: https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/habitat_assessment/media/tpwd_statelisted_species.pdf. While the document provides general guidelines, it is the responsibility of the project applicant to determine whether the project would adversely affect a state-listed species and comply with all statutes and provisions of law. For purposes of relocation, surveys, monitoring, and research, state-listed species may only be handled by persons with the appropriate authorization obtained through the TPWD Wildlife Permits Program. For more information on this authorization, please contact the TPWD Wildlife Permits Office by phone at (512) 389-4647.

Recommendation: TPWD recommends that evaluations pertaining to natural resources impacts, such as those that may occur to state-listed threatened and endangered species, be based on field surveys performed in collaboration with resource agencies. In the absence of, or in supplement to, field data, the best available science should be utilized to inform mitigation needs and potential impacts to state-listed species.

Due to the diversity of habitat types available in the general Boca Chica project area, suitable habitat for several state-listed species occurs in, and adjacent to, the proposed project area. TPWD has concerns regarding the physical and behavioral barriers that may be created with additional development of the area, potential changes in the project's mission, and increased traffic along SH 4. These activities will further fragment and disturb suitable habitat for state-listed species. Specifically, TPWD is concerned with direct impacts to the Texas horned lizard (*Phrynosoma cornutum*) and Texas tortoise (*Gopherus berlandieri*) and indirect impacts to numerous other state-listed species on the adjacent managed lands.

The proposed action would include constructing an injection well, five gas wells, utility lines along SH 4, gas pipelines, and potentially buried interconnection lines at the solar farm. Trenching and excavation pose entrapment risks to wildlife including state-listed species that occur in the area.

Recommendation: TPWD recommends that any open trenches or excavation areas be covered overnight and/or inspected every morning to ensure no wildlife species have been trapped. If covering trenches or excavated areas is not feasible, escape ramps fashioned from soil or boards should be installed at an angle of less than 45 degrees (1:1) in trenches and excavated areas that will allow wildlife to climb out on their own.

Some reptiles, including the Texas tortoise, use hard-packed surfaces, such as asphalt, to thermoregulate, and they will occasionally seek shade by crawling under parked vehicles. Near the VLA, SpaceX employees customarily park along the north side of SH 4 between the asphalt and TPWD property, where tortoises, snakes, and other reptiles may occur.

Recommendation: Before driving passenger vehicles or construction equipment that have been parked at project sites, vehicle operators should check underneath the vehicles to ensure no tortoises or other wildlife are present. If a tortoise is located in any area associated with the project site, it should only be relocated if it is found to be in imminent danger. Individuals that must be relocated should be transported to the closest suitable habitat outside of the proposed disturbance area, but preferably within a one-mile radius of where the individual was collected. Additional information regarding Texas tortoise best management practices is available on TPWD's Wildlife Habitat Assessment Program website (https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/habitat_assessment/tools.phtml).

The 2014 Final EIS indicated that SpaceX would have an average of approximately 30 employees on site. Currently, several hundred employees and contractors travel to the Boca Chica Launch Site and between the CCA and VLA throughout the day and night, resulting in an increase in traffic along SH 4. TPWD continues to be concerned that the increase in traffic has resulted and will continue to result in an increase in wildlife-vehicle collisions (WVC; roadkill). Roadkill observations have been documented along SH 4 and include state-listed and SGCN species including Texas tortoise, Texas indigo snake, snowy plover, and Harris' hawk.

Recommendation: The Draft EA should evaluate potential impacts to state-listed species resulting from increased traffic on SH 4 and from parking in unimproved areas adjacent to land managed for wildlife.

The Texas tortoise is particularly susceptible to mortality from vehicle collisions due to its slow gait and the tendency to withdraw into its shell when startled (e.g., by oncoming traffic) rather than fleeing.

Recommendation: Due to the high potential for encountering wildlife along SH 4, TPWD recommends SpaceX employees and contractors receive environmental awareness training to be able to identify and avoid impacts to state-listed species encountered along SH 4. Conservation actions to alleviate traffic impacts should include consideration of measures to ensure the safe passage of wildlife over SH 4 such as limiting the volume of traffic through van pooling to the project area and the construction of culverts that facilitate wildlife movement under the roadway.

Parks and Wildlife Code Chapter 26 - Protection of Public Parks and Recreational Lands

PWC chapter 26 provides that a department, agency, political subdivision, county, or municipality of this state may not approve any project that requires the use or taking of public land (designated and used prior to the project as a park, public recreation area, scientific area, wildlife refuge, or historic site) unless it holds a public hearing and determines that there is “no feasible and prudent alternative to the use or taking of such land,” and the project “includes all reasonable planning to minimize harm to the land...resulting from the use or taking.” Chapter 26 requirements must also be met by the Texas Parks and Wildlife Commission (Commission) before it can grant an easement to cross TPWD property. The Commission is not obligated to grant approval for an easement. If an easement is granted, a fee and mitigation for possible adverse impacts would be required.

Land-use priorities for the Lower Rio Grande Valley National Wildlife Refuge (LRGVNWR) in the Boca Chica area (including state-owned, federally managed land) include endangered species protection, migratory bird habitat, marine turtle nesting, and storm surge protection. The area also supports a wide variety of compatible public uses associated with the beach and South Bay, including fishing, kayaking, and bird watching. Aside from proposed future activities, the degree of impacts that the current SpaceX activities have on these priority land uses has not been thoroughly evaluated. Impacts to the purposes of these adjacent properties would be expected to continue or increase with the proposed expansion of activities at the Boca Chica Launch Site.

Recommendation: The Draft EA should include a detailed analysis of the impacts of restricting access and use of public land and the loss of recreational value due to proposed activities. Additionally, the Draft EA should include an access plan that will address the frequency and timing of closures, mitigation for loss of recreational, scientific, and research access due to SpaceX activities, and clearly define remedies when SpaceX exceeds thresholds or does not comply with the access plan. Between all affected landowners, a mutually agreed-upon method for implementing and calculating what constitutes “closure hours” should also be resolved.

General Comments

Many of the Boca Chica area’s tangible benefits to present and future generations of Texans will continue to be impacted by the implementation of expanded infrastructure and continuous experimental testing at the Boca Chica Launch Site. Potential impacts may be compounded by the failure to completely execute or comply with the Special Conservation Measures and management plans previously developed and associated with the 2014 Final EIS and ROD.

Recommendations: TPWD recommends the Draft EA thoroughly assess existing conditions of the properties within or adjacent to SpaceX’s proposed project area, particularly the VLA, and provide a thorough analysis into the reasonably foreseeable future of the ability for those adjacent lands to continue to retain the unique environmental conditions and outdoor recreational opportunities. The Draft EA should propose appropriate mitigation that provides a net benefit to offset impacts to public access and use and the management of fish, wildlife and plants.

TPWD recommends that conclusions related to future environmental conditions, such as ecosystem services expected from the post-construction environment, be supported with the best available scientific data.

Recommendation: TPWD recommends socioeconomic impacts be considered in the Draft EA including the potential economic impact from the loss of public access to and outdoor recreational opportunities at Boca Chica beach and other public land.

Currently, the process for closing SH 4, adjacent private and public lands, and Boca Chica beach does not allow adequate planning by the public or landowners and their authorized users. Closure notifications continue to be provided either the same day or as little as one to four days prior to closures, and notification of closure extensions have occurred after the extension period has begun. Also, revocation of closures occur well into the authorized closure window after landowners and the general public may have abandoned their plans for the day. Also of concern to TPWD are the closures on federal and state holidays when the general public are more likely to want access to public recreation areas like Boca Chica beach. These short-notice closures can impact TPWD and its partners' abilities to conduct day-to-day activities and fulfill each entities mission to provide outdoor recreational opportunities to the public, conduct and collect scientific research and imperiled species monitoring data, and to protect and preserve the state's natural resources. For example, in January 2021, TPWD received notification from the Coastal Bend Bays and Estuaries Program that it would be discontinuing its shorebird research and monitoring project in the Boca Chica and South Bay area due to the "magnitude and frequency of the closures and the last minute (and after-the-fact) notices."

Recommendation: TPWD recommends the process for issuing closure notices for activities to be authorized by the FAA's licenses and experimental permits be revised with input from all affected stakeholders.

Information previously provided to TPWD indicated water from an existing well would be used for sound and fire suppression during tests. The information also referenced a potential retention pond to be located adjacent to the launch mount.

Recommendations: For the most part, the area around the VLA consists of unvegetated flats. TPWD is concerned that water discharged for sound and fire suppression or as vapor released during testing, could result in vegetation shifts into unvegetated areas. Vegetation in and around the VLA should be monitored over time to assess any changes, and the Draft EA should include measures and processes to address the influences that water releases may have on the surrounding habitats.

Although retention ponds do not perform the same ecological functions as streams or wetlands, because they are designed to retain water, they may attract wildlife, particularly birds. Due to the potentially dangerous conditions for wildlife found within the VLA, the use of wildlife deterrents or exclusion practices around the retention pond should be evaluated in the Draft EA.

The project would include a liquified natural gas (LNG) pretreatment system and a liquefier. The specific LNG pretreatment method was not described.

Recommendation: The Draft EA should provide a detailed description and evaluation of the proposed LNG pretreatment method and liquefaction process. The impacts of potential emissions resulting from the process and the proposed safety measures that would be implemented should also be described.

The Draft EA should also evaluate the cumulative impacts of these emissions. The evaluation should include anticipated air quality impacts and describe the mitigative measures that would be implemented to minimize those impacts to the region's air quality.

The existing solar farm would be expanded near the CCA.

Recommendations: To reduce ground disturbance in the solar farm, TPWD recommends housing cables in above-ground cable trays rather than burying them in trenches. Utilizing above ground housing methods can reduce fugitive dust emissions, reduce use of water to suppress fugitive dust, minimize equipment emissions, preserve cultural resources, and minimize potential wildlife entrapment (Sinha et al. 2018).

To further mitigate potential impacts associated with the solar farm expansion, TPWD recommends incorporating beneficial practice guidelines for solar facilities that enhance biodiversity such as reseeded the area with native flora and allowing it to grow under solar panels to provide wildlife habitat and reduce dust. Fencing around the solar farm should be designed to be wildlife-friendly, allowing smaller species to pass through while excluding larger ones from becoming trapped within the solar farm.

TPWD also recommends incorporating avian safety features for all energized components within the solar farm (APLIC 2012).

The proposed project would also include tanks of natural gas, liquid methane, liquid nitrogen, liquid oxygen, and liquid argon, most of which would be located at the VLA and may be susceptible to catastrophic damage during hurricanes or other storm events.

Recommendation: TPWD is concerned with the potential of significant contamination of very sensitive natural resources in the event of a catastrophic event (i.e., hurricane). The Draft EA should thoroughly address fuel storage and clean up procedures in the event of a catastrophic event.

Because of the project's location among grasslands susceptible to fire, and due to the accidental fires that burned approximately 140 acres of TPWD property on July 25, 2019 and in August 2019 during SpaceX test launches, TPWD continues to be concerned about the potential impacts of unintentional fires resulting from launch failures and other SpaceX operations on the sensitive natural resources on adjacent properties. For example, the only known population of an SGCN insect (the Boca Chica flea beetle [*Chaetocnema rileyi*]), occurs along the back of the primary and secondary dunes at Boca Chica in association with the marsh fimbry (*Fimbristylis castanea*), a plant occurring in marshes. If accidental fires escape into areas behind the dunes, the only known population of this species may be permanently lost.

Recommendation: The Draft EA should either incorporate SpaceX's Fire Plan that was developed in 2019 or develop a new Fire Contingency Plan to address potential wildfires and their impacts to natural resources.

Similarly, the project is located among sensitive wind tidal flats that have been negatively impacted by falling debris and subsequent retrieval following explosions of SpaceX rockets during testing anomalies in November 2019, February 2020, and December 2020.

Recommendation: TPWD recommends that the Draft EA contain a contingency plan for testing anomalies that may discharge debris onto adjacent properties. The plan should include retrieval practices that would avoid impacts to sensitive habitats, immediate habitat assessment protocols, post-incident monitoring, and proposed mitigation for unavoidable impacts.

Noise modeling in previous environmental evaluations was based on launching Falcon 9 and Falcon Heavy vehicles.

Recommendation: TPWD recommends the Draft EA evaluate noise and vibration impacts, including sonic booms, based on current and anticipated engines that will be launched or tested at the Boca Chica Launch Site. As a potential mitigation option, TPWD recommends SpaceX provide funding for research that will alleviate the paucity of data that analyzes the short, long, and cumulative impacts of noise and vibrations on the region's wildlife, in particular nesting sea turtles.

TPWD continues to be concerned with the wildlife impacts created by continuous noise and lighting associated with the project area. Research indicates that light pollution, including direct glare, increased illumination, and unexpected fluctuations in lighting from sources such as skyglow, lighted buildings and towers, security lights, and lights on vehicles and construction equipment can disrupt ecosystems and alter organisms' behavior and physiology.

Recommendations: Due to the well-documented deleterious effects of artificial night lighting on wildlife, including at other spacecraft launching facilities (NASA 2017), TPWD recommends nighttime construction and testing, particularly at the VLA be discontinued, severely limited, or modified to meet accepted standards in order to minimize potential impact to animals and preserve the ecological integrity of the adjacent managed lands.

The 2019 Launch Facility Design and Lighting Management Plan no longer accurately reflects the operational environment of the Boca Chica Launch Site. TPWD recommends developing a new Lighting Management Plan that eliminates or minimizes site lighting from being directed toward the beach or into land managed for wildlife.

The information provided did not include plans for proposed post-construction landscaping for erosion control or for aesthetics.

Recommendations: For soil stabilization and/or revegetation of disturbed areas within the proposed project areas, TPWD recommends erosion and seed/mulch stabilization materials that avoid entanglement hazards to snakes and other wildlife species. Because the mesh found in many erosion control blankets or mats poses an entanglement hazard to wildlife, TPWD recommends the use of no-till drilling, hydromulching, and/or hydroseeding due to a reduced risk to wildlife. If erosion control blankets or mats were to be used, the product should either contain no netting or contain loosely woven, natural-fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. Plastic mesh matting and hydromulch that includes plastics should be avoided.

TPWD recommends the exclusive use of a mixture of regionally adapted native grasses, forbs, and pollinator species for post-construction revegetation efforts and landscaping. If needed, TPWD can provide technical guidance on appropriate plant species for the project area.

Historic Properties

The 2015 Memorandum of Agreement (MOA) among the FAA, the Texas State Historic Preservation Officer (SHPO), the NPS, the Advisory Council on Historic Preservation, SpaceX, the USFWS, and TPWD, as well as the 2019 SpaceX Vibration Monitoring Plan (Revision 10) (VMP), define measures to be taken in order to account for adverse effects on historic properties caused by SpaceX. However, many of those measures have not been sufficiently executed to date, including the Historical Context Report, Vibration Monitoring Reports on the most recent launch events, Replication of Missing Marker Elements, Additional Security, Interpretive Signage, and Educational Website.

Also, additional potential for direct adverse effects associated with SpaceX operations, including damage caused by debris/explosions, vehicular and foot traffic, and wildfires, has become apparent over recent years.

Recommendation: Based on the information provided, those same measures already defined in the MOA and VMP are likely to be appropriate for the additional operations being proposed assuming they are updated to account for any new adverse effects. It is recommended that in addition to updating those measures, the causes for the lack in execution of the measures to date be addressed and corrected prior to approval of the operations being proposed. It is also recommended that the additional potential for the direct adverse effects described above be addressed as well.

Indirect Impacts to Natural Resources

Based on information previously provided to TPWD, proposed infrastructure at the VLA would be located immediately adjacent to TPWD property; a parking and storage area along SH 4 would be bound on three sides by TPWD property, and newly proposed expansion at the CCA would be immediately adjacent to TPWD property along Eichorn Boulevard. As stated in previous environmental reviews of SpaceX activities at Boca Chica, TPWD continues to be concerned that the impacts of suborbital and orbital launches and continual testing will significantly reduce the natural resource conservation value of some or all of the state-owned property at Boca Chica.

In addition to the direct loss of habitat resulting from the infrastructure expansion, new construction and experimental testing, TPWD is concerned that the quality and natural resource value of the surrounding properties will also be diminished. Cumulatively, infrastructure expansion, new construction, and the increased closure hours necessary to support the new project mission corresponds to an increase in potential direct and indirect impacts to and disturbance of wildlife and wildlife habitat on adjacent properties through additional loss of habitat, increased traffic, noise, vibration, emissions, and night time lighting. TPWD has concerns regarding impacts associated with unexpected anomalies (e.g., explosions) including fires, scattered debris, and activities related to the response to these incidents (i.e., debris retrieval through sensitive habitats) on the integrity of TPWD property and the wildlife and plants TPWD is responsible for protecting and conserving.

Recommendations: TPWD recommends evaluating the potential direct, indirect, and cumulative impacts to fish, wildlife, and plant resources on state property that may be affected by continual construction activity and launching or experimental testing of space vehicles. Specifically, the Draft EA should describe the expected impacts (e.g., noise, heat, vibration, fuel emissions) on vegetation and wildlife. For expected impacts for which no data exists to assist in predicting their significance (i.e., vibrations to sea turtle nests, noise on ocelot movement), TPWD recommends SpaceX propose and conduct research to help predict and minimize those impacts. The Draft EA should specifically address the occurrence, frequency, quantity, extent, and fate of debris on TPWD property and that may result from activities which directly involve or support the testing and launching of experimental and established spacecraft.

TPWD appreciates the opportunity to provide comments and recommendations during the development of the Draft EA for the proposed activity. Regarding future commenting opportunities, TPWD respectfully requests that at least 45 days are provided for review and response to this complex project. If you have any questions regarding TPWD's input on this NEPA scoping opportunity, please contact Mr. Russell Hooten, Wildlife Habitat Assessment Program Biologist, by email at [REDACTED] or by phone at [REDACTED]. Thank you.

Sincerely,



Clayton Wolf
Chief Operating Officer

CW:RH:cb

Attachments

cc: Mr. Carter Smith
Mr. John Silovsky
Mr. Robin Riechers
Mr. Rodney Franklin
Mr. Russell Hooten

References

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University of Texas-Rio Grande Valley, Coastal Studies Lab Research

<https://www.utrgv.edu/csl/research/index.htm>

Commercial Launch Site Pre-Construction Species Monitoring Survey. PIs: David Hicks, Karl Berg, and Heather Alexander.

This is the first phase of a consortium project involving three UTB/TSC faculty to conduct pre-launch site construction baseline surveys of avian, sea turtle, and vegetation of the Boca Chica SpaceX facility.

Evaluation of Beach Management Practices. PI: David Hicks

This is a collaborative effort between UTB/TSC and the town of South Padre Island. The objective of this partnership is to experimentally assess the beach management practices adopted by the City of South Padre Island (e.g., beach grooming, nourishment, dune restoration, etc.).

Coastal Impact Assistance Program - Baseline Study for Oil Spill Planning. PI: T. Whelan
Under contract with Cameron County, CSL researchers are conducting a hydrographic survey at critical locations in the Laguna Madre to predict where an oil or chemical spill would travel if it entered the Laguna Madre through the Brazos-Santiago Pass from the Gulf of Mexico.

Modeled Inflow Validation & Nutrient Loading Estimation in Two Subwatersheds of the Lower Laguna Madre. H. DeYoe, PI

This project is a collaborative project that will assess through field monitoring and rainfall-runoff modeling the input of nutrient loading from two major ungaged subwatersheds into the Lower Laguna Madre (LLM).

Shorebirds at Boca Chica. PI: David Hicks

Since 2015, UTRGV has been conducting ecological monitoring of a threatened shorebird community in the Delta of the Rio Grande and Gulf of Mexico shoreline.

<https://www.utrgv.edu/avianecology/research/shorebirds-at-boca-chica/index.htm>



Life's better outside.*

July 9, 2020

Ms. Stacey M. Zee
Office of Commercial Space Transportation
Federal Aviation Administration
800 Independence Ave., SW
Washington, DC 20591

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Executive Director

RE: Review of Chapters 1 and 2 of Draft Environmental Assessment for SpaceX Starship/Super Heavy Launch Vehicle at SpaceX Texas Launch Site, Cameron County, Texas

Dear Ms. Zee:

This letter is in response to your June 5, 2020, email request for review of the first two chapters of the Draft Environmental Assessment (EA) for SpaceX Starship/Super Heavy Launch Vehicle at SpaceX Texas Launch Site in Cameron County, Texas.

The Federal Aviation Administration (FAA) Office of Commercial Space Transportation is preparing an EA to evaluate the potential environmental impacts of activities associated with issuing experimental permits and launch licenses to SpaceX for Starship/Super Heavy launch operations at the Texas Launch Site.

Texas Parks and Wildlife Department (TPWD) staff has reviewed the material provided and offers comments and recommendations on the attached SpaceX Boca Chica Comment form provided by the FAA. TPWD appreciates the opportunity to provide comments and recommendations during the development of the EA for the proposed activity. If you have any questions regarding TPWD's input on the EA review, please contact Russell Hooten, Wildlife Division at [REDACTED], or [REDACTED]. Thank you.

Sincerely,

Clayton Wolf
Chief Operating Officer

CW:RH:jn

Enclosures

cc: Mr. Robin Riechers
Mr. Rodney Franklin
Ms. Colette Barron Bradsby
Mr. Russell Hooten

Comment Response Matrix

SpaceX Boca Chica Sections 1 and 2 – Administrative Draft Cooperating Agency Review (June 2020)

#	Location		Type of Comment	Reviewer Initials	Comment	Response / Concurrence
	Page*	Section	S, A			
1	8	1.1, line 4	S	KK	Other FAA EA's begin by stating that, "The Federal Aviation Administration (FAA) Office of Commercial Space Transportation (AST) proposes to issue an experimental permit to Space Exploration Technologies Corporation (SpaceX) to..." Why does the current Draft EA to state "SpaceX proposes to..." since the action being analyzed during this NEPA process is the federal action?	
2	8	1.1, line 6	S	KK/RH	Per CFR §437.9, FAA issued experimental permits authorize an unlimited number of launches. In this location, TPWD recommends that the experimental permit(s) need to be limited in scope and breadth.	
3	8	1.1, line 14	S	KK	It is confusing to reference, "activities associated with the Proposed Action" when the Proposed Action is not described, even in summary terms, until Chapter 2.	
4	8	1.1, line 15	S	KK	The term "Texas Launch Site" should identify the specific location as Boca Chica Texas Launch Site.	
5	8	1.1, line 22	S	KK	Is it correct to say that the 2014 EIS analyzed the consequences of issuing SpaceX launch licenses and/or experimental permits? If TPWD understands correctly, an experimental permit authorizes unlimited launches. Please explain if an experimental permit as well as a launch license will be issued for the currently proposed activities at the Boca Chica site, and why both authorizations would be necessary for the site.	
6	8	1.1, line 24, 25	S	KK	These lines state, "The analysis in the 2014 EIS included construction and operation of the launch site." TPWD disagrees with this statement. Much of the construction which has occurred and is occurring was not adequately analyzed since it diverges substantially from what was originally proposed in the 2014 EIS. TPWD has concerns with the segmenting of the current project from the proposed project rather than evaluating potential impacts from all SpaceX FAA-permitted activities as one single and complete action. The NEPA analysis	

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					needs to include all the construction, past, present, and planned, and all the subsequent operations and activities.	
7	8	1.1, line 29	S	KK	This line states, "Each Written Re-evaluation concluded that SpaceX's modifications 1) conformed to the prior environmental documentation..." TPWD does not agree with this conclusion. TPWD expressed concerns during the Written Reevaluation comment periods about what was perceived as actions not covered under the 2014 EIS analysis.	
8	8	1.1, line 34	S	KK	This line states that, "SpaceX has decided to use the Texas Launch Site as a site to..." Since an alternatives analysis has not yet been completed, this should be re-phrased to read, "SpaceX proposes to use the Boca Chica Texas Launch Site..."	
9	9	1.3.1, line 26	S	KK	This line states, "The purpose of FAA's Proposed Action is to ..." The Proposed Action, which is to issue experimental permits and launch licenses to SpaceX that would allow Starship/Super Heavy launches from the Texas Launch Site, is not stated until Section 2.1. It would be helpful if it was stated earlier in the document.	
10	9	1.2.#	S	RH	TPWD recommends the EA include a description in this section of the roles and contributions of participating or coordinating agencies, such as state agencies like TPWD and THC, in the NEPA process, including the preparation of the EA.	
11	10	1.3.2 line 3	S	KK/RH	Please remove the section for SpaceX's Purpose and Need. The Purpose and Need identified in NEPA documents are typically only from the perspective of the lead federal agency (CEQ Regulations §1502.13 for an EIS; §1508.9(b) for an EA).	
12	10	1.3.2 line 4	S	KK	This line states, "The purpose of SpaceX's proposal is to..." This document is discussing the purpose of the federal action, not the Purpose and Need of SpaceX, as the section heading suggested. Can this be clarified?	

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13	10	1.3.2 line 11	S	KK/RH	TPWD suggests changing this line from, "SpaceX's proposal is needed to increase operational capabilities ..." to "the actions described in SpaceX's proposal are needed..." to clarify why the Action is needed, not SpaceX's proposal.	
14	10	1.4 line 24	S	LZ	The Public Involvement section does not describe the NEPA public involvement process. This reads more like a Federal Register notice for a public comment period. TPWD recommends that FAA revise this section to describe the public involvement process typically afforded the general public during the NEPA process.	
15	12	2.1.1.	S	JR/RH	<p>The description in this section does not adequately describe the location of the project site. While TPWD anticipates that subsequent sections will offer more robust descriptions of the land uses and natural and cultural resources within the vicinity of the project site, it would be reasonable for this section to at least briefly describe the location's proximity to public lands that are managed to preserve unique natural resources.</p> <p>TPWD recommends changing: "The area is in a sparsely populated coastal area adjacent to the Gulf of Mexico, characterized by sand and mud flats" to something such as, "The area is in a sparsely populated coastal area adjacent to the Gulf of Mexico and ecologically unique public lands owned by Texas Parks and Wildlife Department and the Lower Rio Grande Valley National Wildlife Refuge. The area is characterized by marsh and barrier island plant communities, shallow open water, algal flats, and unvegetated tidal flats. Uplands consist of low, newly-forming sand dunes with their anchoring vegetation amidst bare sand flats. The open water areas are fringed with black mangroves and vegetated with seagrasses. Small, ecologically unique clay hills, known as "lomas", support a diverse group of rare plants and terrestrial wildlife including the endangered ocelot and jaguarundi."</p>	

Comment Response Matrix

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					Subsequent sections should discuss the diverse terrestrial and aquatic habitats at the site that provide valuable feeding, roosting, and nesting habitats for resident and migratory shorebirds, wading birds, waterfowl, and other avian species including several other federal and state listed threatened and endangered species such as northern aplomado falcon, piping plover, reddish egret, snowy plover, sooty tern, and Texas botteri's sparrow. The area also serves as a major winter ground for endangered peregrine falcons and piping plovers and a large variety of shorebirds, gulls, and terns winter here in large numbers.	
16	12	2.1, line 3	S	KK	As indicated above, this is the first time the Proposed Action is stated. TPWD recommends that it be stated earlier in the document.	
17	12	2.1, line 4	S	KK	See comments #2 and #5 above regarding the unlimited nature of Experimental Permits.	
18	12	2.1, line 7	S	KK	"...SpaceX is proposing to conduct up to eight launches per year. Annual operations would also include suborbital flight tests (Section 2.1.3.2) and/or orbital launches (Section 2.1.3.3). The Proposed Action also includes the connected actions of static fire engine tests, landings, expansion of the VLA and solar farm, and additional construction of infrastructure." Would activities covered under the experimental permit be unlimited, and if so what would those activities include?	
19	12	2.1, line 16	S	KK	The Vertical Launch Area (VLA) is approximately 3.6 km north and the launch and landing control center (LLCC) is approximately 2.1 km north of the U.S./Mexico border.	
20	12	2.1.1, lines 19 & 20	S	KK	This line should clarify that it provides the only access to the <u>public</u> Boca Chica Beach and TPWD's 1054-acre Boca Chica Tract.	
21	14	2.1.2, line 9	S	KK	Would refurbishment of reusable stages occur only at SpaceX facilities at Boca Chica?	

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SpaceX Boca Chica Sections 1 and 2 – Administrative Draft Cooperating Agency Review (June 2020)

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	Page*	Section	S, A			
22	16	2.1.3.1, line 5	S	KK	<p>Would road closures that may be necessary for transporting Starship or Super Heavy components to SpaceX facilities count towards the total of access closures for the area?</p> <p>If road closures are necessary for this activity, TPWD recommends that these closures should be counted toward the total closure time allowed and scheduled to avoid occurring on holidays/weekends.</p>	
23	16	2.1.3.1, line 28	S	KK	The estimated amount of liquid methane (LCH4) that will be flared per month/year should be provided. Is this monitored, and if so, how?	
24	16	2.1.3.1, lines 20-21	S	KK	<p>Do the numbers of proposed tests represent the total anticipated, beginning with 60 static fire engine tests per year? Does public access to the beach have to be closed for each static fire engine test?</p> <p>As demonstrated during the past year, testing does not usually happen on schedule and, more often than not, has to be rescheduled. The proposed total of 60 static fire engine tests should be multiplied by a factor of at least 2 or 3 to determine the number of closures and does not include proposed launches.</p> <p>TPWD has concerns about prolonged and frequent closures to the beach and surrounding public lands and recommends that the FAA establish a more robust and transparent closure process that tracks the number of, length of, and reason for each closure, provides reasonable notification of closures, and provides a threshold trigger of alternate procedures when SpaceX approaches their closure hours minimum. An example schedule should be prepared that shows an "as planned scenario", and one that is more in line with our recent experiences of multiple closures for a single test.</p>	
25	16	2.1.3.1, line 22-23	S	JR	This section states that there may be occasions when a static fire engine test is "unsuccessful" and that in those "rare circumstances" when the full duration is not achieved, another attempt would be made.	

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					<p>The EA should define the terms "successful static fire engine test" and "unsuccessful static fire engine test".</p> <p>All potential direct and indirect environmental effects associated with both successful and unsuccessful static fire engine tests should be fully described and evaluated.</p> <p>The term "rare" should be quantified in order to fully evaluate the anticipated environmental impacts associated with both successful and unsuccessful tests.</p> <p>The number of additional static fire test attempts should be quantified and included in the maximum total number of static fire tests that would be conducted annually.</p>	
26	16	2.1.3.1, line 27	S	JR	The EA should define what is meant by "off-nominal operation" when residual LCH4 may be released into the atmosphere.	
27	16	2.1.3.2, lines 29+	S	KK	The header only identifies Suborbital Flight Tests but describes both suborbital flight tests and tanking tests. TPWD recommends that it would be clearer for each activity to have its own heading followed by descriptions of the activities.	
28	16	2.1.3.2; line 32	S	LG	The process of how the liquids within the tanks will be disposed of after the tanking tests are completed should be described.	
29	16	2.1.3.2, line 35, 36	S	KK	Can the phrases "likely be higher" and "high altitudes" be made more specific?	
30	16	2.1.3.2, line 35, 36	S	KK	This line states, "...conduct up to 20 Starship suborbital flights."	

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					Is this per year? And will closures be required? Is this in addition to 60 static fire engine tests per year?	
31	16	2.1.3.2, line 37,38	S	JR	This section states that as flight tests become "successful", SpaceX would then lower the number of suborbital flights to a minimum of approximately 5. Please define what is meant by "successful" and what would be considered "unsuccessful". How many "unsuccessful" suborbital flights are anticipated before the desired success rate is achieved? What are the potential environmental effects of both successful and unsuccessful suborbital flight tests?	
32	16	2.1.3.3, line 40	S	KK	Are the number of annual launches based on noise modeling? TPWD would like to review the noise modeling and know what the maximum and average decibel levels are for launches as well as experimental testing activities. Who will conduct the assessment of the impacts to wildlife and how will this be done?	
33	17	2.1.3.3, line 1 ff	S	JR	This section describes the maximum number of proposed orbital launches. The EA should clarify the frequency of orbital launches.	
34	17	2.1.3.3; line 6	A	LG	The "Y" orbital launches placeholder is confusing and inconsistent since it has been stated in Section 2.1 and previously in this section, 2.1.3.3, that there would be a maximum of 8 orbital launches. Please clarify this information.	
35	17	2.1.3.3, line 7	S	KK	Is the rocket exhaust plume expected to impact TPWD land immediately adjacent to SpaceX property? What is the estimated radius at which the rocket exhaust plume would affect these surroundings?	

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36	17	2.1.3.3; line 8	S	LG	What are the characteristics of the “surrounding areas” around the launch pad? They should be described.	
37	17	2.1.3.3, line 9 ff	S	JR	This section describes the potential use and disposal of water at the launch site. The EA should evaluate the effects of water retention and/or disposal on fish and wildlife resources at the project site. Specifically, these activities have the potential to result in habitat conversions (e.g., salt marsh to freshwater marsh or tidal flats to emergent marsh).	
38	17	2.1.3.3, line 11	S	KK	Regarding stormwater/wastewater issues addressed in this section, TPWD recommends the TCEQ be provided an opportunity to provide input and comment on this issue.	
39	17	2.1.3.3, line 11	S	KK	TPWD has noted vegetation changes at and adjacent to the site from runoff and water from fire fighting, and TPWD does not know about contamination from site water runoff. TPWD recommends that treatment or retention of stormwater or wastewater should be required and water would be contained in retention basins adjacent to the launch mount on SpaceX property.	
40	17	2.1.3.3, line 23	S	KK	Is the well referenced on line 23 an existing well or a proposed well?	
41	17	2.1.3.3; lines 24-35	S	LG	How downrange and VLA landings compare with respect to potential environmental effects should be discussed as well as how the use of one over the other is determined.	
42	17	2.1.3.3, line 25 ff	S	JR	This section describes landing Super Heavy down range “off the coast” or at the VLA. Additional information about landing “off the coast” should be provided since this activity has not been previously described for this project site and may be a connected action.	

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43	17	2.1.3.3; line 35, 42	A	LG	The maximum of “Y” Super Heavy and Starship landings is not consistent with what has already been stated will be a maximum of 8 orbital launches. Clarification is needed on why these paragraphs continue to state an unknown maximum number of launches and landings.	
44	17	2.1.3.3, line 32	S	KK	Delivery via road from the Port of Brownsville to the VLA is at least 20 miles without new road construction. Does the FAA and SpaceX anticipate that road expansion or construction to accommodate vehicle deliveries to the VLA?	
45	17	2.1.3.3, line 37	S	KK	The term “safing” should be defined in the EA.	
46	17	2.1.3.3, line 38	S	KK	The effects of sonic booms on wildlife should be discussed and supported by recent studies. How many times per year are sonic booms proposed to occur? Would it be a maximum of 8 times?	
47	18	2.1.3.3, line 2 ff	S	JR	This section describes the potential to recycle LCH4 back into methane tanks at the VLA or send it to the flare as technology and design develops. Please clarify if the research and development of technology to recycle methane or send it to a flare would be conducted at the project site. Will these activities and associated environmental effects be evaluated in the EA?	
48	18	2.1.3.4, line 29-30	S	JR	This section states that the Brownsville Shipping Channel would not be effected by a closure. Since the 2014 FEIS, TPWD notes that three LNG terminals have been licensed along the Brownsville Shipping Channel and a large natural gas pipeline has been constructed within 6 miles or less of the VLA.	

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					<p>It is our understanding that, based on a third-party independent evaluation, FERC determined that activities described for each of the LNG projects would not result in adverse effects with respect to FAA-authorized activities.</p> <p>FAA should address these changes to the regional landscape and evaluate potential environmental effects that may result from proposed activities including “unsuccessful tests” and “off-nominal operations” in proximity to natural gas facilities located onsite, offsite, and offshore (e.g., LNG carriers, wells, etc.).</p>	
49	18	2.1.3.4, line 34 ff	S	JR	<p>This section states that SpaceX would notify the Cameron County Commissioners Court of the proposed operation date, the expected closure times, and back-up closure dates and times. This section does not specify how much notice the public will be given prior to beach closures, including the use or revocation of back-up dates.</p> <p>In addition, SpaceX states that proposed activities would require no more than 500 hours of closure per year.</p> <p>The EA should clearly explain how closures will be calculated and how those closures will be evaluated with respect to adverse effects on public access to public lands.</p> <p>The EA should evaluate the difference between “actual closure times” and “effective closure times”.</p> <p>For example, if a beach closure is planned for 8 hours on Monday with Tuesday and Wednesday as back-up dates, and a reasonable person was planning a day trip to Boca Chica, that person would not likely plan the trip for Monday. They would also be less likely to plan the trip for Tuesday or Wednesday because the</p>	

Comment Response Matrix

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					beach is not guaranteed to be open. In this scenario, the beach would be "effectively closed" all day Monday, all day Tuesday and all day Wednesday.	
50	18	2.1.3.3, lines 2 & 3	S	KK	This line references recycling LCH ₄ back into methane tanks. It is unclear if LCH ₄ and methane are used interchangeably. Is liquid methane being returned to tanks in a gaseous state?	
51	18	2.1.3.3; line 2-4	S	LG	What will determine the method of disposal of residual methane (recycle vs. release)? What is the estimated amount of residual methane released by the flares and what are the permit requirements?	
52	18	2.1.3.3, line 4	S	KK	An estimate of how much liquid oxygen (LOX) and LCH ₄ will be released should be provided; estimates should be separated into releases from everyday activities, tests, launches and landings, and any other sources.	
53	18	2.1.3.3, line 7	S	KK	In the event that a vehicle would be expended into the ocean, the fate/impacts of that action should be addressed and evaluated (e.g., describe the fate of the fuel) including potential short-term and long-term environmental hazards.	
54	18	2.1.3.3, line 14	S	KK	Regarding the night-time activities described in this section, an indepth analysis of potential impacts to rare and endangered nesting sea turtle adults and hatchling sea turtles should be included in the appropriate section of the EA.	
55	18	2.1.3.3, line 21-24	S	KK	<p>This section states that, "SpaceX is currently constrained by limits in technology and production, resulting in the proposed launch cadence. In the future, SpaceX may propose to increase the launch rate of Starship/Super Heavy to support growth in the program. Proposed modifications to the launch program would be assessed at that time in a new NEPA document."</p> <p>This proposed activity would occur at a facility surrounded by publicly owned land managed for wildlife. Due to its location among areas of sensitive</p>	

Comment Response Matrix

SpaceX Boca Chica Sections 1 and 2 – Administrative Draft Cooperating Agency Review (June 2020)

#	Location		Type of Comment	Reviewer Initials	Comment	Response / Concurrence
	Page*	Section	S, A			
					resources and the lack of additional property for SpaceX expansion, growth of the Starship/Super Heavy at the current location may result in significant negative impacts to adjacent properties. The anticipated activities for which a new NEPA document would be required should be addressed in a Cumulative Impacts analysis.	
56	18	2.1.3.4, lines 31-33	S	KK/WC	The operational closure notices are described in this section as, "Approximately two weeks in advance of an operation requiring a closure, SpaceX would notify..." This is not how the process is currently carried out. Two weeks notice is not often given. None of the notices since April 2020 have had a two week advance notice. The longest advance was 10 days and most were 0 to 5 days. If two weeks notice is not possible, the written process should reflect what is actually possible and likely to happen.	
57	19	2.1.3.4, lines 6 & 7	S	KK	These lines state, "SpaceX has committed to work with the USFWS to fund additional resources or personnel necessary to enforce the closures required for launch operations." Working with the USFWS to provide funds for additional resources was proposed previously and has still not occurred. Because it is critical to the process of conserving natural resources while also meeting SpaceX's objectives, the EA should include assurances that SpaceX and the FAA ensure this commitment is fulfilled.	
58	19	2.1.3.4, lines 16 & 17	S	KK	These lines state, "SpaceX would not exceed 500 hours of closure per year." The term "closure" needs to be defined. Currently, closures far exceed what was included in the 2014 EIS. Closure should include times that were advertised as closed, but ended up not being closed.	
59	19	2.1.3.4; line 18	S	LG	A breakdown of time (a minimum, maximum, and average hours) needed for each type of operation (i.e. wet dress rehearsal, static fire engine test, etc.)	

Comment Response Matrix

SpaceX Boca Chica Sections 1 and 2 – Administrative Draft Cooperating Agency Review (June 2020)

#	Location		Type of Comment	Reviewer Initials	Comment	Response / Concurrence
	Page*	Section	S, A			
					should be provided. This information would benefit limiting closures of Boca Chica beach.	
60	19	2.1.3.4; line 20	S	LG	The EA should describe how hours of closure will be monitored/logged and by whom, and describe if that information will be available to the public. Will the 500 hours of closure include hours spent on incompleting planned flight activities as well as hours reserved for alternate dates? Are updates to those notifications provided to the public when the use of the listed alternate dates are not needed, therefore making beach access available to the public?	
61	19	2.1.3.4, lines 19-21	S	KK	<p>"The total number of closures and closure hours for wet dress rehearsals, static fire engine tests, tanks tests, suborbital tests, and actual launches would require approximately 500 hours of closure per year."</p> <p>Considering the problems agency staff have had calculating closures, please estimate how many days with interruptions to access that this represents, and share with us the current SpaceX methodology for calculating this.</p>	
62	19	2.1.3.4 Lines 24,25	S	WC	The EA proposes to increase the closure hours from 180 to 500 hours per year. Since 1 April 2020 the beach has been closed 51 days according to www.cameroncounty.us/space-x/ . It appears that the number of closure hours has already exceeded 180 hours. An increase to 500 hours is excessive and should be unnecessary.	
63	20	2.1.4	S	LG	The total footprint of proposed expansion and any additional, potential impacts to wetlands and aquatic resources should be provided. The total acres for each habitat type affected and a breakdown for each of the proposed projects, should be assessed and quantified. The total acres for each habitat type and a breakdown of each should also be included in mitigation plans. The EA should	

Comment Response Matrix

SpaceX Boca Chica Sections 1 and 2 – Administrative Draft Cooperating Agency Review (June 2020)

#	Location		Type of Comment	Reviewer Initials	Comment	Response / Concurrence
	Page*	Section	S, A			
					specify whether any of the new construction proposed would be outside the Space X property boundary.	
64	22	Figure 2-5	A	LG	The long, rectangular, blue area in figure abutting the air separation unit is not labeled. Nor are the two gray trapezoid-like areas attached to the redundant starship test pad and existing landing pad.	
65	20	2.1.4, line 4	S	KK	Solar farm expansion should be explained in detail. Solar farms should be located away from refuges and public lands, especially areas with large populations of birds. Special coatings should be used to prevent the panels from looking like water. Other beneficial management practices (BMPs) for solar installations are available and should be included and implemented to limit impacts on wildlife, particularly birds.	
66	24	2.1.4; line 6	S	JR/LG	The EA should specify how the soil from drill activities will be disposed of. The EA should also evaluate adverse environmental effects that may result from "unsuccessful tests" or "off-nominal operations" within the vicinity of the natural gas wells, power plants, and associated infrastructure.	
67	24	2.1.4, line 2 ff	S	KK	If drilling is proposed to go under any land other than SpaceX's, the additional review and applicable regulations should be addressed and followed. No activities, materials, or soil disposal would be allowed on TPWD land without prior consent.	
68	24	2.1.4, line 12	S	KK	Any potential emissions/flares from the natural gas wells should be addressed and included with the discussion of other emissions/flares, if applicable.	
69	24	2.1.4, line 16	S	KK	The acreage for the desalination plant and five natural gas wells and separation units should be provided. Is the liability policy for clean up at the site \$3M per	

Comment Response Matrix

SpaceX Boca Chica Sections 1 and 2 – Administrative Draft Cooperating Agency Review (June 2020)

#	Location		Type of Comment	Reviewer Initials	Comment	Response / Concurrence
	Page*	Section	S, A			
					the FAA permit? Are there assurances that if cleanup is needed the funds do not have to come from public funds?	
70	24	2.1.4, line 24	S	RH/KK	Figure 2.5 (Page 22) indicates that a parking area would be located on the north side of Highway 4, on a loma, outside of the SpaceX property boundary. TPWD recommends the EA clarify the locations of parking areas; they should not be located along the side of the highway. TPWD recommends coordinating with TxDOT to establish a reasonable speed limit to minimize wildlife-vehicle collisions along this section of Highway 4.	
71	24	2.1.4; line 25	S	LG	In addition to providing a footprint of the proposed parking lot expansion, the proposed material used to construct it should be described. TPWD recommends investigating the use of permeable materials to construct the parking areas.	
72	24	2.1.4; line 27-29	S	LG/KK	Please provide the exact number of proposed power plants (1 or 2) so an adequate evaluation of impacts to wetlands can be conducted since each site is proposed to be up to 5.5 acres in size.	
73	24	2.1.4, line 30	S	KK	Please provide the anticipated emissions from the proposed power plants.	
74	24	2.1.4; line 34	S	LG	The statement of, "Some structures would be up to 45 m" needs to be more definitive and detailed and less conceptual to properly and accurately determine impacts to fish and wildlife resources. This comment applies to all plans and projects proposed in the EA.	
75	24	2.1.4, line 41	S	KK	During preparation of the EA, it should be determined if TxDOT has authority in the ROW along Highway 4.	
76	25	2.1.4, line 4	S	KK	See comment #65; the solar farm expansion impacts on wildlife should be researched further.	

Comment Response Matrix

SpaceX Boca Chica Sections 1 and 2 – Administrative Draft Cooperating Agency Review (June 2020)

#	Location		Type of Comment	Reviewer Initials	Comment	Response / Concurrence
	Page*	Section	S, A			
77	26	2.3	S	LG	A table should be provided quantifying the impacts (acres) to each wetland type for each of the alternative sites to support why the Texas Launch Site meets the criteria of having the minimum environmental disturbance.	
78	26	2.3, line 15	A	KK	Should the word "compromise" be "comprise" in this sentence?	
79	26	2.3, line 17	S	KK	<p>Alternative sites were eliminated from further consideration because they do not support landing a space vehicle. The infrastructure at the Boca Chica site also does not support landing a space vehicle, which is why the site is currently undergoing additional construction.</p> <p>The EA needs to better demonstrate how the impacts at Boca Chica would be less than those at other more developed locations and how the existing infrastructure and size of the facilities at Boca Chica are more suitable than those at SLC-40, located at the Space Launch Complex within Cape Canaveral Air Force Station.</p>	
80	26	2.3, line 20	S	KK	<p>The EA should describe the analysis that led to the conclusion that impacts at a new site would be greater than those at Boca Chica, a site located adjacent to public lands containing rare and unique ecosystems.</p> <p>Due to the current redevelopment of the Boca Chica site to accommodate the Starship/Super Heavy, the current activities at Boca Chica essentially constitute constructing a new site for Starship/Super Heavy operations that would result in extensive environmental impacts.</p>	
81	27	App.A	S	KK	Very few of the references listed are actually cited in the first two chapters of the EA. Will they be used in subsequent sections? Some references listed are currently outdated and should be revised with more current data/references (e.g., the 2009 referenced sea turtle report contains data from 2008. The most current data should be used).	

To add additional rows, place cursor in the bottom right cell and hit << Tab>>.

Comment Types: S= Substantive; A=Administrative (See definitions below)

* Page number refers to the pdf page number not document page number

DEFINITIONS

Substantive – Comments identifying an item in the document that appears to be, or is potentially, incorrect, misleading, or confusing.

Administrative – Comments identifying minor inconsistencies between different sections or errors in typography and grammar.

Reviewer: Please provide your initials

Attachment C

[EXTERNAL] RE: SpaceX - Summary of Feb. 28, 2020 Starship SN1 Incident

Zee, Stacey (FAA) <[REDACTED]>

Wed 3/4/2020 11:35 AM

To: Orms, Mary <[REDACTED]>

Cc: Winton, Bryan <[REDACTED]> Kendal Keyes <[REDACTED]> Reyes, Ernesto

<[REDACTED]>

Thank you all!

From: Orms, Mary <[REDACTED]>

Sent: Wednesday, March 04, 2020 12:31 PM

To: Zee, Stacey (FAA) <[REDACTED]>

Cc: Winton, Bryan <[REDACTED]> Kendal Keyes <[REDACTED]> Reyes, Ernesto

<[REDACTED]>

Subject: SpaceX - Summary of Feb. 28, 2020 Starship SN1 Incident

Please see the attached summary of the SN1 incident that occurred on Friday Feb 28, 2020.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Texas Coastal Ecological Services Field Office



In Reply Refer To:

FWS/R2/ES/02ETCC00-2012-F-0186

March 4, 2020

Ms. Stacey M. Zee
Office of Commercial Space Transportation
Federal Aviation Administration
800 Independence Ave., SW
Washington, DC 20591

Dear Ms. Zee:

In our March 2, 2020, letter the U.S. Fish and Wildlife Service (Service) transmitted comments on the Federal Aviation Administration's (FAA) Written Re-evaluation (WR) for Space Exploration Technologies' (SpaceX) Texas Launch Site. In our comment letter, we stated that on February 28, 2020, a test rocket exploded. On March 3, 2020, we received an email from Bryan Winton, Refuge Manager confirming that a fuel tank had actually caused the explosion. We apologize for the mistake. Below is our understanding of the incident.

Description of Explosion

The explosion occurred on Friday February 28, 2020, at 10 p.m. during a test firing of SpaceX's Starship SN1. Refuge Manager Bryan Winton received a voicemail from Davis Libbey with SpaceX at 10:04 pm that same night. Bryan missed the original call, but on February 29, 2020, at 8 a.m. he took a call from Randy Rees, SpaceX, informing him they had a tank explosion during their test the night before. Randy requested permission to walk in to Refuge property to identify debris. He asked to use ATVs as well. He stated the largest piece they could see was again northwest of the launch site, same as when the top flew off the rocket at the previous test. Randy stated some smaller pieces of the explosion were in the wetlands south of their launch site. Refuge staff were to begin assessing any shorebird nesting impacts from the explosion and ATV's and make recommendations for a least-damaging method to remove the debris.

On February 29, 2020, after receiving the Service's permission, Randy Rees performed debris surveys. He emailed the SN1 debris locations that were located outside of SpaceX physical fence line to the Service and FAA. He included notes and maps of the northern and southern debris areas. They utilized 4-wheel ATVs where appropriate and entered on foot at other locations. He stated the individual pieces were each photographed and geo-tagged prior to being recovered. No recovery by any mechanical means was authorized or executed. Maps with notes are enclosed. Pictures he sent in his email and additional pictures we have received are also enclosed.

On March 2, 2020, Bryan Winton and other Refuge biologists, and Stephanie Bilodeau, scientist and bird expert for the Coastal Bend Bays & Estuaries Program (CBBEP), met with Randy Rees onsite at 10:30 a.m. to view three pieces of debris that had landed on Boca Chica State Park and discuss options for removal. Stephanie Bilodeau, searched for nesting birds in close proximity to the debris that needed to be removed. She reported Wilson's plovers were not nesting yet near the launch site. Snowy plovers were nesting nearby.

Collectively, all parties agreed that removal of the largest pieces by helicopter would be the least damaging alternative. The helicopter should limit flying time over the Refuge/State Park, fly directly to the debris, lift it, and then remove it to Highway 4. This will minimize time in the air and disturbance to nesting snowy plovers. The two smaller pieces will be drug out carefully as to not do additional damage to mangroves near Highway 4. The substrate is very soft in this area; therefore, the use of a vehicle to move the debris was not an option. Randy Rees will report back once the removal action is set to occur, and when it is completed.

Closure Notices

It has also come to our attention that the closure notices were inconsistent. A closure was not scheduled for Friday February 28, 2020, nor was the test. A summary of the closure notices the Service received follows.

On February 21, 2020, Alma Walzer Santos sent a notice out on behalf of SpaceX that they were planning to conduct systems testing on Thursday, February 27, 2020, at the company's site located near Boca Chica Beach, Cameron County, Texas. The window for testing was to be from 7 p.m. to 11 p.m. the same day. Backup dates were February 28, and 29, 2020. February 28th the closure was to be from 7 p.m. to 11 p.m. and the 29th from 12 p.m. to 4 p.m. that day. Judge Trevino signed the order on February 21, 2020.

On February 27 2020, Ms. Santos emailed that SpaceX had revoked the closure date of February 27, 2020, and was planning to conduct systems testing on Saturday, February 29, 2020 from 2 a.m. to 6 a.m. Approved backup dates were Sunday, March 1st from 2 a.m. to 6 a.m. and Monday, March 2nd from 12 midnight to 4 a.m. if needed.

On Thursday, February 27, 2020, Judge Trevino ordered a Beach Closure and temporary closure of Highway 4. The purpose for the closure would be to protect the Public Health and Safety during space flight activities on February 29, 2020. The closure would be between 2 a.m. and 6

a.m. of February 29. The alternative dates were March 1, 2020 2 a.m. and 6 a.m. and March 2, 2020 12 a.m. to 4 a.m. This was the first notice Bryan Winton had received in 2020.

On February 28, 2020, Ms. Santos sent out another notice that SpaceX had revoked the closure date of February 29, 2020 at the company's site located near Boca Chica Beach, Cameron County, Texas. The backup dates of March 1-2, 2020, were also revoked. Both Highway 4 and Boca Chica Beach were opened.

As you can see, the Closure Notices are numerous and confusing. The notices listed 5 consecutive days access to the beach and road would be closed. There is no way for the Refuge to be able to tell ahead of time which day any SpaceX activity will actually occur. The public just assumes those days are not available for access. It is a remote location. The public will avoid potential days of closure. The Refuge and researchers are unable to schedule their activities. This exemplifies persistent difficulties in tracking the 180-hour limit as outlined in the biological opinion (BO). SpaceX calculates the actual date, and the Service calculates potentially 5 days of impact. No notice should be issued without proper prior notification to the agencies and landowners as outlined in the BO and another single date is identified.

Closure-Date of Incident

Shelby Bassette, who oversees University of Texas at Rio Grande Valley, (UTRGV) Coastal Studies Laboratory on the island reported she was on Boca Chica Beach doing a dolphin necropsy until 8 p.m. the night of February 28th. She stated there was no road closure when she left, approximately two hours before the explosion. Two separate videos captured that night and her report leaves it open to question what closure procedures were in place that night. One video shows Elon Musk speaking and having a question and answer session, with a large group, at the launch site just prior to the test. <https://youtu.be/sFY1qDvMfxw> The second video shows a car passing by just minutes before the explosion. It could have been a SpaceX security vehicle or potentially some member of the public. It is unclear, as to which it was in the video. <https://youtu.be/sYeVnGL7fgw>

The Service is extremely concerned for risks to public and scientific use and urges FAA to have a secure, trackable closure plan put in place.

Nighttime Activities

The Service reiterates that SpaceX agreed to only one nighttime launch in the BO. Many days of construction and testing have occurred at night. It is possible SpaceX believes there is less public disruption at this time. To minimize impacts to wildlife including listed species (sea turtles, ocelots, jaguarundis) in our BO we asked launch activities avoid dusk to dawn when these species are more active. Nighttime activities also hinder efforts to extinguish fires, evacuate people, remove trespassers, and delays debris removals. A new or amended BO is needed.

The Service is committed to working with FAA and SpaceX to resolve these and other issues through reinitiation of consultation. The Refuge will be awaiting for further information

Ms. Zee

4

regarding the cleanup. If you have any further questions please contact Mary Orms at ([REDACTED])
[REDACTED] or by email at [REDACTED].

Sincerely,


for Charles Ardizzone
Field Supervisor

Enclosures

cc: Bryan Winton, Refuge Manager
Kendall Keyes, TPWD
Ernesto Reyes, Texas Coastal ESFO

Southern Debris

Each of the pins on the image below indicates a small hand carried piece of debris that was logged and recovered. There were no pieces of debris to the South of the Launch Pad, that we were unable to recover back to our debris processing area, on foot. SpaceX personnel took the opportunity, while out in this area, to also collect general litter that was found during the search for SpaceX debris.



Northern Debris

Three (3) pieces of debris that are located in the refuge North of Hwy 4, are indicated in the map below. These pieces all remain as found and have not been moved.

The **red** line from the Forward Dome indicates 407' from the edge of the highway.

The **blue** line from the North Sheet 1 indicates 137' from the edge of the highway.



Detail Pictures

North Sheet 1

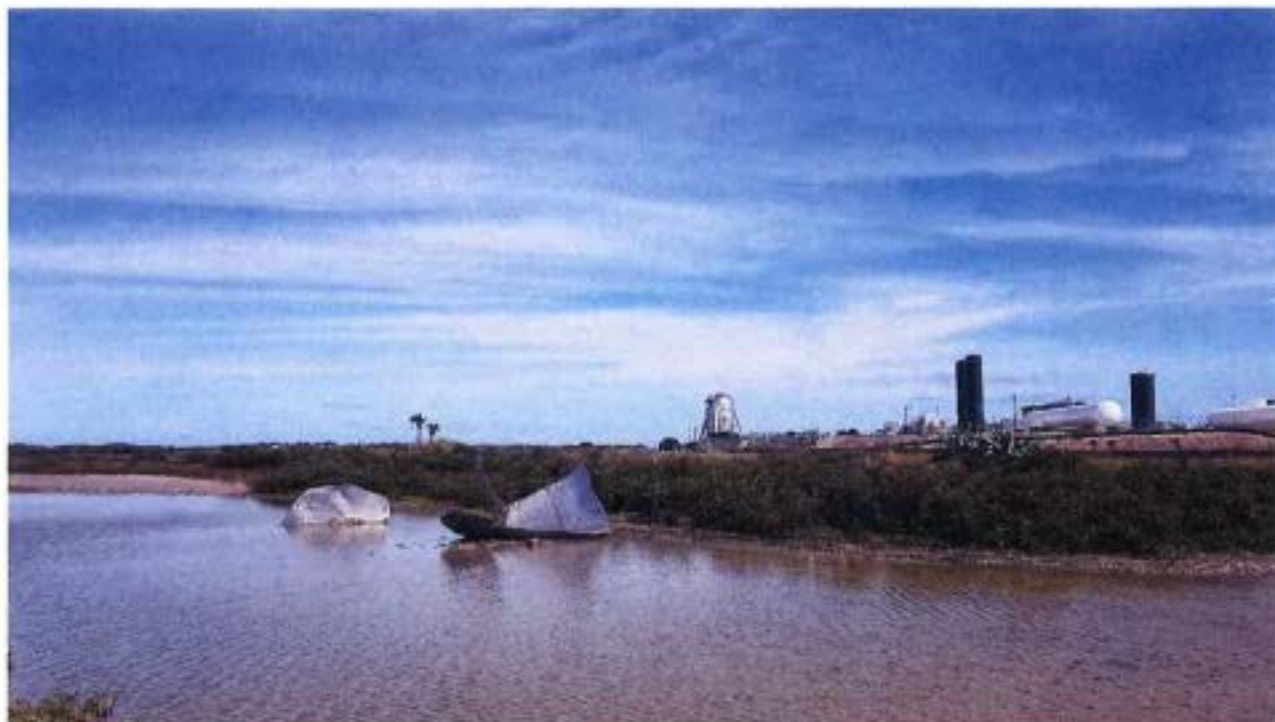


North Sheet 2



Forward Dome











Eddie Treviño, Jr.
County Judge

**PUBLIC NOTICE OF CAMERON COUNTY ORDER TO
TEMPORARILY CLOSE STATE HIGHWAY 4
AND BOCA CHICA BEACH**

Under the authority granted to Cameron County pursuant to Texas Natural Resources Code Section 61.132 which permits the Texas General Land Office ("GLO") and the County to enter into a memorandum of agreement under the terms of which Boca Chica Beach may be closed temporarily for space launches and in conformity with the Memorandum of Agreement, contract number 2013C08253/GLO contract number 13-447-000-7916 between the County and the GLO that delineates the circumstances under which the County is authorized to close the beach and beach access points for the limited purpose of protecting Public Health and Safety during spaceflight activities and the Texas Department of Transportation authorized a SpaceX Roadway Closure Traffic Control Plan to perform road closures on State Highway 4;

COMES NOW, Cameron County Judge Eddie Treviño, Jr., on behalf of Cameron County and the Cameron County Commissioners Court as authorized by Court Order 201903002 and hereby issues this ORDER AND GIVES PUBLIC NOTICE of this Order to Temporarily Close State Highway 4 and Boca Chica Beach for the purpose of protecting Public Health and Safety during space flight activities on February 27, 2020, in the time period between 7:00 p.m. Central Standard Time and 11:00 p.m. of the same day, and in the alternative on February 28, 2020, from 7:00 p.m. Central Standard Time and 8:00 p.m. of that day, and/or February 29, 2020, from 12:00 p.m. Central Standard Time and 4:00 p.m. of that day. Should SpaceX not complete its planned space flight activities on February 27, 2020, then SpaceX may use the alternate dates to complete its test launch activities.

Sincerely,

A handwritten signature in blue ink, appearing to read "Eddie Treviño", is written over a horizontal line. The signature is stylized with a long, sweeping horizontal stroke extending to the right.

Eddie Treviño, Jr.
Cameron County Judge

Date:

February 21, 2020



Eddie Treviño, Jr.
County Judge

**PUBLIC NOTICE OF CAMERON COUNTY ORDER TO
TEMPORARILY CLOSE STATE HIGHWAY 4
AND BOCA CHICA BEACH**

Under the authority granted to Cameron County pursuant to Texas Natural Resources Code Section 61.132 which permits the Texas General Land Office ("GLO") and the County to enter into a memorandum of agreement under the terms of which Boca Chica Beach may be closed temporarily for space launches and in conformity with the Memorandum of Agreement, contract number 2013C08253/GLO contract number 13-447-000-7916 between the County and the GLO that delineates the circumstances under which the County is authorized to close the beach and beach access points for the limited purpose of protecting Public Health and Safety during spaceflight activities and the Texas Department of Transportation authorized a SpaceX Roadway Closure Traffic Control Plan to perform road closures on State Highway 4;

COMES NOW, Cameron County Judge Eddie Treviño, Jr., on behalf of Cameron County and the Cameron County Commissioners Court as authorized by Court Order 201903002 and hereby issues this ORDER AND GIVES PUBLIC NOTICE of this Order to Temporarily Close State Highway 4 and Boca Chica Beach for the purpose of protecting Public Health and Safety during space flight activities on February 29, 2020, in the time period between 2:00 a.m. Central Standard Time and 6:00 a.m. of the same day, and in the alternative on March 1, 2020, from 2:00 a.m. Central Standard Time and 6:00 a.m. of that day, and/or March 2, 2020, from 12:00 a.m. Central Standard Time and 4:00 a.m. of that day. Should SpaceX not complete its planned space flight activities on February 29, 2020, then SpaceX may use the alternate dates to complete its test launch activities.

Sincerely,


Eddie Treviño, Jr.
Cameron County Judge

Date:

February 27, 2020

Attachment D



United States Department of the Interior

FISH AND WILDLIFE SERVICE

South Texas Refuge Complex
Lower Rio Grande Valley National Wildlife Refuge



August 23, 2021

Mr. James R. Repchek
Federal Aviation Administration (FAA)
800 Independence Ave., SW
Washington, D.C. 20591

Dear Mr. Repchek:

This responds to your letter dated July 15, 2021, requesting U.S. Fish and Wildlife Service (FWS) input on FAA's initiation of a Section 4(f) consultation of eligible properties that include the Boca Chica Tract of the Lower Rio Grande Valley National Wildlife Refuge (Refuge) for the SpaceX Starship/Super Heavy Launch project at Boca Chica, Texas. FWS input to FAA also extends to the Palmito Ranch Battlefield National Historic Landmark (NHL) as a significant portion of the NHL is within the Refuge. Section 4(f) of the Department of Transportation Act of 1966 protects publicly owned parks, recreation areas, and wildlife and waterfowl refuges of national, state, or local significance and historic sites of national state, or local significance from "use" by transportation-related projects. The FAA is seeking input on several Section 4(f) issues including: 1) if a proposed utility installation would result in a temporary occupancy but have a "de minimus" impact under FWS fee-owned land; 2) if an increase to 500 hours would constitute a "constructive use" as defined under Section 4(f); 3) if the noise from the proposed action would constitute a constructive use; 4) if anomaly-related activities constitute a constructive use; 5) if an additional 300 closure hours would result in permanent or residual effects to a temporary occupancy; and 6) if the need for closures in the event of an anomaly constitute a constructive use.

The Refuge, and the National Wildlife Refuge System in general, maintains the biological integrity, diversity and environmental health of its natural resources for the benefit of present and future generations of Americans (National Wildlife Refuge System Improvement Act of 1997, 16 U.S.C. 668dd-668ee). The Refuge was established in 1979, as a long-term program of acquiring lands to protect and restore the unique biodiversity of the Lower Rio Grande Valley of Texas. The Refuge ensures the conservation of unique South Texas fish, wildlife and plant populations and their habitat, which is necessary for the scientific study of wildlife, conservation biology and ecosystem management. In addition to its primary task of conserving wildlife, the Refuge also provides six wildlife-dependent recreational uses, which include: hunting, fishing, wildlife observation, photography, environmental education, and interpretation. Prior to SpaceX-associated closures that impede access to the Refuge, an estimated 110,000 visitors accessed the Refuge annually. Sixty three percent of visitors to the Boca Chica tract were going to surf fish or beachcomb. The majority of visitors are from Brownsville, which has one of the

country's highest poverty rates with 26 percent of the population below the federal poverty line and 23 percent of families earning less than \$25,000.

Section 4(f) provides that a "*constructive use*" occurs when there is "*a temporary occupancy of land that is adverse in terms of the statute's preservation purpose*" or when "*a project's proximity impacts are so severe that the protected activities, features, or attributes of a property are substantially impaired.*" The level, nature, and extent to which an area is constructively used is subject to the expertise and determination of the agency responsible for management and administration of the 4(f) lands impacted by the constructive use, in this case, the FWS.

At the outset, the FWS advises the FAA that ongoing activities (i.e., the SpaceX Starship/Super Heavy Project) previously permitted already result in a constructive use, as defined under Section 4(f). SpaceX activities already exceed the 300 road closure hours of FAA-permitted operations. Closures of the beach affect a population with limited income and few options to recreate. Boca Chica is the only beach that is free to the nearby and largely Hispanic communities. Current activities, such as large explosions and falling debris from SpaceX flight test activities, the appearance of significantly increased highway traffic 24 hours per day all week, and extensive construction, have not been adequately analyzed nor addressed. The effect of both existing and anticipated noise levels on wildlife, such as nesting sea turtles or birds, resulting from these tests has not been adequately analyzed and there has been no demonstration that the noise levels pose no harmful effect. In addition, debris that has fallen onto the Refuge has damaged sensitive wind tidal flats. The vehicles or machinery used to retrieve debris have created rutting and damage that interrupts tidal water sheet flow across these flats. These hazardous activities have prompted concerns including re-evaluating FAA's current EIS, as well as the potential need to reinitiate consultation with the FWS on the Biological Opinion analyzing SpaceX operations pursuant to 50 C.F.R., part 402.16.

Over the past six years, closures of the road to Boca Chica Beach have become increasingly frequent and may occur for one or more days due to delays or problems occurring during testing. The FAA/SpaceX closure reporting computation remains in question, as the extended closures occurring for hazardous explosion- and debris-related events or delays are deterrents for public access to the Boca Chica tract and its beaches for the duration of all published closure timeframes. In 2019, the FWS conservatively quantified more than 1,000 closure hours and noted a significant disparity in accounting between SpaceX's reported total of 158 hours and the conservative total being tracked by FWS staff. Frequent closures caused by SpaceX activities are already substantially impairing both the Refuge's ability to adequately manage the Refuge and the public's enjoyment of the Boca Chica Beach area for wildlife-dependent recreation.

There are both "*adverse*" and "*severe*" impacts to Refuge public use, management, wildlife, and habitat from SpaceX activities. Increasing the number of "official" closure hours will only exacerbate the levels of impairment of Refuge properties. The protected activities of the Refuge that are being substantially impaired include fishing, wildlife observation, photography, environmental education, and interpretation. When closures occur, all of these wildlife-dependent recreational uses are substantially impaired because they are not available to the public. Additional features and attributes of the Refuge that have already been substantially impaired include the sensitive tidal flats, salt prairies, wildlife, and sensitive bird nesting and wintering sites. Based on bird monitoring reports, Snowy and Wilson's plovers have not been documented nesting in close proximity to the SpaceX launching site as they had in years prior to

the project. Finally, none of the damage to the sensitive tidal flats from debris pickup and motorized equipment and human access has been adequately addressed. These features and attributes will likely continue to be substantially impaired because explosions, debris, traffic, building construction, and invasive plant species will continue to threaten the health and diversity of the Refuge's habitats and wildlife.

Section 4(f) regulations "*require rigorous exploration and objective evaluation of alternative actions that would avoid all use of Section 4(f) properties...that would avoid some or all adverse effects*" (OEPC Section 4(f) Handbook, after 23 CFR § 774). 23 U.S.C. § 138 precludes the Secretary of Transportation from approving a program or project unless "*such program includes all possible planning to minimize harm*" to wildlife refuges.

Therefore, to assist in the FAA's consultation and to include all possible planning to minimize harm to wildlife refuges, the FWS recommends the following measures be evaluated as alternative actions that may help to avoid or deter constructive use:

- SpaceX be limited to use of the Boca Chica Site for launches only as originally proposed and not as a testing facility, in order to reduce closure hours and decrease the number of anomaly incidents.
- Explosions result in emergency consultation process with FWS.
- SpaceX contract environmental cleanup using only specialized personnel and equipment designed to protect and restore the sensitive habitat types found in the area.
- Space X not be allowed to prohibit FWS staff, TPWD staff, NPS staff, or other agency representatives and their researchers to enter to collect biological and cultural resource data even during closures, and ensure SpaceX contract or fund collection of data on impacts to sensitive habitat types and wildlife species impacted by anomalies.
- Restoration of impacted habitats, if possible, should be required. If restoration is not possible impacted habitats should be protected through land exchanges or land purchases.
- SpaceX provide an environmental cleanup fund that agencies can utilize to pay for environmental damage caused by SpaceX activities.
- SpaceX use land exchange as a mitigative option to compensate for habitat loss.
- SpaceX engage in land exchanges, land purchases or recreation use improvements (enhancements) for recreational use loss, for example, providing improved facilities for the public (interpretive signage, fishing access, maintained trails, educational programs, etc., as improvements).
- SpaceX coordinate directly with FWS regarding protective and restorative measures for habitat, cultural resources, and public use opportunities regarding FWS owned or managed land.
- SpaceX integrate traffic control measures to minimize traffic to their site
 - For example, SpaceX establish a "park and ride" in town and shuttle staff/crews as opposed to individual 24/7 high traffic volumes on State Highway 4.
- SpaceX assist the TXDOT to install several protected wildlife crossings to prevent refuge fragmentation and address listed species and general wildlife concerns along State Highway 4.
- SpaceX be required to utilize predictive scheduling with a minimum of two-week advance notice for road closures.
- SpaceX comply with a specific road closure window.

- For example, set days and hours during the week, excluding weekends and holidays.
- SpaceX closure authorization should be limited to a single day rather than a proposed date with two coinciding backup days.
- Any and all SpaceX future plans for expansion of facilities and operations be fully disclosed and adequately analyzed in the FAA's upcoming NEPA documentation.
- Noise levels be measured at various points such as on the beachfront and at points inland to determine potential effects to further inform appropriate measures for protection of natural resources and Historic Properties like NHL.
- SpaceX and/or any utility contractors coordinate with the Refuge to address the placement of utilities within FWS fee-owned lands beneath portions of State Highway 4.

We appreciate your consideration of the above issues and FWS recommendations and look forward to discussing these or other concerns as pertains to the SpaceX Boca Chica site. You may contact me via email at [REDACTED]

Sincerely,

**Manuel
Perez III**  Digitally signed by
Manuel Perez III
Date: 2021.08.23
14:29:25 -05'00'

Manuel "Sonny" Perez III
South Texas Refuge Complex Manager

cc:

Stacey Zee, Federal Aviation Administration, Washington, DC.
Bryan R. Winton, Refuge Manager, Lower Rio Grande Valley NWR
Kelly McDowell, Refuge Supervisor, OK/TX Refuges
Dawn Gardiner, Assistant Field Supervisor, Texas Coastal ES Field Office

Attachment E



Orms, Mary <[REDACTED]>

Fwd: [EXTERNAL] SpaceX removal of debris North of Hwy 4

1 message

Winton, Bryan <[REDACTED]> Fri, Nov 29, 2019 at 9:32 AM
To: Sonny Perez <[REDACTED]> Scot Edler <[REDACTED]> Imer Dela Garza <[REDACTED]>
Chris Perez <[REDACTED]> Ernesto Reyes <[REDACTED]> Laura <[REDACTED]> Iriz
Elizondo Navarro <[REDACTED]> Romeo Garcia <[REDACTED]> Gerardo Longoria
<[REDACTED]> Ellissa Martinez <[REDACTED]> "Whitehead, Dawn" <[REDACTED]>
"Orms, Mary" <[REDACTED]>

For your records. FAA has called for a Dec 5, 2019 meeting to revisit the EA and Biological Opinion that we worked on since April 2011, which did not turn out to accurately reflect what they (Space-X) have been doing. Their action differs significantly from what they proposed. The road closures and interruptions to the refuge/public beach is considerably more than was anticipated, and the action is now testing, rather than launches, which is inherently more inclined to result in a failure and thus damage to the refuge.

Hopefully their explosions will deter the LNG's from developing our area though. The air quality, viewshed impacts, and degradation of the Boca Chica area would be accelerated if one or more of these industrial energy projects ultimately proceeds.

bryan

----- Forwarded message -----

From: **Randy Rees** <[REDACTED]>
Date: Sat, Nov 23, 2019 at 5:09 PM
Subject: [EXTERNAL] SpaceX removal of debris North of Hwy 4
To: Extranet Contact - bryan_winton <[REDACTED]> <[REDACTED]>
Cc: Extranet Contact - Stacey.Zee <[REDACTED]> Matthew Thompson <[REDACTED]> Katy Groom <[REDACTED]> Paul Sutter <[REDACTED]>

Hello Bryan,

For Official Use Only

Per my discussion with Scot, I wanted to send some pictures from the removal operation. The team was able to pull the debris with 2 high capacity tow trucks, over to the ATV Barrier. There the debris was rigged and flown with a crane onto our Construction Dump truck for transport to our build area for inspections.

The ATV Barrier is all there, but one bollard needs to be reset/replaced, and then the cable re-tensioned. I can work with you next week on a plan to accomplish the necessary repair.

We have had crews on foot out yesterday and today using metal detectors to ensure any small pieces aren't missed.

No vehicles or ATVs of any type crossed the ATV barrier location during the operation.

PICTURES

Initial location of debris with arrows showing direction of removal.



After the drag began.



Largest piece almost pulled in.



Final location of the drag removal operation.



Due to the weight of the debris and load bearing limitations of the sand for the crane, they had to drag into the ATV barrier several feet. This is the unset bollard. The cable tension was released at a nearby cable clamp.



If you have any questions or concerns, please call anytime.

Thank You,

Randy Rees

Environmental Health and Safety Manager

Chief of Emergency Operations

Space Exploration Technologies (SpaceX)



[South Texas Physical](#)



☎ W: (956) [REDACTED] | ☎ M: (515) [REDACTED]

📧: [REDACTED] 🌐: www.spacex.com



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--
Bryan R. Winton, Wildlife Refuge Manager
Lower Rio Grande Valley National Wildlife Refuge

[REDACTED]
[REDACTED] office; [REDACTED] [REDACTED] cell
[REDACTED]

Attachment F

From: [Winton, Bryan](#)
To: [Orms, Mary](#)
Cc: [Perez, Sonny](#); [Perez, Chris](#)
Subject: Re: Information for Informal Scoping FWS Response Letter to FAA per proposal to Draft a new EA - due 11am, Jan 21, 21
Date: Thursday, January 21, 2021 12:23:22 PM

Thank you Mary. Your list is more comprehensive than the one I provided. I only list explosions that resulted in major debris scattering, although the additional explosions you listed are equally notable, due to the impacts they likely have on wildlife residing in close proximity during the event. Unfortunately, we are not able to access the area immediately following an event due to safety reasons which does not offer us the ability to investigate true wildlife impacts immediately following a blast, fire, etc. Not sure how we can expect to have access immediately following future similar events, but we need assurance that Space-X employees or the public don't gain access before we have a chance to do our initial investigation after such occurrences in the future.

bryan

From: Orms, Mary <[REDACTED]>
Sent: Thursday, January 21, 2021 1:07 PM
To: Winton, Bryan <[REDACTED]> Perez, Sonny <[REDACTED]>
Cc: Perez, Chris <[REDACTED]>
Subject: Re: Information for Informal Scoping FWS Response Letter to FAA per proposal to Draft a new EA - due 11am, Jan 21, 21

Bryan,

I looked up dates of SpaceX explosions on news articles and you tube....etc..

11/18/2019 - Space Ship MK1 Pressure Test explosion

2/28/2020 - Starship SN1 pressure Test explosion

4/2/2020 - Starship SN3 pressure test explosion

5/29/2020 - Starship SN4 explosion

12/9/2020 - Starship SN8 explosion

From: Winton, Bryan <[REDACTED]>
Sent: Thursday, January 21, 2021 10:33 AM
To: Perez, Sonny <[REDACTED]>
Cc: Perez, Chris <[REDACTED]> Orms, Mary <[REDACTED]>
Subject: Information for Informal Scoping FWS Response Letter to FAA per proposal to Draft a new EA - due 11am, Jan 21, 21

Example of damages by/from Space-X:

Traffic volume, road closures, wildlife mortality

Impacts to habitat: tidal flats, dunes, coastal prairie - debris, fires, rutting, wetland filling

Fires - 2 fires in 2019

Explosions (Debris scattered) - several since 2019

Development - conversion to industrial development/testing area

Residential Eviction - Kopernik Shores

Loss of public access to refuge, state park, beach and no reliable access for land management

Important Dates:

Nov 2018 - during Federal Government Shutdown/Furlough - Space X announces they will change activity from launch facility to a testing facility

April 21,22 -2019 - Space X employee(s) get stuck with 2 vehicles and a forklift in tidal flats. Causes significant damage to tidal flats. Space X employees did not have permission to be on the refuge.

July 25, 2019 - 130-acre fire caused from Space-X test that sent

fire/embers into the coastal prairie

August 2019 - second 15-acre fire, mostly in the dunes

November 20, 2019 - MK 1 explosion; Nose cone north of HW 4; cable fence damaged (never fixed)

February 28, 2020 - explosion - SN1 - Big debris north of HW4

Dec 9, 2020 - explosion of SN8 - Big debris (LE managed); Space-X still dragged/damaged flats

Attachment G

From: [Gardiner, Dawn](#)
To: [Winton, Bryan](#); [Orms, Mary](#)
Subject: Re: DRAFT REPORT SN11 Anomaly - Rocket engine explosion @ 0.5-1 mile above the launch site - 3-30-21
Date: Wednesday, March 31, 2021 7:52:27 AM

Mary- in the current BA, we need them to describe their response to anomalies. Clean up and retrieval will be occurring in piping plover habitat, maybe red knot habitat and black rail habitat and aplomado. Maybe pipl critical habitat.

From: Winton, Bryan <[REDACTED]>
Sent: Tuesday, March 30, 2021 9:25 PM
To: Gardiner, Dawn <[REDACTED]> Orms, Mary <[REDACTED]>
Subject: Fw: DRAFT REPORT SN11 Anomaly - Rocket engine explosion @ 0.5-1 mile above the launch site - 3-30-21

FYI

The debris field is likely 2-3 miles. Majority is on north side of HW 4. Its the worst "anomaly" we've experienced thus far. There is the Full Moon now so tides are high, site is being inundated, and retrieval will be significantly delayed and or more costly (helicopter).

I'll forward a copy of the Final Report.

bryan

From: Winton, Bryan
Sent: Tuesday, March 30, 2021 9:22 PM
To: [REDACTED] <[REDACTED]> [REDACTED] <[REDACTED]>
<[REDACTED]> Garza, Rolando L <[REDACTED]> Stephanie Bilodeau
<[REDACTED]> Edler, Scot <[REDACTED]> Longoria, Gerardo
<[REDACTED]> David Kroskie <[REDACTED]>
Cc: Reagan Faught <[REDACTED]> Perez, Sonny <[REDACTED]>
Fernandez, Oralia Z <[REDACTED]>
Subject: DRAFT REPORT SN11 Anomaly - Rocket engine explosion @ 0.5-1 mile above the launch site - 3-30-21

This is a DRAFT report. I am requesting the TEAM review this summary, and provide feedback by 12pm Wednesday, so that a Complete Recommendation can be reviewed/recommended by TPWD.

Thank you to the staff from TPWD, NPS, CBBEP and FWS for responding to the 7:50am Space X Anomaly/explosion today at Boca Chica.

All staff arrived on-site at or near 1pm today, and stayed until ~6:15pm.

TPWD Biological staff (Liana Garcia and Andres Garcia) were granted the lead on-site to advise me, the POC for the incident, how they recommended Space-X proceed with removal of debris. Leo Alaniz was the Space-X POC.

NPS Cultural Resources Staff (Rolando Garza) and TPWD Cultural Resources Staff (David Kroskie) surveyed the debris field but were not able to access the piling (Historical Features) or the majority of the other cultural resources within the State Park. Coastal Bend Bays and Estuary Biological staff, Stephanie Bilodeau, surveyed the area for nesting birds, evidence of nest initiation, and any evidence of impact from the debris field or Space-X staff which were authorized by myself and the Team to walk the entire debris field in search of the 2nd Flight Termination Device, which is a FAA required safety item.

No GLO representatives were present.

The debris field consists of the entire rocket. Significantly more debris on the Boca Chica State Park, Lower Rio Grande Valley NWR, and, this time, the General Land Office properties, than occurred during the previous 2 Hopper and 3 SN anomalies.

Conditions: Due to Full Moon, and subsequent high tides, the debris field had been or is subject to inundation. From what was reported by Space-X, 90% of the debris is north of the launch site/north of HW4, due to height of rocket upon explosion, and prevailing south winds.

During the afternoon much of the debris was clearly visible partly lodged in or atop the wet/soft alkaline flats.

Staff were on stand-by until 4:45pm when the 2nd Flight Termination Device was located and removed. Upon removal, staff were cleared for access to the alkaline flats to determine substrate firmness and extent of debris field. Staff reported the debris field was much more extensive than when observing from HW4. Lots more large and smaller pieces of debris than previously. Due to height of explosion, much of the materials of larger size are lodged into the alkaline flat. Approximately 20 pieces of debris are of such size that they will require equipment for removal or use of helicopter for removal. The majority of the debris (~50%) appeared to be smaller size pieces that can be removed by hand, by walking on the flats, stockpiling the materials in a particular area onto the edge of 1 of 3 vegetated lomas, where ORV or other small equipment can be used at a later time to load and remove the debris--minimizing widespread ORV/ATV tracking about the flats in the soft substrate. This was a mutual Team recommendation. The Team determined that the least-damaging approach would be to allow foot access only at this time. POC Leo Alaniz was advised that Space-X could continue GPS location for all materials so that upon my arrival on Wednesday, 9am, Space-X may begin debris capable of being collected on foot for stockpiling. Alaniz stated Space-X would focus on debris removal on HW 4, for which there was substantial materials, including 1 of the 3 raptor engines.

TPWD and the Team did not collectively agree on an approach for future debris retrieval. TPWD recommended mats for accessing the larger items that are 0.3-0.5 miles from HW 4. Some items are well into the South Bay, so during high tide those items can be retrieved by boat ideally.

The question for Leadership at this time is can we delay the retrieval due to habitat conditions, and if so, for how long. Best case scenario, the flats will likely not be capable of drying until 3-5 days after Full Moon, and an anticipated northern expected to reach the Valley by Thursday evening. The northern will likely push tidal waters far into the flats up against HW 4. Notwithstanding a significant rain event accompanying the northern, the flats could potentially be in a state they can begin drying by this Friday.

As for removal of the 20+ larger debris items. Either Space-X will need to wait until the flats are dry/firm so equipment can access those items (still high level of expected damage/ruts), and seek assistance via Helicopter so that foot access to debris can be conducted along with slings and hand-carried equipment, and then helicopter removal and drop in a designated area off the State Park/Refuge. The Team did not unanimously agree on the preferred method of retrieval for large debris items, although some participating staff had not responded to any previous Hopper or SN incidents.

US Fish & Wildlife Service will continue to serve as lead for the incident. However, TPWD Leadership, along with FWS Sonny Perez should fine-tune what approach is recommended, so that I can implement the strategy identified.

Bryan Winton
Refuge Manager
Lower Rio Grande Valley National Wildlife Refuge


Attachment H

From: [Winton, Bryan](#)
To: [Gardiner, Dawn](#); [Orms, Mary](#)
Cc: [Elizondo, Iriz](#); [Perez, Sonny](#); [Reyes, Ernesto](#)
Subject: Fwd: [EXTERNAL] Upcoming Ops
Date: Friday, April 24, 2020 12:55:59 PM

The message indicates chance of debris in the refuge again. Sounds like this is a regular reoccurring risk of their activity which we never was aware of during NEPA. Bryan
Get [Outlook for iOS](#)

From: Davis Libbey <[REDACTED]>
Sent: Friday, April 24, 2020 1:33:02 PM
To: Winton, Bryan <[REDACTED]> Extranet Contact - Tom.hushen
<[REDACTED]> Extranet Contact - pedro.caballero-iii <pedro.caballero-iii@cbp.dhs.gov>; Extranet Contact - Jarrett.sheldon <[REDACTED]>
Cc: Rachael Tompa <[REDACTED]>
Subject: [EXTERNAL] Upcoming Ops

Team,
SpaceX has acquired the necessary closures to conduct overnight operations from Saturday 4/25 through Monday 4/27 for proofing tests on the SN4 vehicle. These tests will not lead to ignition to the risk of fire is LOW. As with any test op there is the risk of a low energy event that could potentially introduce debris into the refuge.

Davis R Libbey
Security Supervisor, South Texas
Space Exploration Technologies (SpaceX)
[REDACTED]
M: (321) [REDACTED]

"All that is required for the triumph of evil is that good men do nothing"

-E. Burke

Attachment I



United States Department of the Interior

FISH AND WILDLIFE SERVICE

South Texas Refuge Complex
Lower Rio Grande Valley National Wildlife Refuge



January 22, 2021

Daniel P. Murray
Manager, Safety Division
Federal Aviation Administration
800 Independence Ave., SW
Washington, D.C. 20591

Dear Mr. Murray:

It is our understanding that SpaceX is working with the Federal Aviation Administration (FAA) to prepare a draft Environmental Assessment (EA) for a Starship/Super Heavy launch program near Boca Chica, Cameron County, Texas. This program is occurring on land surrounded by the Lower Rio Grande Valley National Wildlife Refuge (Refuge). The FAA is holding a public scoping period to assist in determining the scope of issues for analysis in the draft EA. The following are U.S. Fish and Wildlife Service's (FWS) comments for consideration in your analysis:

National Environmental Policy Act (NEPA)

NEPA emphasizes cooperative consultation among agencies. 50 C.F.R. 1501.2(3) requires agencies to "...study, develop, and describe appropriate alternatives to recommend courses of action in any proposal which involves unresolved conflicts..." The process is intended to help public officials make decisions that are based on an understanding of the environmental consequences of federal agency actions and to protect the quality of the human environment, which includes ecological systems. In order to conduct a meaningful analysis consistent with the spirit and intent of NEPA, adequate and clear information regarding the proposed SpaceX activities is critical in developing informed analysis. 40 C.F.R. 1501.5(a) states that an agency shall prepare an EA for an action that is "...not likely to have significant effects or when the significance of the effects is unknown..." An environmental impact statement (EIS) may be the more appropriate NEPA pathway for this proposed action if significant effects cannot be avoided.

As stated in our previous correspondence dated October 7, 2020, and December 14, 2020 (attached); and reiterated here, the FWS does not concur with the FAA's determination that the action will not result in a "*constructive use*" of the Boca Chica Tract of the Lower Rio Grande Valley National Wildlife Refuge (Refuge). The FAA is subject to Section 4(f) regulations which "*require rigorous exploration and objective evaluation of alternative actions that would avoid all use of Section 4(f) properties...that would avoid some or all adverse effects*" (OEPC Section 4(f) Handbook, per 23 CFR § 774). Furthermore, 23 U.S.C. § 138 precludes the Secretary of Transportation from approving a program or project unless "*such program includes all possible planning to minimize harm*" to wildlife refuges. It is the FWS's opinion that FAA has failed to comply with its own regulations in this regard. Based on the Section 4(f) definitions, a "*constructive use*" occurs when there is "*a temporary occupancy of land that is adverse in terms of the statute's preservation purpose*" or when "*a project's proximity impacts are so severe that the protected activities, features, or attributes of a property are substantially impaired.*" The level, nature, and extent to which an area is constructively used is subject to the expertise and determination of the agency responsible for management and administration of the 4(f) lands impacted by the constructive use, in this case, the FWS. Frequent closures of the Refuge caused by SpaceX activities are already substantially impairing both the Refuge's ability to adequately manage the Refuge and the public's enjoyment of the Boca Chica Beach area for wildlife-dependent recreation. There are both "*adverse*" and "*severe*" impacts to Refuge public use, management, wildlife, and habitat from the SpaceX activities. The protected public activities on the Refuge that are being substantially impaired include fishing, wildlife observation, photography, environmental education, and interpretation. Annually an estimated 110,000 visitors access the Refuge for these uses. The majority are beachgoers or anglers visiting the Boca Chica tract and these activities occur throughout the year.

Since 2014, SpaceX has undertaken activities not covered in FAA's 2014 EIS which addressed only 12 launches per year, not continual experimentation related to the Starship/Super Heavy proposal as is currently being carried out. SpaceX activities not covered include a higher frequency of road closures extending well beyond 180 hours, large explosions from reported anomalies, the appearance of significantly large staffing, 24/7 operations, traffic, and construction activities not analyzed in the 2014 EIS. In addition, SpaceX rocket debris falling onto the Refuge has damaged the sensitive wind tidal flats. And, the vehicles or machinery used to retrieve rocket debris have created ruts and caused other damage that interrupts water sheet flow across these flats. Two SpaceX incidents on July 25, 2019 and again in August 2019 resulted in wildfires of 130-acres and 10-acres respectively burned through coastal prairie and dune habitats on refuge managed land. Anomalies resulting in explosions on November 20, 2019, February 28, 2020, and December 9, 2020 resulted in debris scattered onto refuge managed lands. Retrieval methods damaged the sensitive alkaline flat and refuge cable fencing installed to protect the area from disturbance.

Due to operations by SpaceX, the FWS's ability to maintain the biological integrity, diversity and environmental health of Refuge resources, as well as our ability to ensure the viability of the six wildlife-dependent recreational uses, has been significantly diminished at the Boca Chica tract. This occurs by preventing or constraining public access year-round, hampering biological and monitoring studies including sea turtle patrols, sea turtle cold-stunning responses, hampering refuge management and law enforcement patrol, increased observations of road mortality of wildlife at all hours of daytime and nighttime, damage to sensitive habitats such as the wind tidal flats and to the salt prairie from explosions and fires, as well as adversely impacting nesting

habitat for sensitive species. According to the Coastal Bend Bays and Estuaries Program, Wilson's and Snowy Plovers, have essentially stopped nesting near the SpaceX site in the last two years.

Currently, the FAA is requesting to increase the number of Refuge closure hours from 180 to 300 per year. The FWS believes the FAA/SpaceX closure reporting computation needs to be revised to consider the accounting of the extended closures occurring for anomalies or delays that are deterrents for public access to the Boca Chica tract and the beaches for the duration of all published closure timeframes. In 2019, the FWS recorded over 1,000 closure hours and SpaceX reported a total of 158 hours. When closures occur, all aforementioned wildlife-dependent recreational uses are substantially impaired because they are not available to the public. These features and attributes will be substantially impaired by increased closures.

The FAA has previously stated the road closures comprise only 2.1 percent of the total annual Refuge closure hours they calculated, which would appear to be minimal. However, the FAA's decision omitted the recreational hours lost to Refuge visitors. The Refuge is visited by approximately 110,000 visitors annually with 50% or more visiting the Boca Chica tract. Therefore, approximately 55,000 people visit the Boca Chica tract each year. Assuming each visitor to the Boca Chica tract spends only one hour there, closing access to the tract for 180 hours per year (the current closure rate) will result in a loss of 9,900,000 recreational hours per year. Increasing the number of closure hours to 300 per year will result in 16,500,000 recreational hours lost per year. This loss of public recreational hours is significant. Therefore, we reiterate that the impacts of the increased road closures are significant as that term is defined by NEPA and rise to the level of a substantial impairment and thus constitute a "*constructive use*," as defined under Section 4(f). We recommend FAA's NEPA analysis include adequate consideration of these unresolved issues.

Endangered Species Act (ESA)

The FWS is concerned about effects of SpaceX experimental rocket development activities and testing on endangered species. On three separate occasions in 2020, rocket launch failures resulted in explosions and the spread of debris on and off Refuge lands. Videos of these events show evidence of different species of birds being impacted by the blast. However, it is difficult to ascertain what species of migratory birds and/or birds listed as threatened or endangered under the ESA were harmed or harassed. We cannot determine if the blasts and fires resulted in harm (death or injury) to some of the birds or just harassed them. It is unknown if terrestrial species were killed or injured. There is documented evidence that the debris and its removal has impacted and scarred various habitats in the area, including tidal flats which are foraging habitat for the threatened piping plover and red knot. It is unclear how far vibration and noise resulting from the explosions and cleanup have impacted listed species, such as the ocelot, jaguarundi, and northern aplomado falcon. The FWS's inability to enter the action area immediately to survey the area hinders efforts to document these types of impacts before evidence is compromised or lost entirely.

The ESA prohibits the taking of endangered species except as provided for in sections 7 or 10. Since there is no way to promptly assess damages or collect injured or dead animal species, there is no mechanism to document whether SpaceX has exceeded the incidental take for individual species or habitat (sea turtles, ocelots, jaguarundi, piping plover, red knot, northern aplomado