U.S. DEPARTMENT OF TRANSPORTATION,
FEDERAL AVIATION ADMINISTRATION, AND
U.S. DEPARTMENT OF INTERIOR, NATIONAL PARK SERVICE

RECORD OF DECISION

Air Tour Management Plan for Arches National Park

INTRODUCTION

This Record of Decision (ROD) provides the Federal Aviation Administration's (FAA's) and the National Park Service's (NPS's) (together, the agencies) final determination to implement the Air Tour Management Plan (ATMP) for Arches National Park (Park), in accordance with the National Parks Air Tour Management Act (NPATMA), as amended, its implementing regulations (14 CFR Part 136), and all other applicable laws and policies. This ROD includes a summary of the applicable background, the objective of the action taken, a description of the action taken, a summary of consultation/compliance processes for the ATMP, an identification of substantive changes from the draft ATMP to the final ATMP, and an explanation of the basis and justification for measures taken in the ATMP.

BACKGROUND

The ATMP, Appendix A to this ROD, provides relevant background information regarding the Park and its resources, as well as relevant Park management objectives.

The National Parks Air Tour Management Act

NPATMA requires that all commercial air tour operators conducting or intending to conduct a commercial air tour operation over a unit of the National Park System apply to the FAA for authority to undertake such activity. 49 U.S.C. § 40128(a)(2)(A). NPATMA, as amended, further requires the FAA, in cooperation with the NPS, to establish an ATMP or voluntary agreement for each park that did not have such a plan or agreement in place at the time the applications were made, unless a park has been otherwise exempted from this requirement. *Id.* § 40128(b)(1)(A). The objective of an ATMP is to "develop acceptable and effective measures to mitigate or prevent the significant adverse impacts, if any, of commercial air tour operations upon the natural and cultural resources, visitor experiences, and tribal lands." *Id.* § 40128(b)(1)(B). An ATMP "may prohibit" commercial air tour operations over a national park in whole or in part, or "may establish" conditions for the conduct of commercial air tour operations over a park. *Id.* § 40128(b)(3)(A)-(B). The need for implementation of any measures taken in an ATMP must be justified and documented in the ATMP and within a record of decision. *Id.* § 40128(b)(3)(F).

As a threshold matter, the agencies needed to define what constitutes a commercial air tour so that they could implement NPATMA's requirements. As relevant here, FAA regulations define a commercial air tour as:

> [A]ny flight, conducted for compensation or hire in a powered aircraft where a purpose of the flight is sightseeing over a national park, within ½ mile outside the boundary of any national park, or over tribal lands during which the aircraft flies:
>
> (i) Below 5,000 feet above ground level (except for the purpose of takeoff or landing, or as necessary for the safe operation of an aircraft as determined under the rules and regulations of the Federal Aviation Administration requiring the pilot-in-command to take action to ensure the safe operation of the aircraft); [or]
>
> (ii) Less than 1 mile laterally from any geographic feature within the park (unless more than ½ mile outside the boundary) …

14 CFR § 136.33(d).

Because Congress understood that developing ATMPs that meet NPATMA's requirements could take some time, NPATMA provided that prior to the establishment of an ATMP, the FAA "shall grant interim operating authority" to existing air tour operators that apply for prospective operating authority. 49 U.S.C. § 40128(c)(1); H.R. Rep. No. 106-167, at 96. The interim operating authority (IOA) issued was required to be the greater of the number of commercial air tour flights over the park during the 12-month period prior to the enactment of NPATMA or the average number of commercial air tour flights within the 36-month period prior to the enactment of NPATMA. 49 U.S.C. § 40128(c)(2).

NPATMA was substantively amended in 2012. In addition to authorizing the agencies to enter into voluntary agreements with air tour operators in lieu of developing ATMPs, 49 U.S.C. § 40128(b)(7)(A), the 2012 amendments added reporting requirements for operators conducting commercial air tour operations over national parks. Id. § 40128(d). In addition, the amendments exempted parks with 50 or fewer commercial air tours from the requirement to prepare an ATMP or voluntary agreement, unless this exemption was withdrawn by the NPS. Id. § 40128(a)(5).

The Compliance Plan

On February 2019, a petition for a writ of mandamus was filed in the U.S. Court of Appeals for the District of Columbia in which the petitioners requested an order directing the agencies to establish an ATMP or voluntary agreements under NPATMA for seven specified National Park System units within two years of such order. *In Re: Public Employees for Environmental Responsibility*, 957 F.3d 267, 271 (D.C. Cir. 2020). On May 1, 2020, the Court granted the petition, holding that the agencies had a mandatory duty to establish ATMPs or voluntary agreements for eligible parks under NPATMA and that mandamus relief was warranted based on delay in performance of this duty and consideration of the relevant factors. *Id.* at 273; Per Curiam Order, May 1, 2020 (Mandamus Order). The Mandamus Order directed the agencies to submit, by August 31, 2020, a proposed plan for bringing all 23 eligible parks within the National Park System into compliance with NPATMA, by completing an ATMP or voluntary agreement for those parks, within two years—or to offer "specific, concrete reasons" why it will take longer than two years. *Id.* The Court retained jurisdiction to approve the agencies' plan and to monitor their progress, and directed the agencies to submit quarterly progress updates.

Consistent with the Court's order, agencies submitted a proposed plan and schedule (Compliance Plan). In general, the Compliance Plan contemplated initiating and moving forward with a process to implement ATMPs for all eligible parks concurrently as part of a coordinated, omnibus effort. Because Arches National Park was one of the 23 parks identified as requiring an ATMP or voluntary agreement under NPATMA, it was included in the Compliance Plan which was subsequently approved by the D.C. Circuit.

The Planning Process and Public Engagement

As no ATMP had previously been implemented for any park at the time the agencies submitted the Compliance Plan to the Court, as an initial step in this process, the agencies worked collaboratively to determine the contents of and process for completing an ATMP that would be consistent with NPATMA. Together, they developed a template which could then be modified and tailored to meet the specific needs and address the unique circumstances of each park included in the planning process. Further, because air tours have been occurring over parks for decades, the agencies had institutional experience and data to draw upon in developing the ATMP template and in determining how to regulate commercial air tours over the Park.

The agencies also worked to identify the existing condition of commercial air tours over the Park and outside the Park but within ½ mile of its boundary, i.e., the number of commercial air tours conducted per year and the general operating parameters of those tours. Currently eight commercial air tour operators hold IOA to conduct a combined total of 623 commercial air tours over the Park each year.[1] However, five of those operators have not reported flying any air tours over the Park since NPATMA's reporting requirements were implemented in 2013. Three operators with IOA for the Park, Arrow West Aviation, Inc. / Slickrock Air Guides, Inc. (Redtail Aviation), Bruce M. Adams d/b/a Southwest Safaris (Southwest Safaris), and American Aviation, Inc., d/b/a/ Frog Air and American Air Charter (American Aviation) conducted commercial air tours over the Park from 2017 to 2019. IOA includes only an annual cap on the number of commercial air tours that may be conducted by an operator, but does not designate the route(s), time-of-day, altitude(s), or other conditions for such tours.

The agencies decided to use a three-year average of operator-reported air tours to identify the existing condition, rather than reports from a single year. In order to identify the three-year average, the agencies decided to use reported air tours from 2017, 2018, and 2019. These years were selected because they reflected relatively current air tour conditions, represented reliable operator reporting of air tours, accounted for variations across multiple years, and excluded 2020 which was atypical due to the COVID-19 pandemic. The agencies also decided against using 2021 data due to continued abnormalities associated with the COVID-19 pandemic and the unavailability of reporting data for 2021 during most of the planning effort. The chart below depicts available reporting information regarding the number of commercial air tours conducted on an annual basis.

[1] Previous public facing documents incorrectly stated that there was IOA for 566 commercial air tours over the Park per year. This appears to have resulted from an addition error.

	2013	2014	2015	2016	2017	2018	2019	2020[2]
Redtail Aviation	105	75	96	268	388	222	298	159
Southwest Safaris	10	8	10	6	5	3	7	5
American Aviation	0	0	0	0	2	0	0	0

In order to identify the general operating parameters of the air tours conducted, the FAA reached out to the three operators that currently conduct air tours over the Park to identify current air tour routes and other operating conditions.

- Southwest Safaris reported that it conducts commercial air tours on one route over Park using a CE-182-R and CE-207-T207A fixed-wing aircraft. The altitudes flown by Southwest Safaris ranges from 1,000 feet (ft.) to 1,500 ft. above ground level (AGL)[3] depending on the location over the Park.
- Redtail Aviation reported that it conducts commercial air tours on two routes over the Park at an altitude of 2,900 ft. AGL using GIPPS-GA-8, CE-172-N, CE-207-207, CE-207-T207A, and Kodiak-100-100 fixed-wing aircraft.
- American Aviation reported that it conducts commercial air tours on one route over the Park, at an altitude of 2,900 ft. AGL, using CE-172-N, CE-207-207, and CE-207-T207A fixed-wing aircraft.

Based on the three-year average of reporting data from 2017-2019, Redtail Aviation conducts an average of 303 commercial air tours over the Park each year; Southwest Safaris conducts an average of five commercial air tours over the Park each year; and American Aviation conducts an average of one commercial air tour over the Park each year. The reporting data indicates that in 2017, the busiest year from 2017-2019, commercial air tours occurred on 220 days. For the majority of those days, two flights a day occur. The majority of commercial air tours are conducted between 8:00AM and 12:00PM. Tours may occur any day of the week.

The air tour routes provided by the operators were modeled to predict noise effects using the FAA's Aviation Environmental Design Tool, a software system that models aircraft performance in space and time to estimate fuel consumption, emissions, noise, and air quality. This information was then considered, in addition to acoustic monitoring information, and analyzed by subject matter experts from the NPS's Natural Sounds and Night Skies Division, the NPS's Environmental Quality Division, the NPS Intermountain Regional Office, and the Park. The interdisciplinary team, which included biologists, the Park's environmental protection specialist, the Park's ecologist, the Park's Cultural Resource Program Manager, the Park's Archeologist, and Planning, Compliance and National Environmental Policy Act (NEPA) specialists from the NPS Regional Office, conducted a series of biweekly meetings to identify a proposed action. In these meetings, the subject matter experts considered the routes and operations that were occurring, the Park's noise sensitive resources, and the Park's existing and natural acoustic environment, visitor experience, and potential mitigation or protective measures that could be included in an ATMP.

[2] Based on unpublished reporting data.
[3] Altitude expressed in AGL units is a measurement of the distance between the ground surface and the aircraft.

The proposed action identified by the NPS and justifications for restrictions on air tours were further reviewed by the FAA, including the FAA's local Flight Standards District Office (FSDO), for any aviation safety concerns. During this time, the agencies conducted preliminary environmental analysis to identify the appropriate NEPA pathway for a draft ATMP; initiated consultation pursuant to Section 106 of the National Historic Preservation Act, including tribal consultation; and, began preliminary analysis for potential effects on listed species and critical habitat consistent with Section 7 of the Endangered Species Act.

NPATMA requires that the agencies publish notification of the availability of a draft ATMP in the Federal Register for public comment and hold at least one public meeting for each draft ATMP. The FAA published a notice of availability of the draft ATMP for Arches National Park in the Federal Register on September 3, 2021. Public Meeting/Notice of Availability for Proposed Air Tour Management Plans at Bandelier National Monument; Great Smoky Mountains National Park; Arches National Park; Glacier National Park; Canyonlands National Park; Natural Bridges National Monument; and Bryce Canyon National Park, 86 Fed. Reg. 49,593 (Sept. 3, 2021). The agencies held the public meeting for the draft ATMP for Arches National Park on September 20, 2021, and accepted public comments between September 3 and October 3, 2021. The agencies received 450 comment letters on the draft ATMP, 370 of which were form letters and 80 of which were unique individual letters. The agencies' review and analysis of the public comments, including comments regarding draft ATMPs for other parks that were generally applicable to the Arches ATMP, were used to inform this ROD, the final ATMP, and the attached environmental compliance documentation.

OBJECTIVE

The objective of the ATMP is to implement "acceptable and effective measures to mitigate or prevent the significant adverse impacts, if any, of commercial air tour operations upon the natural and cultural resources, visitor experiences, and tribal lands." 49 U.S.C. § 40128(b(1)(B).

The ATMP is necessary for the following reasons:

- An ATMP or voluntary agreement for Arches National Park is required by NPATMA. The agencies have chosen to satisfy this requirement by implementing an ATMP.
- Currently, commercial air tours are operating under IOA which does not include mitigation measures that the NPS believes are necessary to protect Park resources and values, consistent with the NPS's obligations under the National Park Service Organic Act, the 2006 NPS Management Policies, and the Park's enabling legislation, and to achieve Park management objectives.

DESCRIPTION OF ACTION

The agencies will implement the ATMP for Arches National Park, and the FAA will update the operations specifications (OpSpecs)[4] of all air tour operators with IOA for the Park to incorporate the terms and conditions of the ATMP. The ATMP authorizes the existing condition of commercial air tour operations, based on the three-year average of such operations from 2017-2019, with measures designed to mitigate impacts to Park resources and visitor experience as a result of commercial air tour operations. It also includes additional measures required by NPATMA. In general, the ATMP:

- Authorizes up to 309 commercial air tours per year on designated routes specific to each operator that are based substantially on the existing routes flown, though some routes have been consolidated for operational safety, as depicted on an included map (*see* Figure 2 in the ATMP, Appendix A to this ROD).
- Requires commercial air tours to maintain minimum altitudes expressed in mean sea level (MSL),[5] as depicted on an included map, with limited exceptions for takeoff, landing, and emergency situations. Flying the assigned MSL altitudes mean that commercial air tours will not fly lower than 2,600 ft. AGL referencing the topographic high point within ½ mile of the flight path for the entirety of all air tour routes authorized by the ATMP.
- Authorizes specific types of aircraft to be used on the tours and specifies that any new or replacement aircraft must not be noisier than the authorized aircraft.
- Provides that commercial air tours may not operate until one hour after sunrise and must end by three hours before sunset, unless they have been approved by the agencies for the quiet technology incentive, in which case they may operate tours within one hour of sunset.
- Provides for the establishment of no-fly periods by the NPS for Park management or special events, including tribal events, with advance notice to the operator.
- Provides for operator training and education, as well as annual meetings between the FAA Flight Standards District Office, Park staff, and the operator.
- Requires operators to install and use flight monitoring technology on all authorized commercial air tours, and to include flight monitoring data in their semi-annual reports to the agencies, along with the number of commercial air tours conducted.
- Includes safety requirements relating to in-flight communications.
- Allows for minor modifications to the ATMP through adaptive management, so long as the impacts of such changes have already been analyzed in previous environmental compliance.

[4] OpSpecs are issued by the FAA to each operator and prescribe the authorizations, limitations, and procedures under which air tour operations must be conducted and require certain other procedures under which each class and size of aircraft is to be operated.

[5] MSL refers to the altitude of an aircraft above sea level, regardless of the terrain below it. Aircraft flying at a constant MSL altitude would simultaneously fly at varying altitudes AGL, and vice versa, assuming uneven terrain is present below the aircraft.

- Includes specific adaptive management measures to protect California condors if they are identified in the Park in the future, though condors are not presently found in the Park.
- Outlines a process for amending the ATMP.
- Provides information regarding the process for operators to apply for operating authority as a new entrant.
- Sets forth a general process for conducting competitive bidding for air tour allocations, where appropriate.
- Explains that compliance with terms of the ATMP will be mandatory, and IOA for the Park will be terminated, as of the effective date of the ATMP (the date the revised or updated OpSpecs are issued to implement the ATMP) which will be on or before 90 days from the date the ATMP is signed

CONSULTATION AND COMPLIANCE

- **National Environmental Policy Act:** The NPS applied a documented categorical exclusion to the ATMP. The categorical exclusion that the NPS applied is set forth in the Department of the Interior, Departmental Manual at 516 DM 12.5 A(1), and is reproduced in the NPS NEPA Handbook at categorical exclusion 3.3.A.1. It applies to "[c]hanges or amendments to an approved action when such changes would cause no or only minimal environmental impacts." Here, the "approved action" is the IOA issued by the FAA consistent with NPATMA, which was a non-discretionary authorization directed by Congress. The agencies used the NPS environmental screening form to document that there are no or minimal impacts from the ATMP. The NPS evaluated the extraordinary circumstances in 43 CFR § 46.215 and determined that no extraordinary circumstances apply and the ATMP will not result in significant impacts. The FAA performed its own extraordinary circumstances analysis and analysis under Section 4(f) of the Department of Transportation Act, codified at 49 U.S.C. § 303(c), and adopted the NPS's categorical exclusion determination pursuant to 40 CFR § 1506.3(d). *See* Appendices B, C, and D.

- **Endangered Species Act:** The agencies completed informal consultation with the U.S. Fish and Wildlife Service regarding the ATMP. The agencies reviewed existing information on threatened and endangered species within the Park and evaluated the impacts of the ATMP on those species. In coordination with U.S. Fish and Wildlife Service, the agencies determined that there would be no effect from the ATMP on eight threatened or endangered species (six species of wildlife and two species of flowering plants). The ATMP implements designated routes, required minimum altitudes, imposes annual limits on commercial air tours, and implements the avoidance measures recommended for the California condor (*Gymnogyps californianus*) and the Mexican spotted owl (*Strix occidentalis lucida*) in accordance with the U.S. Fish and Wildlife Service's Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances (Raptor Guidelines). Via letter dated April 6, 2022, the agencies submitted their determination that the ATMP may affect, but is not likely to adversely affect, both California condor and Mexican spotted owl and has no effect on Mexican spotted owl critical habitat. The U.S. Fish and Wildlife Service concurred with this determination on May 3, 2022. *See* Appendix E.

National Historic Preservation Act: The agencies complied with Section 106 of the National Historic Preservation Act and completed the Section 106 consultation process with respect to this undertaking—implementing an ATMP for Arches National Park. The FAA, acting as lead agency for the Section 106 process, initiated consultation under Section 106 with 31 federally recognized tribes. Via letter dated March 26, 2021, the FAA initiated consultation with the following tribes: Hopi Tribe of Arizona; Jicarilla Apache Nation, New Mexico; Kaibab Band of Paiute Indians of the Kaibab Indian Reservation; Las Vegas Tribe of Paiute Indians of the Las Vegas Indian Colony, Nevada; Moapa Band of Paiute Indians of the Moapa River Indian Reservation, Nevada; Navajo Nation, Arizona, New Mexico & Utah; Paiute Indian Tribe of Utah; Pueblo of Acoma, New Mexico; Pueblo de Cochiti, New Mexico; Pueblo if Isleta, New Mexico; Pueblo of Jemez, New Mexico; Pueblo of Laguna, New Mexico; Pueblo of Nambe, New Mexico; Pueblo of Picuris, New Mexico; Pueblo of Pojoaque, New Mexico; Pueblo of San Felipe, New Mexico; Pueblo of San Ildefonso, New Mexico; Pueblo of Sandia, New Mexico; Pueblo of Santa Ana, New Mexico; Pueblo of Santa Clara, New Mexico; Pueblo of Taos, New Mexico; Pueblo of Tesuque; Pueblo of Zia, New Mexico; Rosebud Sioux Tribe of the Rosebud Indian Reservation; Southern Ute Indian Tribe of the Southern Ute Reservation, Colorado; Ute Indian Tribe of the Uintah & Ouray Reservation, Utah; Ute Mountain Tribe of the Ute Mountain Reservation, Colorado, New Mexico & Utah; Ysleta Del Sur Pueblo; and Zuni Tribe of the Zuni Reservation, New Mexico. In the same letter, the agencies also invited these tribes to engage in government-to-government consultation under Executive Order 13175.[6] The FAA then initiated consultation via letter to the Utah State Historic Preservation Officer (SHPO) and most other identified Section 106 consulting parties on March 29, 2021. On April 15, 2021, the FAA invited the Rosebud Sioux Tribe to consult via letter. In June 2021, the FAA also identified the Navajo Nation as a new consulting party and initiated consultation via letter on June 1, 2021. The FAA also initiated consultation with two operators (American Aviation; Redtail Aviation) on August 6, 2021.

Via the same and/or subsequent letters the FAA identified the area potentially affected by the undertaking, requested information regarding historic properties within the area of potential effects and proposed a finding of no adverse effect to historic properties as a result of the undertaking. The undertaking was defined consistent with the proposed action in the Categorical Exclusion Form, Appendix C, and is discussed above. Unless a tribe affirmatively opted out of consultation (as have the Kaibab Band of Paiute Indians of the Kaibab Indian Reservation; Moapa Band of Paiute Indians of the Moapa River Indian Reservation, Nevada; Pueblo of San Ildefonso, New Mexico; Pueblo of Sandia, New Mexico; and Pueblo of Santa Ana, New Mexico) the identified tribes were copied on all correspondence with the SHPO regarding Section 106 consultation. Two tribes—the San Juan Southern Paiute Tribe of Arizona and the White Mesa Ute Community—did

[6] The Pueblo of Acoma accepted the agencies' invitation to consult on a government-to-government level and met virtually with the agencies on August 11, 2022. None of the other tribes indicated an interest to consult on a government-to-government level so tribal consultation for the other tribes regarding the undertaking occurred exclusively under the Section 106 framework.

not receive the March 26, 2021, Section 106 initiation letters but were subsequently included in the consultation and copied on subsequent consultation letters.

During the consultation process, the agencies conducted additional outreach to consulting parties for this undertaking and for other ATMPs included in the current planning process via webinar. The agencies conducted webinars on April 28, May 4, and May 6, 2021, for SHPOs, tribes, and other identified consulting parties to introduce key agency participants and the air tour management planning process, and to discuss next steps in the Section 106 process. The FAA also held a webinar for commercial air tour operators currently conducting air tours over any of the parks included in the planning process on November 19, 2021, to introduce them to the Section 106 consultation process. In addition, the FAA conducted further outreach efforts to the tribes identified as consulting parties for this ATMP, which is detailed in Appendix F.

Public involvement for this undertaking was integrated with the public involvement required under NPATMA, discussed above. During the public comment period for the draft ATMP, the agencies did not receive any comments related to historic properties or the undertaking's potential effect on them. *See* Appendix H.

The FAA proposed a finding of no adverse effect to the SHPO. The SHPO concurred with the FAA's proposed finding. The FAA did not receive any objections to the finding. *See* Appendix F.

- **Aviation Safety:** The draft ATMP, in particular the routes and altitudes included in the draft ATMP, was reviewed by the FAA's FSDO[7] with jurisdiction, to identify and address any safety concerns associated with the draft ATMP. The FAA's FSDO also reviewed all public comments received on the draft ATMP that raised safety concerns as well as the routes and altitudes included in the final ATMP.

CHANGES FROM THE DRAFT ATMP

In addition to minor, editorial changes made for clarity, the final ATMP includes the following substantive changes from the draft ATMP made in response to public comments on this or other draft ATMPs,[8] or based on further agency review, as follows:

- **Section 3.2 Commercial Air Tour Routes and Altitudes**

In response to general comments expressing safety concerns regarding time-of-day restrictions, designated routes, and minimum altitudes included in the draft ATMPs for the four Utah parks included in the Compliance Plan (Arches National Park, Bryce Canyon National Park, Canyonlands National Park, and Natural Bridges National Monument), the agencies requested a second review of the operating conditions the draft ATMP from the FSDO with jurisdiction. Specifically, the comments expressed concerns that the designated routes and

[7] A FSDO is a local FAA field office that deals with various aviation issues including airmen and aircraft certifications, accident investigations, and enforcement and investigation issues.

[8] In August and October of 2021, the agencies released an additional five draft ATMPs covering eight other parks for public review and comment.

required minimum altitudes in the draft ATMPs exceeded 10,000 ft. MSL and would require the passengers and pilot to be on supplemental oxygen. Although the routes included in the draft ATMP for the Park did not require aircraft to fly more than 10,000 ft. MSL for a significant period of time meaning that there would not be a requirement for supplemental oxygen for tours over the Park, the FSDO modified and streamlined the designated routes in the draft ATMP to deconflict the airspace while at the same time maintaining the necessary protections for raptors consistent with the Raptor Guidelines that recommend avoidance of raptors by ½ mile or 2,600 feet. In particular, Redtail Aviation's two routes (red and green) were consolidated to the extent practicable within the ATMP planning area, and a portion of American Aviation's route (blue route) was consolidated with Redtail Aviation's routes. Additionally, minor adjustments to minimum MSL altitudes were made as the Raptor Guidelines recommend avoidance of 1/2 mile or approximately 2,600 ft. AGL, not the 2,900 ft. AGL included in the draft ATMP. The minimum MSL altitudes included in the final ATMP still comply with the Raptor Guidelines because they still mean that the air tours will be at least 2,600 ft. AGL along the designated routes and for 1/2 mile laterally on either side of the designated routes, referencing the topographic high point within ½ mile of the designated routes. These route and altitude modifications are depicted in the map designated as Figure 2 and included in the ATMP, Appendix A.

- **Section 3.4 Day/Time**

The agencies modified the time-of-day restrictions included in the draft ATMP in response to comments expressing safety concerns. The draft ATMP which provided that commercial air tours could only operate beginning two hours after sunrise and must end two hours before sunset. Concerns were expressed that these restrictions would force operators to fly during times of the day when the prevailing winds are strongest and that the heat of the day increases chances of less reliable flying conditions. In order to address this concern, the agencies modified the restriction in the final ATMP, which provides that commercial air tours may only operate beginning one hour after sunrise and must end three hours before sunset. The modification still provides four daytime hours during which no air tours would be permitted to operate over the Park (except for flights that qualify for the quiet technology incentive) and maintains protections in place for the hour after sunrise and the hour before sunset which are important times for wildlife and visitor experience.

- **Section 3.7D Non-transferability of Allocations**

In response to comments questioning the transferability of air tour operations allocated under the ATMP, the agencies included language to make clear that allocations of annual air tour operations are not transferable between operators. But a successor purchaser may assume an operator's allocation of annual air tour operations by acquiring an entity holding allocations under this ATMP in its entirety. In order to avoid a break in service and to afford the agencies the necessary time to consult regarding modifications to OpSpecs, the ATMP requires that the prospective purchaser notify the agencies as early as possible of their intention to purchase the entity holding allocations and to certify that it will comply with the terms of the ATMP.

- **Section 3.8 Quiet Technology Incentives**

The agencies revised the language in Section 3.8 regarding the quiet technology incentive required by NPTMA in response to comments on this and other draft ATMPs requesting a

definition of the term "quiet technology" or suggesting a definition for such term. The agencies have not included a definition of quiet technology in the ATMP. Instead, the ATMP provides for a consultation with operators regarding which of their aircraft qualify for the incentive at the time this ATMP is implemented. Subsequently, should operators wish to purchase new aircraft or make appropriate modifications to existing aircraft, they are encouraged to consult with the agencies prior to making such investment to determine whether the aircraft would qualify for the incentive. In response to comments regarding whether the incentive should or should not be applied retroactively to aircraft that may already qualify for the incentives, the agencies revised the language in the ATMP to make clear that the incentive may apply to operators that have already converted to quiet technology aircraft, if the agencies determine that they qualify for the incentive. To do otherwise, would unfairly penalize operators that were early adopters of quiet technology. The language in this section was also modified to make clear that not only will the effectiveness of the quiet technology incentive be monitored, but the effects of this incentive on Park resources and visitor experiences will be monitored by the NPS. If unanticipated effects are observed, the agencies may need to amend the ATMP to modify this or other sections. The quiet technology incentive itself—allowing aircraft that have converted to quiet technology to operate commercial air tours beginning one hour after sunrise or ending one hour before sunset —did not change from the draft ATMP to the final ATMP.

- **Section 5.0 Justification for Measures Taken**

This section was Section 4.0 in the draft ATMP. It was moved as a result of comments on one or more draft ATMPs expressing the opinion that the monitoring and compliance measures were not justified or explained. In order to include a justification for these requirements in the same section as the explanations for the other requirements included in the ATMP, the agencies thought it made more logical sense to move Section 5.0, *Compliance*, as well as Section 5.1, *Aircraft Monitoring Technology*, forward in the ATMP, and they are Sections 4.0 and 4.1, respectively, in the final ATMP. Additional changes to this section better align the justification for the annual operator training with purpose of the training and the justification for the annual meeting with the purpose of this meeting. Though these requirements may be combined, they are separate requirements with slightly different justifications.

- **Section 4.0 Compliance, Section 10.0 Conformance with Operations Specifications, and Section 11.0 Effective date**

These sections were revised to make clear that the effective date of the ATMP is the date on which the operators' updated OpSpecs implementing the ATMP are issued by the appropriate FSDO. Because OpSpecs are used to inform the operators of the conditions under which they must operate and will be relied on by the FAA to enforce the terms and conditions of the ATMP, if necessary, it made sense for the effective date of the ATMP to be tied to the date that OpSpecs are modified and reissued to the operator and not to some other date. Section 4.0 of the ATMP (Section 5.0 in the draft ATMP) was revised to delete language that incorrectly assumed that there would be a difference between the effective date of the ATMP and modification of OpSpecs. Section 10.0 of the ATMP was revised to make clear that the FAA will issue new OpSpecs that incorporate the ATMP's operating parameters within 90 days of the date the ATMP is signed. Section 11.0 of the ATMP was revised to make clear that the effective date is the date new OpSpecs are issued, not some other date. In response to public comments, Section 4.0 Compliance was also revised to make clear that the public may report allegations of

noncompliance and that the appropriate FSDO will investigate written reports of noncompliance consistent with FAA policy.

- **Section 4.1 Aircraft Monitoring Technology**

This section (which was Section 5.1 in the draft ATMP) was revised because the draft ATMP included the incorrect version of this section. The final ATMP includes the correct version and differs from the version included in the draft ATMP in certain respects. The version included in the ATMP makes clear that operators are required to use flight monitoring technology when conducting air tours authorized by the ATMP, that the flight monitoring data should be included as an attachment to their semi-annual reports, that it must be submitted in an agency-approved file format, and that the data submitted must include a unique flight identifier and aircraft model. The revised language also identifies additional information to be included in the reports and specifies that the ping rate for the flight monitoring technology should be set to a maximum of 15 seconds.

- **Additional changes**

In addition to the above changes, the draft ATMP was edited to clarify that the restrictions imposed by the ATMP apply not only when the operator is flying over lands or waters within the Park boundary but also when the operator is flying over lands or waters outside of the Park boundary that are within ½ mile of the boundary. Further edits were made to explain that there are no tribal lands within or abutting the Park, that the restrictions in the ATMP are protective of tribal use of the Park, and that adaptive management measures could be taken in response to tribal input.

Appendix A to the ATMP was revised to expressly state that IOA for the Park terminates on the effective date of the ATMP. Given that the operators will be required to fly consistent with the reissued OpSpecs, it would be inconsistent with the terms of the ATMP for IOA to remain after the ATMP is implemented. Though NPATMA provides that IOA "shall terminate 180 days" after the establishment of an ATMP, the agencies do not interpret this provision as precluding an earlier termination consistent with the terms and conditions of an ATMP. *See* 49 U.S.C. § 40128(c)(2)(E). Appendix A was also revised to include an aircraft authorized to be used by Southwest Safaris during the time period from 2017-2019 that was inadvertently omitted from the draft ATMP.

BASIS AND JUSTIFICATION FOR DECISION

- **Annual limit of commercial air tours**

The ATMP implements the existing condition, based on operator reported data, with respect to the number of authorized air tours. The agencies decided to implement the existing condition because the NPS determined that impacts associated with the existing condition, together with reasonable mitigation measures, would not result in significant adverse impacts of commercial air tour operations upon the natural and cultural resources, visitor experiences, and tribal lands. The agencies decided to use a three-year average of operator-reported air tours to identify the existing condition, rather than reports from a single year, because using an average would account for variations across multiple years. Although the State of Utah suggested that the three-year average from 2017-2019 was not sufficient, and opined that a 20- or 30-year average

would be more appropriate, the agencies declined to adopt this suggestion. The agencies found that more recent data more accurately represents current trends and, regardless, as reporting data has only been available since 2013, this suggestion is not implementable.[9]

Some commenters advocated for the elimination of air tours or consideration of a no air tours alternative. While NPATMA does state that an ATMP may ban air tours, it also contemplates that air tours may be an appropriate use over parks subject to restrictions that reduce significant impacts on park resources and visitor experience. The agencies believe that the operating parameters and other conditions in the ATMP provide appropriate restrictions and that there are no significant impacts to Park resources and visitor experience.

Although some commentors suggested that the ATMP should include a permanent cap on the number of air tours, NPATMA specifically provides an opportunity for the amendment of ATMPs which would allow the agencies to evaluate the impacts of additional air tours in the context of a concrete proposal. The amendment process requires additional public involvement and further environmental compliance. Similarly, air tour authorizations could be reduced either as a result of noncompliance or through an ATMP amendment. And, while some commenters advocated for daily or monthly flight limits, or designated no-fly days weekly, the agencies did not find such limits necessary due to the number of air tours (309 per year) authorized by the ATMP. Based on the operator's reported operations, daily, weekly, or monthly flight caps were not deemed necessary.

The agencies did not use IOA as the number of air tour operations authorized under the ATMP because IOA was based on numbers reported by operators more than 20 years ago, does not represent the most current or reliable operational data, and is not verifiable by the agencies. As demonstrated by available reporting data, actual tours flown have been below IOA from 2013 to 2019. Some commenters opposed the limits on the number of air tours included in the ATMP and advocated for an increase in the number of authorized air tours per year. The agencies declined to increase the number of air tours authorized per year above the existing condition (the three-year average from 2017-2019) for the following reasons. First, at the outset of this planning process the agencies used available reporting data, operator provided routes, and other available information in order to model the existing condition and the impacts of the ATMP including proposed mitigations. The agencies could not, and should not be required to, continually shift their planning efforts, and expend further resources, to and model account for continually shifting data and also complete an ATMP for the Park consistent with the Compliance Plan. Second, the ATMP includes mitigation measures, including a minimum altitude, annual and daily limits on air tours, and route modifications. These mitigation measures were designed to mitigate the impacts of commercial air tours on Park resources, visitor experience, and tribal use and to meet NPS management objectives for the Park. Further increases in the annual limit of commercial air tours would be more likely to have impacts to these resources that could prevent

[9] The State of Utah also commented that the FAA and NPS should be taking steps to regulate private tours. All such tours that meet the definition of a commercial air tour under NPATMA and the FAA's implementing regulations are regulated under the ATMP. NPATMA does not authorize the agencies to regulate private tours that do not meet the definition of a commercial air tour in 14 CFR 136.33(d) through an ATMP.

the NPS from achieving its Park management objectives. Third, the ATMP amendment process could allow for an increase in the number of commercial air tours authorized per year and would permit the agencies to evaluate the potential impacts of any additional air tours in the context of a concrete proposal from the operator that includes sufficient information for the agencies to assess the effects of such a proposal on Park resources. Fourth, though some commenters argued that the average of air tours from 2017 to 2019 was artificially low due to an airport closure and a strong U.S. Dollar, reporting data since 2013 (when reporting data became available) does not support this assertion. The highest and second highest number of commercial air tours over the Park were reported in 2017 and 2019, respectively.

- **Designated routes and minimum altitude**

The ATMP includes designated routes for each operator, which are based on operator reported routes. However, due to operator-raised concerns regarding the designated routes and minimum altitude the agencies re-reviewed the routes and, per the recommendation of the FSDO with jurisdiction, modified them from the existing reported routes to consolidate them to deconflict the airspace.

The ATMP also designates minimum altitudes for each route, expressed in MSL, which vary depending on the aircraft's location over the Park. Though some commenters advocated for higher minimum altitudes than those included in the draft ATMP, including minimum altitudes higher than 5,000 ft. AGL,[10] and questioned the varying altitudes as expressed in MSL, the agencies declined to raise the minimum altitudes required. Adherence to the designated routes and minimum altitudes in the ATMP means that no flights will fly lower than 2,600 ft. AGL referencing the topographic high point within 1/2 mile laterally on either side of the flight path. Thus, the ATMP maintains a ½-mile spatial buffer for raptor protection in accordance with the Raptor Guidelines.[11] As noted above, MSL refers to the altitude of an aircraft above sea level, regardless of the terrain below it, whereas AGL refers to the altitude of an aircraft above ground level. The variations in the minimum altitude MSL required in the ATMP are thus the result of variations in the topography and reflect a minimum altitude of 2,600 ft. AGL for tours both over the Park and outside the Park that are within ½ mile of the Park's boundary.

The NPS interdisciplinary planning team considered the routes included in the ATMP, which are modified from the routes reported by the operators, and also considered whether

[10] Because the term commercial air tour over a national park is defined by regulation as a flight below 5,000 ft. AGL, 14 CFR § 136.33(d)(i), raising the altitude AGL to more than 5,000 ft. AGL would be tantamount to a ban on commercial air tours over the Park or outside the Park but within ½ mile of its boundary.

[11] The State of Utah commented that the Raptor Guidelines require only a minimum avoidance of 1,000 feet for raptor protection. This is a misreading of the Guidelines. Though they do recommend a minimum of 1,000 ft. buffer where intrusions into the ½ mile buffer "must occur," this is intended to address circumstances where an aircraft is required to deviate from the 1/2-mile buffer in an emergency. It does not apply in situations where, as here, regular operations would be authorized. In those situations, the Guidelines recommend a ½ mile or 2,600 ft. buffer for raptor protection.

modifications were needed to protect Park resources and values. Having considered the routes and altitudes in the ATMP, together with the other restrictions and mitigation measures in the ATMP, the NPS found they were sufficient to protect the Park's natural and cultural resources and visitor experience.

- **Hours of operation**

The ATMP authorizes air tours to operate beginning one hour after sunrise until three hours before sunset unless the aircraft qualifies for the quiet technology incentive, a mitigation measure that offers resource protection during times of day which are important to wildlife and visitor experience. As noted above, the agencies changed the hours of operation from the draft ATMP due to safety concerns raised in the public comment process. Though commenters requested changes further restricting the hours during which commercial air tours are permitted to operate, the agencies declined to change these operating parameters because the NPS found the hours of operation in the ATMP, together with the designated routes, minimum altitudes, and other conditions in the ATMP to be sufficiently protective of the Park's natural and cultural resources and visitor experience.

- **Annual meetings**

The ATMP requires operators to attend an annual meeting at the request of either agency. Commenters requested changes to these provisions including making the meetings public and requiring that the operators distribute certain materials to passengers. The agencies declined to change these provisions of the ATMP. It is important to allow Park staff the flexibility to tailor meetings to meet Park needs and incorporate new information as Park management needs change. It is not necessary, at this point, to prescribe the format for information to be provided to the operators and would be burdensome on operators and Park staff to require operators to provide specific printed material to air tour patrons. The agencies also declined to make operator meetings public as it would not serve the communication and coordination purposes of these meetings. The NPS needs to be able to meet with the operators as it does with other commercial service providers that operate within Park boundaries. However, other avenues remain available for other stakeholders to provide the agencies with their input regarding commercial air tour operations. For example, the National Parks Overflights Advisory Group meets every year to discuss various aspects of air tour management throughout the National Park System and those meetings are open to the public.

- **Annual Training**

The ATMP also requires operators to attend a training course at least once per year when it is made available by the NPS. The training will include information that the operators can use to further their own understanding of the NPS's management priorities or objectives for the Park as well as enhance the interpretive narrative for air tour clients.

- **Monitoring and Compliance**

In order to successfully implement the ATMP, the agencies determined that it should include provisions to allow the agencies to adequately monitor and ensure compliance with its conditions. To this end, Section 4.1 of the ATMP requires that operators equip aircraft used for air tours with flight monitoring technology, to use such technology when conducting air tours, and to include flight monitoring data in their semi-annual reports. The NPS consulted with the

National Parks Overflights Advisory Group regarding the cost of various flight following technologies and found that there are relatively inexpensive off the shelf options that could meet the requirements of the ATMP. Though the agencies received comments suggesting alternative monitoring methodologies, including requiring equipping and using automatic dependent surveillance-broadcast (ADS-B) systems (which is a system that periodically transmits location data information in real-time) or providing for monitoring by the public, the agencies declined to include such options in the ATMP. As long as the tracking technology selected by the operator meets the performance requirements in the ATMP, the agencies did not find it necessary to require operators to install and use a specific technology. As to public monitoring, the agencies do not have the resources to stand up and staff a compliance response line and, given the monitoring measures included in the ATMP, such a line would be unnecessary. Further, given that commercial air tours are not the only flights conducted over the Park, information from a public tip line would likely be less reliable as the public would likely have difficulty distinguishing between, for example, a commercial air tour flight and a general aviation flight.[12] However, the ATMP acknowledges that the public may report allegations of noncompliance to the appropriate FSDO. Written reports of noncompliance will be investigated by the relevant FSDO consistent with FAA Policy.

Though at least one commenter suggested that the ATMP should include acoustic monitoring requirements, the agencies declined to include such a requirement. While the NPS does conduct acoustic monitoring at many NPS units and has done acoustic monitoring at the Park, the NPS did not find it necessary to include a requirement for additional acoustic monitoring in the ATMP, though the NPS may choose to do further acoustic monitoring at the Park, to ensure the parameters and mitigations required by this ATMP do not cause significant impacts to Park resources, in furtherance of its mission. Reports regarding acoustic monitoring conducted by NPS are publicly available at irma.nps.gov.

- **Adaptive Management**

The provisions in Section 8.0 of the ATMP are included to allow minor modifications to the authorized operating parameters (for example, slight deviations in routes) to: avoid adverse impacts to Park resources, values, or visitor experiences; address safety concerns; or, address new information (including information received through tribal input and/or consultation) or changed circumstances. Such modifications could only be made through adaptive management if the impacts to Park resources are within the scope of impacts already analyzed under NEPA, the Endangered Species Act, and Section 106 of the National Historic Preservation Act. This process was designed to ensure that actions that are potentially more impactful to resources would only be made through the amendment process, which requires public participation, and further environmental compliance. At least one commenter expressed concern that adaptive management would be used to remove, or lessen, measures designed to mitigate impacts on Park resources and visitor experience or increase the number of commercial air tours allowed, but the agencies believe that the provisions of Section 8.0 are clear that adaptive management could not be used in this way. Authorization of additional air tours, beyond the 309 authorized in the

[12] Multiple commenters suggested that the ATMP should regulate general aviation or other flights that do not meet the definition of a commercial air tour under NPATMA or the FAA's implementing regulations.

ATMP, would require an amendment to the ATMP, which requires public notice and comment as well as environmental compliance.

- **Competitive bidding**

NPATMA requires that where an ATMP limits the number of authorized commercial air tours within a specific time frame, the agencies must develop an open and competitive process for evaluating competing proposals to conduct commercial air tours. 49 U.S.C. § 40128(a)(2)(B). The ATMP outlines a competitive bidding process and identifies situations that may be addressed through competitive bidding. Based on operator comments on the draft ATMP for the Park, it appears that one or more existing operators (operators allocated commercial air tours under the ATMP) may seek additional operating authority or that one or more operators that currently hold IOA for the Park but are not allocated operations under the ATMP may seek to be accommodated as new entrants, which could be another circumstance addressed through competitive bidding. Upon receipt of a request from an existing operator for additional operating authority or a new entrant application, the agencies will request information necessary for them to determine whether and when competitive bidding is appropriate to address any such requests or applications.

- **Quiet Technology Incentive**

The ATMP includes a quiet technology incentive that allows aircraft utilizing quiet technology to fly commercial air tours that begin one hour after sunrise or that end one hour before sunset on all days that flights are authorized. Non-quiet technology aircraft would be required to begin air tours one hour after sunrise and end three hours before sunset. Though many commenters on this and other draft ATMPs requested a definition for quiet technology, the agencies found that creating a definition for quiet technology in this ATMP was not practicable because aviation technology continues to evolve and advance and because the FAA periodically updates its noise certification standards. An aircraft that may qualify as quiet technology today may be out of date 10 years from now.

The agencies also declined to extend the definition of quiet technology established for commercial air tours over Grand Canyon National Park to the ATMPs developed under NPATMA. The standard for Grand Canyon National Park was developed pursuant to legislation specific to that park through a rulemaking process that was completed in 2005. That standard applies only to Grand Canyon National Park and was based on narrow site-specific noise requirements. In addition, quiet aircraft technology has advanced substantially since that time. The aircraft used to conduct air tours over Grand Canyon National Park are much larger and heavier than the aircraft used to conduct tours over Arches National Park, and since noise certification standards are based on the size and weight of the aircraft, the noise standards used to support the Grand Canyon quiet technology definition would not be appropriate for aircraft conducting tours over Arches National Park.

As noted above, the ATMP provides for a consultation with operators regarding which of their aircraft qualify for the incentive at the time this ATMP is implemented. Though some commenters requested that the incentive only apply to future aircraft purchases, the agencies included current aircraft in the incentive so as not to penalize early adopters of quiet technology. In the future, should operators wish to purchase new aircraft, the ATMP allows for consultation

with the agencies before the operator makes the investment in a new aircraft to determine whether such aircraft would qualify for the incentive.

Some commenters questioned the effectiveness of the quiet technology incentive itself and its inclusion in the ATMP, while others suggested different or stricter quiet technology requirements. A quiet technology incentive is required to be included in the ATMP by NPATMA. 49 U.S.C. § 40128(b)(3)(D). The agencies believe this incentive should be strong enough to encourage the adoption of quiet technology by operators balanced with the fact that quiet technology equipped aircraft still produce noise. The agencies believe the quiet technology incentive in the ATMP strikes the appropriate balance.

- **Analysis of Impacts**

Many commenters noted the lack of impact analysis in the ATMP. However, impact analysis is not required content in an ATMP. The impacts of the ATMP were evaluated using an Environmental Screening Form, Appendix B, to determine the applicability of a categorical exclusion and whether any extraordinary circumstances were present that would preclude the application of a categorical exclusion, consistent with NPS practice. Likewise, the FAA conducted an analysis of potential effects under Section 4(f) of the Department of Transportation Act and analyzed whether there were any extraordinary circumstances under FAA Order 1050.1F, Paragraph 5-2 and subsequently adopted the NPS's categorical exclusion determination under 40 CFR § 1506.3(d). The agencies acknowledge that no previous NEPA analysis of IOA occurred because the issuance of IOA was a nondiscretionary action directed by Congress. Because of this, the agencies considered the impacts of air tours on the Park resources and visitor experience. There are numerous ways to measure the potential impacts of noise from commercial air tours on the acoustic environment of a park including intensity, duration, and spatial footprint of the noise. Several metrics were modeled and considered. The NPS considered maximum sound level, the amount of time that aircraft from the commercial air tour operation would be above specific sound levels that relate to different Park management objectives (e.g., 35 and 52 decibels), and the average sound level. The FAA considered their standard noise metric of Day-Night Average Sound Level (DNL). The agencies used their respective modeling results to compare the acoustic environment at the Park with existing air tour operations to the predicted changes due to the mitigation measures under the ATMP.

The impact analysis provided in the Environmental Screening Form for this ATMP, demonstrates that the ATMP does not result in significant impacts when considering the change from existing conditions. The analysis also discloses the impacts associated with the use itself, and evaluates the impacts of 309 commercial air tours over the Park on designated routes. The impacts of the action, whether evaluating the change from existing condition or the impacts from 309 air tours per year, are minimal. Since air tours will only occur at most a few times a day and many days will not have air tours, with minimal noise intrusion, the integrity of all resources remains intact, including the opportunity for visitor enjoyment of natural quiet and solitude. Park resources and values impacted from air tours, including the acoustic environment, will continue to exist in a condition that will allow the American people to have present and future opportunities to enjoy them. *See* 2006 NPS Management Policies § 1.4.4.

As to specific concerns regarding acoustic environment impacts noted by commenters, many of those referenced helicopter noise. However, the ATMP does not authorize commercial air tours using helicopters over the Park or within 1/2 mile of its boundary; only fixed-wing aircraft currently used to conduct commercial air tours are authorized to conduct air tour operations under the ATMP. Section 3.3 of the ATMP specifically provides that "any new or replacement aircraft must not exceed the noise level produced by the aircraft being replaced." A plan amendment, supported by further environmental analysis, would be required to authorize operation of an aircraft that exceeds the noise level of the currently authorized aircraft.

The agencies evaluated the noise impacts of the existing fixed-wing air tours on Park resources, including the Park's acoustic resources, visitor experience, and the aesthetic scene. *See* Appendix B. Though noise does impact both humans and wildlife, the number of noise events, duration, and sound levels are important characteristics when evaluating sounds, and the number of air tours, duration, and intensity of noise exposure at any location in the Park is extremely limited under the ATMP. While the agencies acknowledge that some noise will be present at times, the duration of the intrusion is limited. Acoustic conditions resulting from the ATMP would continue to be similar to or quieter (due to the changes from existing condition) than the existing condition. Further, NPATMA contemplates that air tours may be an acceptable use in national parks so long as protections are in place to protect park resources. In this case, given the limited number of air tours authorized, altitude restrictions, designated routes, and other protections included in the ATMP, the NPS interdisciplinary team found that air tour operations under the ATMP are compatible with Park resources and values.

The number of air tours, the route structure, and most operating parameters provided under the ATMP are substantially the same as that which the operators currently conduct and therefore, the agencies did not find that a study of economic impacts was warranted. Further, the economic effects of the ATMP were considered the Environmental Screening Form, Appendix B. Because the number of air tours authorized under the ATMP is the same as the average number of flights from the most recent three years (2017-2019) not affected by the COVID-19 pandemic, the agencies do not expect the ATMP to impact visitor spending on air tours or economic activity in the local communities.

Some commenters also expressed the position that air tours have less or different impacts than on-the-ground Park visitation. However, in analyzing the impacts of air tours on Park resources, the point was not to compare noise of air tours to vehicle traffic, but to develop acceptable and effective measures to mitigate or prevent the significant adverse impacts, if any, of commercial air tour operations upon the Park's natural and cultural resources and visitor experiences, and on tribal lands.

- **Wildlife**

As noted above, the agencies informally consulted with the U.S. Fish and Wildlife Service pursuant to Section 7 of the ESA and the U.S. Fish and Wildlife Service concurred with their determination that the ATMP "may affect but is not likely to adversely affect" any federally listed species or their critical habitat. *See* Appendix E. In addition to concerns about threatened or endangered species, commenters expressed concerns regarding the impacts of commercial air tours on the Park's wildlife. The operating parameters included in the ATMP were developed in

consideration of Park management objectives including protection of wildlife. The ATMP implements a minimum altitude for all authorized commercial air tours depending on location over the Park or outside the Park but within ½ mile of its boundary. Though the minimum altitude is largely in place to protect bird species that can be found at higher altitudes or may be nesting, these altitude restrictions also reduce noise impacts of commercial air tours on other species as well. The NPS interdisciplinary team found that given the limited number of flights per year (309) authorized by the ATMP, the limited duration of any potential noise exposure, the route structure in place, the low sound levels associated with authorized air tours and the protections included in the ATMP, commercial air tours are not likely to adversely impact wildlife, and that further monitoring in addition to that already provided in the ATMP was not necessary. The ATMP also provides for adaptive management measures to be taken which could be used to address unanticipated effects to wildlife. The ATMP's adaptive management provision is addressed above.

- **Wilderness**

Many commenters noted concerns related to the protection of the Park's wilderness, with some commenters taking the position that the Wilderness Act prohibits commercial air tours. While there is no Congressionally designated wilderness in the Park, approximately 96% of the land area of the Park is recommended for designation as wilderness and is therefore managed as designated wilderness by the NPS pursuant to the 2006 NPS Management Policies. Neither the Management Policies nor the Wilderness Act prohibit overflights. No commercial air tours are permitted to land within the Park, including within recommended wilderness. Though NPATMA does not require the ATMP to include analysis of impacts to wilderness, consistent with the requirements of NEPA, the agencies evaluated the impacts of the commercial air tours authorized by the ATMP on the qualities of wilderness character in the development of the ATMP, including impacts on the opportunity for solitude, impacts to the natural quality of wilderness, and impacts to other features of value, which is documented in the Environmental Screening Form, Appendix B. The ATMP includes limitations that are protective of wilderness character, including an annual limit of 309 air tours, designated routes, and minimum altitudes. The ATMP does not authorize any commercial air tour operations using helicopters. Though the analysis in the Environmental Screening Form demonstrates that noise and visual intrusions from air tours may temporarily disrupt the opportunity for solitude in wilderness, the limited number of flights, the limited duration of noise, the routes and altitudes used, and the limited duration of potential exposure of air tours make it unlikely that most visitors will encounter noise from air tours within wilderness. If a wilderness visitor does hear noise from an air tour, it is unlikely that the visitor will hear more than three tours per day and the noise exposure will be for a limited duration. Accordingly, the NPS found that the ATMP is protective of wilderness character and is consistent with the Park's enabling legislation, the 2006 NPS Management Policies, and the requirements of NPATMA.

- **Interim Operating Authority**

Eight air tour operators hold IOA for a combined total of 623 commercial air tours per year over the Park or outside the Park but within ½ mile of its boundary. Of the operators that currently hold IOA, three flew tours between 2017 and 2019. Five operators with IOA for the Park did not report any commercial air tours from 2013 (when NPATMA's reporting requirement was implemented) through 2020. The ATMP provides that the FAA, through the

appropriate FSDO, will update the OpSpecs of all of the operators with IOA for the Park to incorporate the terms of the ATMP within 90 days of the date on which the ATMP is fully signed (meaning 90 days from the date on which the ATMP has been signed by all required signatories). The operators' OpSpecs currently allow them to overfly the Park in accordance with their IOA. Once the OpSpecs are modified, only those operators that hold allocations of operations under the ATMP will be permitted to conduct commercial air tours over the Park, or outside the Park but within ½ mile of its boundary, and then all commercial air tours conducted will be required to comply with the ATMP in all respects, except that operators have 180 days to equip their aircraft with suitable flight monitoring technology.

Some operators with IOA for the Park opposed the allocation of commercial air tours in the ATMP because they were either allocated fewer air tour operations than permitted under IOA, or not allocated any air tour operations under the ATMP. Specifically, the operators commented that IOA "has never been a use or lose arrangement" and that the elimination of their IOA through the implementation of the ATMP constitutes a taking for which there was no due process. However, IOA is not property. *See* Notice of Final Opinion on the Transferability of Interim Operating Authority Under the National Parks Air Tour Management Act, 72 Fed. Reg. 6,802 (Feb. 13, 2007). Nor was IOA intended to last indefinitely. It was intended by Congress to be a stopgap measure to preserve the status quo until an ATMP for the Park could be established. NPATMA specifically provides that IOA for the Park terminates a maximum of 180 days after the establishment of an ATMP for the Park, 49 U.S.C. § 40128(c)(2)(E), though the agencies determined that because the modification of OpSpecs was required to implement the ATMP, IOA would terminate when the OpSpecs were modified, and not at some later date. The issuance of IOA was based on operator reported tours conducted either in the year prior to NPATMA's enactment in 2000, or the three-year average of flights conducted in the three years prior to NPATMA's enactment, whichever was higher. 49 U.S.C. § 40128(c)(2)(A). As noted above, IOA is not based on the most current or reliable operational data and is not verifiable by the agencies. The ATMP is based on the most current data based on operator reported information.

- **Public participation**

Commenters, including operators and the State of Utah, criticized the development of the ATMP, contending that the ATMP should have been developed in consultation with the operators or that the public outreach conducted by the agencies was deficient. However, the agencies followed the public participation requirements of NPATMA that apply to the establishment of an ATMP. The agencies released a draft ATMP for public notice and comment and held a virtual public meeting open to stakeholders and the general public alike. Moreover, where operator input was necessary to the development of an ATMP, for example in identifying current flight routes and altitudes, the FAA reached out to operators to give them an opportunity to provide this information. The planning process relied heavily on operator reported information submitted in the NPATMA required reporting process or provided by operators voluntarily through this outreach. It further appears that the commenters may be confusing the ATMP process as set forth by NPATMA with the voluntary agreement process that has already taken place with respect to seven operators with IOA for Glen Canyon National Recreation Area and Rainbow Bridge National Monument

- **Providing access for individuals with disabilities**

Some commenters requested expanded air tours in order to accommodate or expand access to individuals with disabilities, older persons, or those with mobility issues. However, air tours are not the only way for a person with a disability or with mobility issues to experience a national park. The NPS works to ensure that people with disabilities can participate in the same programs, activities, and opportunities available to those without disabilities in the most integrated setting possible. The NPS has a full team dedicated to breaking physical and programmatic barriers to make parks more inclusive for people with sensory, physical, and cognitive disabilities including a full accessibility program with accessibility coordinators in all 12 regions systems wide who work to make sure that NPS staff have the tools and training necessary to provide accessible and inclusive outdoor recreation and interpretation opportunities for park visitors. Information regarding accessibility at Arches National Park is available at: https://www.nps.gov/arch/planyourvisit/accessibility.htm

- **Voluntary Agreement**

The State of Utah commented that the agencies should have pursued a voluntary agreement for the Park instead of moving forward with the ATMP. However, as explained in the Compliance Plan, in order to bring all eligible parks into compliance with NPATMA in the time frame contemplated by the Court, the agencies determined that it was no longer feasible to move forward with their previously stated preference to attempt first to reach voluntary agreements with operators before transitioning to the preparation of an ATMP. As compared to a voluntary agreement process, the agencies have more control over an ATMP process. Another factor the agencies consider in deciding whether pursuing a voluntary agreement is feasible, is the number of operators with IOA for the Park. The higher the number of operators, the more complex the agreement is to negotiate and the longer it takes to complete. Moreover, any one operator could thwart the agencies' efforts by refusing to participate in the process, declining to sign a voluntary agreement, or signing a voluntary agreement then withdrawing. Such an operator could continue flying over the Park consistent with IOA, meaning that the Park would again be out of compliance with NPATMA without any of the protective provisions for resources and visitor experience included in the ATMP.

The fact that there are eight operators with IOA for the Park indicates that there would be a high level of complexity in developing a voluntary agreement for the Park and a greater risk that one or more operators would not sign an agreement. Two of the operators with IOA for the Park also hold IOA for Glen Canyon National Recreation Area or Rainbow Bridge National Monument and previously declined to sign a voluntary agreement, which the agencies spent 4.5 years and considerable effort to implement, for those parks. Despite the agencies' substantial past efforts, Glen Canyon National Recreation Area and Rainbow Bridge National Monument are not in compliance with NPATMA and are included in the current planning process which is being conducted under Court supervision pursuant to the Compliance Plan. Establishing and implementing an ATMP for the Park will bring the Park into compliance with NPATMA and provide certainty that the Park will remain so and that the NPS will achieve its management objectives.

- **NEPA compliance**

Commenters in general noted concerns that an environmental analysis was not released for public review and comment and either advocated for the consideration of various alternatives

or criticized that consideration and analysis of alternatives was required under NEPA. Consistent with the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA, agencies may, but are not required to, develop a range of alternatives to the proposed action when using a categorical exclusion to comply with NEPA. *See* 40 CFR §§ 1501.4, 1502.14. Actions covered by categorical exclusions by definition do not have significant impacts and therefore are not subject to the requirement to develop alternatives to reduce significant impacts. In this case, the agencies evaluated the potential impacts of the proposed action (ATMP) compared to current conditions and determined that the proposed ATMP would not result in significant impacts to Park resources and that no significant impacts from air tours have been observed in the past. The agencies considered actions to reduce impacts to Park resources and included those in the ATMP, e.g., altitude and route restrictions. Public review of categorical exclusions is not required. Though NPATMA provides that both agencies must "sign the environmental decision document required by section 102 of [NEPA] which may include a finding of no significant impact, an environmental assessment, or an environmental impact statement and the record of decision" the agencies do not interpret NPATMA to preclude the application of a categorical exclusion for an ATMP. *See* 49 U.S.C. § 40128(b)(2).

- **Tribal consultation**

The tribal consultation conducted by the agencies prior to the signing of this ROD is described above in the section that discusses the agencies' compliance with the National Historic Preservation Act. The agencies remain committed to engaging in tribal consultation after the ATMP is implemented to address ongoing tribal concerns as needed. Further, the ATMP itself includes mechanisms that could be used to address tribal concerns post-implementation. Tribes may be invited to the annual meeting provided for in Section 3.7A of the ATMP to discuss their concerns directly with both the operators and the agencies. Section 3.5 of the ATMP authorizes the NPS to set temporary no-fly periods for special events, including tribal events, ceremonies, or other practices, with advance notice to the operators. Section 8.0 of the ATMP provides for adaptive management measures to be taken as a result of tribal input or information received through tribal consultation, without a formal plan amendment if the impacts of any changes are within the impacts already analyzed by the agencies in their compliance documentation for the ATMP. If tribal concerns cannot be addressed through adaptive management, the agencies may consider amending the ATMP consistent with the process outlined in Section 9.0 of the ATMP. In addition, the aircraft monitoring technology that operators are required to install and use (Section 4.0), coupled with the ATMP's reporting requirements (Section 3.6), will not only aid the agencies in ensuring compliance with the terms and conditions of the ATMP, but will also aid in determining whether overflights that are concerning to tribes are commercial air tours, or another type of overflight not subject to the requirements of NPATMA.

- **Compliance with NPS-specific laws and policies**

In managing National Park System units, the NPS is bound by the Organic Act of 1916, 54 U.S.C. §§ 100101 et *seq.*, which requires the NPS to manage parks to "conserve the scenery, natural and historic objects, and wild life in the System units and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." In addition, NPS management of System units is guided by the 2006 NPS Management Policies and other policy and guidance documents that do not apply to the FAA.

The Statement of Compliance, Appendix G, details the NPS's compliance with its Organic Act, as well as NPS policy documents.

DECISION

The undersigned have carefully considered the agencies' common and respective goals in relation to the issuance of an Air Tour Management Plan for Arches National Park including the environmental impacts of their decision, the mitigation measures available to preserve Park resources, visitor experience and tribal lands, and aviation safety. Based on the record of this proposed Federal action, and under the authority delegated to the undersigned by the Administrator of the FAA and the Director of the NPS, the undersigned find that the issuance of the Air Tour Management Plan for Arches National Park is reasonably supported. The undersigned hereby direct that action be taken, together with the necessary related and collateral actions, to carry out the agency decisions as detailed in this ROD including the issuance of an Air Tour Management Plan for Arches National Park and issuance or modification of applicable operations specifications.

Approved by:

KATHARINE HAMMOND
Digitally signed by KATHARINE HAMMOND
Date: 2022.10.17 16:29:02 -06'00'

Kate Hammond
Acting Regional Director
Interior Regions 6, 7, & 8
National Park Service

GRADY B STONE
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Grady Stone
Regional Administrator
Northwest Mountain Region
Federal Aviation Administration

RAYMOND SAUVAJOT
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Date: 2022.10.18 10:31:34 -04'00'

Raymond M. Sauvajot
Associate Director
Natural Resource Stewardship and Science Directorate
National Park Service

KEVIN W. WELSH
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Date: 2022.10.17 11:21:55 -04'00'

Kevin Welsh
Executive Director
Office of Environment & Energy
Federal Aviation Administration

RIGHT OF APPEAL

This Record of Decision constitutes a final order of the FAA Administrator and is subject to exclusive judicial review under 49 U.S.C. § 46110 by the U.S. Circuit Court of Appeals for the District of Columbia or the U.S. Circuit Court of Appeals for the circuit in which the person contesting the decision resides or has its principal place of business. Any party having substantial interest in this order may apply for review of the decision by filing a petition for review in the

appropriate U.S. Court of Appeals no later than 60 days after the order is issued in accordance with the provisions of 49 U.S.C. § 46110.

Appendices

A. Air Tour Management Plan for Arches National Park
B. Environmental Screening Form
C. Categorical Exclusion Documentation Form
D. FAA Categorical Exclusion Adoption
E. Endangered Species Act: Section 7 Compliance Documentation
F. National Historic Preservation Act: Section 106 Compliance Documentation
G. NPS Statement of Compliance
H. Summary of Public Comments and Comment Analysis on the Draft Air Tour Management Plan for Arches National Park

APPENDIX A

Final Air Tour Management Plan for Arches National Park

FINAL AIR TOUR MANAGEMENT PLAN ARCHES NATIONAL PARK

SUMMARY

This Air Tour Management Plan (ATMP) provides the terms and conditions for commercial air tours conducted over Arches National Park (Park) pursuant to the National Parks Air Tour Management Act (Act) of 2000.

1.0 INTRODUCTION

The Act requires that commercial air tour operators conducting or intending to conduct commercial air tours over a unit of the National Park System apply to the Federal Aviation Administration (FAA) for authority before engaging in that activity. The Act further requires that the FAA in cooperation with the National Park Service (NPS) establish an ATMP for each National Park System unit for which one or more applications has been submitted, unless that unit is exempt from this requirement.[1]

The objective of this ATMP is to develop acceptable and effective measures to mitigate or prevent the significant adverse impacts, if any, of commercial air tours on natural and cultural resources, visitor experiences and tribal lands.

2.0 APPLICABILITY

This ATMP applies to all commercial air tours over the Park and commercial air tours within ½ mile outside the boundary of the Park, as depicted in Figure 1 below. A commercial air tour subject to this ATMP is any flight, conducted for compensation or hire in a powered aircraft where a purpose of the flight is sightseeing over the Park, or within ½ mile of its boundary, during which the aircraft flies:

> (1) Below 5,000 feet above ground level (except solely for the purposes of takeoff or landing, or necessary for safe operation of an aircraft as determined under the rules and regulations of the FAA requiring the pilot-in-command to take action to ensure the safe operation of the aircraft); or
>
> (2) Less than one mile laterally from any geographic feature within the Park (unless more than ½-mile outside the Park boundary).

See 14 CFR § 136.33(d).

[1] The Act provides an exemption to the ATMP requirement for parks with 50 or fewer commercial air tour operations each year unless the exemption is withdrawn by the Director of the NPS. *See* 49 U.S.C. § 40128(a)(5). As an alternative to an ATMP, the agencies also have the option to execute voluntary agreements with all operators operating at any of the parks.

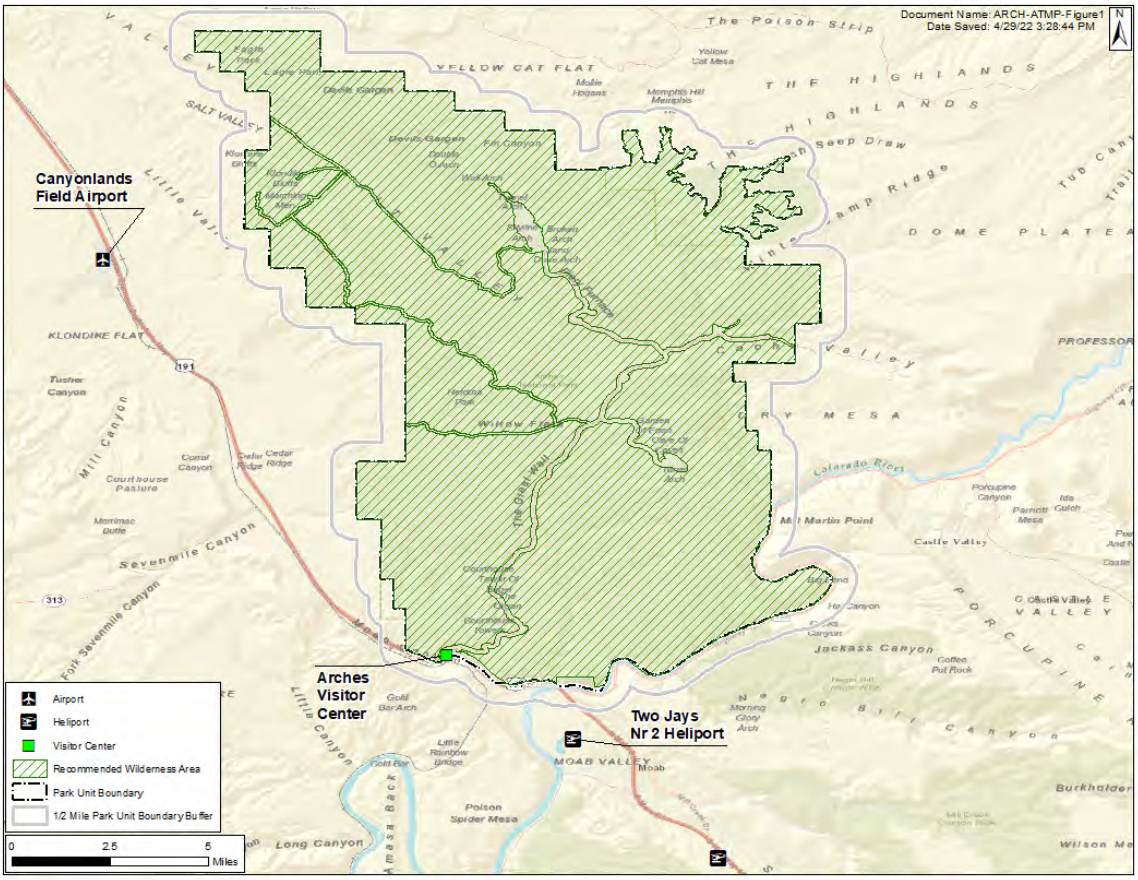


Figure 1. Map of area subject to the ATMP for Arches National Park

2.1 Park Overview

The Park is comprised of a landscape of contrasting colors, land forms, and textures unlike any other in the world, with over 2,000 natural stone arches and hundreds of soaring pinnacles, massive rock fins, and giant balanced rocks. The Park consists of 76,679 acres of high desert on the Colorado Plateau in southeastern Utah. The Park's distinctive landscapes are products of multiple geologic processes operating over hundreds of millions of years. Approximately 96% of the Park is recommended wilderness which is managed as designated wilderness by the NPS, pursuant to the 2006 NPS Management Policies.

Elevations in the Park range from 4,085 to 5,653 feet above sea level and contain vegetation such as pinyon pine, juniper, and many species of grasses, cacti, and shrubs. Moisture-dependent plants like cottonwoods, willows, and cattails are found along the rare perennial streams, in washes, or in alcoves with dripping springs. Notable wildlife includes mule deer, coyotes, desert bighorn sheep, bobcats, mountain lions. Raptors such as golden eagles and peregrine falcons, as well as the federally listed southwestern willow flycatcher, and the western yellow-billed cuckoo can also be found at the Park.

Cultural resources in the Park span at least 12,000 years of human occupation and activity. There are Paleoindian, Archaic, Fremont, ancestral Pueblo, Paiute and Ute

archeological sites in the Park, including masonry and earthen structures, lithic scatters, middens, pictographs, and petroglyphs. Historic-era resources include those left by explorers, miners, ranchers, and the Civilian Conservation Corps. Within the Park, many cultural resources are listed on the National Register of Historic Places including, but not limited to, petroglyphs and pictographs, remains of past ranching activity, and a segment of the Old Spanish National Historic Trail. The natural arches are among the many physical and ethnographic features considered sacred to Native American Tribes with current and ancestral connections to the Park, although there are no tribal lands as defined by the Act within or abutting the Park.

Designated hiking trails and routes provide access to arches, other features and to the backcountry for the more than 1.6 million annual visitors. The Park offers a variety of recreational experiences including sightseeing, viewpoints and photo stops, hiking, interpretation, picnicking, special tours to the Fiery Furnace, backcountry and developed camping, rock climbing, canyoneering, bicycling, and nature study.

The purposes of the Park include protecting extraordinary examples of geologic features including arches, natural bridges, windows, spires, balanced rocks, as well as other features of geologic, prehistoric and historic, and scientific interest, and providing opportunities to experience these resources and their associated values in their majestic natural settings.

The following Park management objectives relate to the development of this ATMP:

- Protect individuals and populations of wildlife species known to be sensitive to the effects of aircraft overflights, including several species of diurnal raptors (such as the golden eagle and peregrine falcon) and the federally listed southwestern willow flycatcher, and the western yellow-billed cuckoo, as well as desert bighorn sheep, mule deer, mountain lion, black bear.

- Protect cultural resources, cultural landscapes and ethnographic resources important to Native American Tribes with current or ancestral connections to the Park.

- Protect primitive remote experiences for visitors and opportunities to experience quiet and solitude in a remote natural setting.

3.0 CONDITIONS FOR THE MANAGEMENT OF COMMERCIAL AIR TOUR OPERATIONS

3.1 Commercial Air Tours Authorized

Under this ATMP, 309 commercial air tours are authorized per year. Appendix A identifies the operators authorized to conduct commercial air tours and annual flight allocations.

3.2 Commercial Air Tour Routes and Altitudes

Commercial air tours authorized under this ATMP shall be conducted on the designated air tour routes and altitudes specific to each operator in Figure 2.[2] Altitude expressed in units above ground level (AGL) is a measurement of the distance between the ground surface and the aircraft, whereas altitude expressed in mean sea level (MSL) refers to the altitude of an aircraft above sea level, regardless of the terrain below it. Aircraft flying at a constant MSL altitude would simultaneously fly at varying AGL altitudes, and vice versa, assuming uneven terrain is present below the aircraft. The MSL altitudes depicted in Figure 2 mean that commercial air tours will not fly lower than 2,600 feet (ft.) AGL referencing the topographic high point within ½ mile of the flight path for the entirety of all air tour routes authorized by this ATMP. Except in an emergency or to avoid unsafe conditions, or unless otherwise authorized for a specified purpose, operators may not deviate from these designated routes and altitudes.

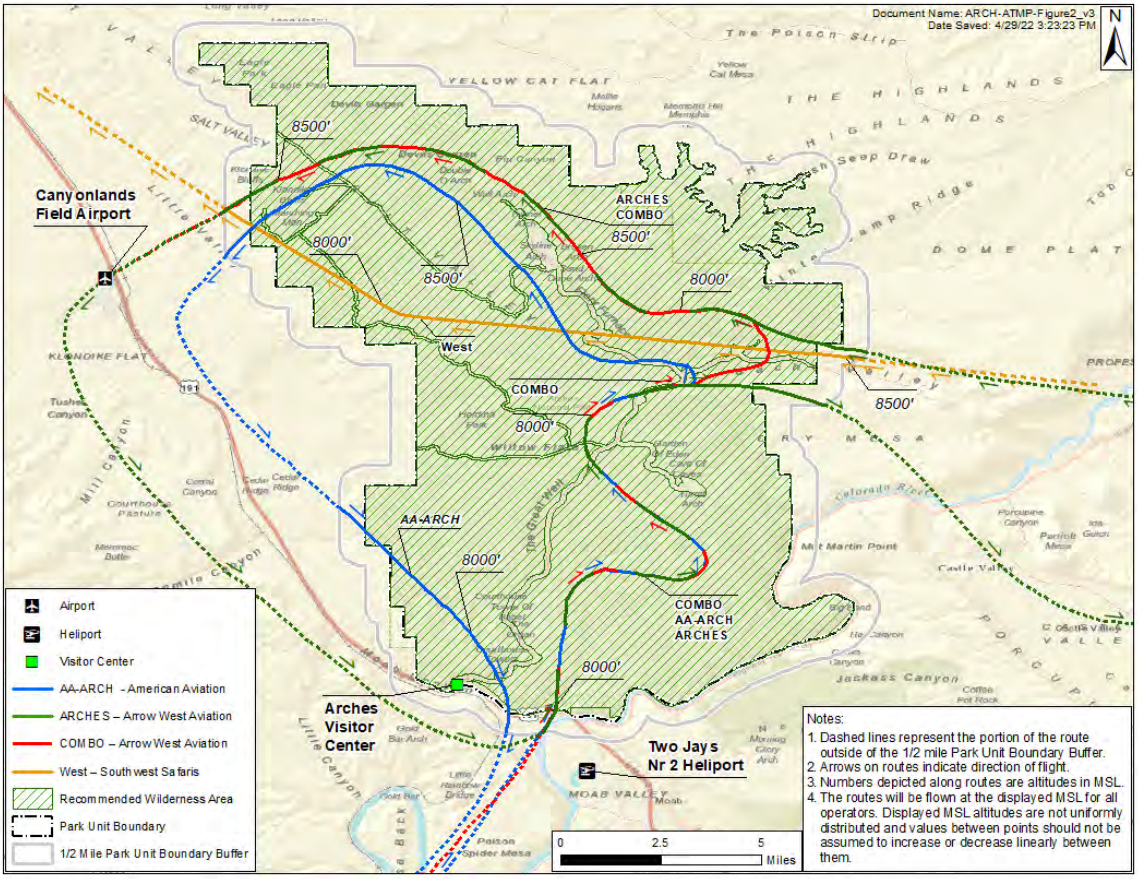


Figure 2. Commercial air tour routes over Arches National Park

[2] Appendix B contains an enlarged Figure 2.

3.3 Aircraft Type

The aircraft types authorized to be used for commercial air tours are identified in Appendix A. Any new or replacement aircraft must not exceed the noise level produced by the aircraft being replaced. In addition to any other applicable notification requirements, operators will notify the FAA and the NPS in writing of any prospective new or replacement aircraft and obtain concurrence before initiating air tours with the new or replacement aircraft.

3.4 Day/Time

Except as provided in Section 3.8 "Quiet Technology Incentives," air tours may operate one hour after sunrise until three hours before sunset, as defined by the National Oceanic and Atmospheric Administration (NOAA).[3] Air tours may operate any day of the year, except under circumstances provided in Section 3.5 "Restrictions for Particular Events."

3.5 Restrictions for Particular Events

The NPS can establish temporary no-fly periods that apply to air tours for special events or planned Park management. Absent exigent circumstances or emergency operations, the NPS will provide a minimum of 15 days written notice to operators for any restrictions that temporarily restrict certain areas or certain times of day, or 60 days written notice to operators for any full-day restrictions in advance of the no-fly period. Events may include tribal ceremonies or other similar events.

3.6 Required Reporting

Operators will submit to the FAA and the NPS semi-annual reports regarding the number of commercial air tours over the Park or within ½ mile of its boundary that are conducted by the operator. These reports will also include the flight monitoring data required under Section 4.1 of this ATMP and such other information as the FAA and the NPS may request. Reports are due to both the FAA and the NPS no later than 30 days after the close of each reporting period. Reporting periods are January 1 through June 30 and July 1 through December 31. Operators shall adhere to the requirements of any reporting template provided by the agencies.

3.7 Additional Requirements

> 3.7A Operator Training and Education: When made available by Park staff, operators/pilots will take at least one training course per year conducted by the NPS. The training will include Park information that operators can use to further their own understanding of Park priorities and management objectives as well as enhance the interpretive narrative for air tour clients and increase understanding of parks by air tour clients.

[3] Sunrise and sunset data are available from the NOAA Solar Calculator, https://www.esrl.noaa.gov/gmd/grad/solcalc/

3.7B Annual Meeting: At the request of either of the agencies, the Park staff, the local FAA Flight Standards District Office (FSDO), and all operators will meet once per year to discuss the implementation of this ATMP and any amendments or other changes to the ATMP. This annual meeting could be conducted in conjunction with any required annual training.

3.7C In-Flight Communication: For situational awareness when conducting tours of the Park, the operators will utilize frequency 122.9 and report when they enter and depart a route. The pilot should identify their company, aircraft, and route to make any other aircraft in the vicinity aware of their position.

3.7D Wildlife Avoidance: California condors have not been found to be present in the Park and their presence is thus not a current resource condition requiring active mitigation. However, California condor habitat does exist in the Park, and protective measures are necessary should a condor be identified in the Park. This ATMP includes the following protective measures for California condors:

- Air tour operators are required to report visual identification of California condors to the NPS, with an optional notification to U.S. Fish and Wildlife Service (USFWS), within 24 hours of initial sighting.

- Once the NPS becomes aware of the presence of California condor nests, notification and coordination will be conducted between the Park staff, the NPS Intermountain Region Wildlife Biologist and Threatened and Endangered Species Coordinator, the local USFWS field office, the air tour operators, and the FSDO, as necessary, to determine the best avoidance measures for operators to take. Generally, operators will be required to avoid identified nesting areas, feeding areas, or other known areas of congregation by 1 mile vertically or laterally as long as the NPS determines that other natural or cultural resources are not impacted or affected and such avoidance measures would not result in operating conditions deemed unsafe by the FAA.

- The agencies may temporarily restrict use of air tour routes over nesting areas, feeding areas, or other known areas of congregation while: 1) working with operators to modify air tour routes (i.e., 1 mile shifts away from sensitive condor areas); and 2) assessing the natural, cultural, and safety impacts of any changes.

- Avoidance measures will remain in effect until the NPS determines that condors are no longer present and the NPS notifies the operators in writing that avoidance measures are no longer necessary.

3.7E Non-transferability of Allocations: Annual operations under this ATMP are non-transferable. An allocation of annual operations may be assumed by a successor purchaser that acquires an entity holding allocations under this ATMP in its entirety. In such case, the prospective purchaser shall notify the FAA and NPS of its intention to purchase the operator at the earliest possible opportunity to

avoid any potential interruption in the authority to conduct commercial air tours under this ATMP. This notification must include a certification that the prospective purchaser has read and will comply with the terms and conditions in the ATMP. The FAA will consult with the NPS before issuing new or modified operations specifications (OpSpecs) or taking other formal steps to memorialize the change in ownership.

3.8 Quiet Technology Incentives

This ATMP incentivizes the use of quiet technology aircraft by commercial air tour operators. Operators that have converted to quiet technology aircraft, or are considering converting to quiet technology aircraft, may request to be allowed to extend air tours an additional two hours (i.e., up to one hour before sunset) on all days that flights are authorized. Because aviation technology continues to evolve and advance and the FAA updates its noise certification standards periodically, the aircraft eligible for this incentive will be analyzed on a case-by-case basis at the time of the operator's request to be considered for this incentive. The NPS will periodically monitor Park conditions and coordinate with the FAA to assess the effectiveness of this incentive. If implementation of this incentive results in unanticipated effects on Park resources, tribal use, or visitor experience, further agency action may be required to ensure the protection of Park resources, tribal use, and visitor experience.

4.0 COMPLIANCE

On the effective date of this ATMP, all commercial air tours over the Park or within ½ mile of the Park boundary must comply with the terms of this ATMP in all respects, except as provided in Section 4.1 below. The NPS and the FAA are both responsible for the monitoring and oversight of the ATMP. If the NPS identifies instances of non-compliance, the NPS will report such findings to the FAA's FSDO with geographic oversight of the Park. The public may also report allegations of non-compliance with this ATMP to the FSDO. The FSDO will investigate and respond to all written reports consistent with applicable FAA guidance.

Investigative determination of non-compliance may result in partial or total loss of authorization to conduct commercial air tours authorized by this ATMP. Any violation of OpSpecs shall be treated in accordance with FAA Order 2150.3, *FAA Compliance and Enforcement Program*.

4.1 Aircraft Monitoring Technology

Operators are required to equip all aircraft used for air tours with flight monitoring technology, to use flight monitoring technology during all air tours under this ATMP, and to report flight monitoring data as an attachment to the operator's semi-annual reports. The required flight monitoring data shall be provided in a file format approved by the agencies, such as a .csv or .xlsx format. Data must include the following information for each row of data (i.e., each ping):

- Unique flight identifier
- Latitude

- Longitude
- Geometric altitude
- Tail number
- Date
- Time stamp
- Operator and Doing Business As (DBA), if different
- Aircraft type
- Aircraft model

The ping rate should be set to a maximum of 15 seconds. Operators already using aircraft equipped with flight monitoring technology shall ensure it meets the performance standards listed above or acquire and install acceptable flight monitoring technology within 180 days of the effective date of this ATMP. For aircraft not already equipped with flight monitoring technology, within 180 days of the effective date of this ATMP, operators shall equip those aircraft with suitable flight monitoring technology.

5.0 JUSTIFICATION FOR MEASURES TAKEN

The provisions and conditions in this ATMP are designed to protect Park resources and visitor experience from the effects of commercial air tours, and to support NPS management objectives for the Park.

Under the Act, the FAA was required to grant Interim Operating Authority (IOA) for commercial air tours over the Park or within ½ mile of the Park's boundary. IOA does not provide any operating conditions (e.g., routes, altitudes, time of day, etc.) for air tours other than an annual limit.

The total number of air tours authorized under this ATMP is consistent with the existing air tours reported over the Park. The annual flight limits in this ATMP are intended to protect visitor experience, wildlife, tribal use, and cultural resources and related cultural landscapes and ethnographic resources throughout the Park by limiting the number of potential disturbances caused by commercial air tours.

The condition that commercial air tours adhere to the designated routes and altitudes depicted in Figure 2 would result in flights no lower than 2,600 ft. AGL, referencing the topographic high-point within ½ mile laterally on either side of the flight path. These altitudes maintain a ½-mile spatial buffer in accordance with guidance for raptor protection including threatened, endangered and migratory birds, as described in Section 2.1.[4] Because raptor habitat exists throughout the Park and nests may change over time, the designated altitudes provide an appropriate spatial buffer directly under the route from species of concern. It will further avoid or minimize potential effects on other avian species and wildlife by reducing the noise intensity of air tour events in the areas nearest the routes. Additionally, this provision improves visitor experiences and tribal use on the

[4] L.A. Romin & J.A. Muck (2002). Utah Field Office Guidelines for Raptor from Human and Land Use Disturbances, U.S. Fish and Wildlife Service, Utah Field Office, Salt Lake City, January 2002 update.

ground, including opportunities for solitude and remoteness from sights and sounds in recommended wilderness, as well as conditions at cultural properties and landscapes by reducing the intensity of air tour noise at ground level. Given the minimum altitudes identified above for raptor protection, the required routes and altitudes are also safety measures necessary to de-conflict the airspace.

Sunrise and sunset are important times of the day for wildlife and visitor use and experience. Biologically important behaviors for many species occur during this time, such as the dawn chorus for songbirds. Wildlife viewing is often conducted during this time of day as well. The time restrictions have been included in this ATMP to protect these Park resources. The hours of operation provide quiet periods of the day during which visitors can enjoy natural sounds and preserve opportunities for solitude in backcountry areas.

Restrictions for particular events are intended to prevent noise interruptions of Park events or tribal practices.

Operator training and education will provide opportunities to enhance the interpretive narrative for air tour clients and increase understanding of parks by air tour companies and their clients. The annual meeting will facilitate effective implementation of the ATMP because it will be used to review and discuss implementation of this ATMP between Park staff, local FAA FSDO, and all operators. It will thus serve to ensure that air tour operators remain informed regarding the terms and conditions of this ATMP, including any adaptive management measures or amendments, and are made aware of new or reoccurring concerns regarding Park resources.

The requirements to equip aircraft with flight monitoring technology, use flight monitoring technology during all air tours under this ATMP, and to report flight monitoring data as an attachment to the operator's semi-annual reports are necessary to enable the agencies to appropriately monitor operations and ensure compliance with this ATMP.

6.0 NEW ENTRANTS

For the purposes of this ATMP, a "new entrant" is a commercial air tour operator that has not been granted any operations under this ATMP or that no longer holds operations under this ATMP at the time of the application. New entrants must apply for and be granted operating authority before conducting commercial air tours over the lands and waters covered by this ATMP.

The FAA and the NPS will publish additional information for interested parties about the form and required content of a new entrant application. The FAA and the NPS will jointly consider new entrant applications and determine whether to approve such applications. Review of applications submitted prior to the effective date of this ATMP will commence within six months of the effective date. Applications submitted after that time will be considered no less frequently than every three years from the effective date of this ATMP.

If any new entrant is granted operating authority under this ATMP, the FAA will issue OpSpecs (and, if necessary, will revise OpSpecs of operators whose allocation of operating authority changes due to accommodation of a new entrant) within 90 days of the publication of an amended ATMP or of the effective date of ATMP changes implemented through the adaptive management process.

7.0 COMPETITIVE BIDDING

When appropriate, the FAA and the NPS will conduct a competitive bidding process pursuant to the criteria set forth in 49 U.S.C. § 40128(a)(2)(B) and other criteria developed by the agencies. Competitive bidding may be appropriate to address: a new entrant application; a request by an existing operator for additional operating authority; consideration by the agencies of Park-specific resources, impacts, or safety concerns; or for other reasons.

The agencies will request information necessary for them to undertake the competitive bidding process from operators. Operators who do not provide information in a timely manner may be disqualified from further consideration in the competitive bidding process.

Competitive bidding may necessitate an amendment to this ATMP, additional environmental review, and/or the issuance of new or revised OpSpecs. If updated OpSpecs are required, they will be issued within 90 days.

8.0 ADAPTIVE MANAGEMENT

Adaptive management allows for minor modifications to this ATMP without a formal ATMP amendment if the impacts of such changes are within the impacts already analyzed by the agencies under the National Environmental Policy Act, the National Historic Preservation Act, and the Endangered Species Act. Adjustments to the number of commercial air tours allocated to individual operators as a result of the competitive bidding process and minor changes to routes, altitudes, or other operating parameters are examples of adaptive management measures that may not require a formal ATMP Amendment. Such modifications may be made if: 1) the NPS determines that they are necessary to avoid adverse impacts to Park resources, values, or visitor experiences; 2) the FAA determines the need for such changes due to safety concerns; or 3) the agencies determine that appropriate, minor changes to this ATMP are necessary to address new information (including information received through tribal input and/or consultation) or changed circumstances.

9.0 AMENDMENT

This ATMP may be amended at any time: if the NPS, by notification to the FAA and the operators, determines that the ATMP is not adequately protecting Park resources and/or visitor enjoyment; if the FAA, by notification to the NPS and the operators, determines that the ATMP is adversely affecting aviation safety and/or the national aviation system; or, if the agencies determine that appropriate changes to this ATMP are necessary to

address new information or changed circumstances that cannot be addressed through adaptive management.

The FAA and the NPS will jointly consider requests to amend this ATMP from interested parties. Requests must be made in writing and submitted to both the FAA and the NPS. Requests must also include justification that includes information regarding how the requested amendment: is consistent with the objectives of this ATMP with respect to protecting Park resources, or visitor use and enjoyment; and would not adversely affect aviation safety or the national aviation system. The FAA and the NPS will publish additional information for interested parties about the form and manner for submitting a request.

Increases to the total number of air tours authorized per year under this ATMP resulting from accommodation of a new entrant application or a request by an existing operator will require an amendment to this ATMP and additional environmental review.

Notice of all amendments to this ATMP will be published in the Federal Register for notice and comment.

10.0 CONFORMANCE OF OPERATIONS SPECIFICATIONS

New OpSpecs that incorporate the operating parameters set forth in this ATMP will be issued within 90 days of the date of signature on this ATMP.

11.0 EFFECTIVE DATE

This ATMP is effective on the date new OpSpecs incorporating its operating parameters are issued.

Patricia S. Trap — Date
Superintendent
Southeast Utah Group:
Arches & Canyonlands
National Parks, and
Hovenweep & Natural
Bridges National Monuments
National Park Service

Grady Stone — Date
Regional Administrator
Northwest Mountain Region
Federal Aviation Administration

Kate Hammond — Date
Acting Regional Director
Interior Regions 6, 7, & 8
National Park Service

Kevin Welsh — Date
Executive Director
Office of Environment & Energy
Federal Aviation Administration

Raymond M. Sauvajot — Date
Associate Director
Natural Resource Stewardship
and Science Directorate
National Park Service

APPENDIX A

1.0 COMMERCIAL AIR TOUR ALLOCATIONS

Table 1 provides allocations of the operations authorized per year along with authorized aircraft type by operator. IOA previously issued for the Park terminates on the effective date of this ATMP.

Table 1. Air Tour Operations and Aircraft Type by Operator

Air Tour Operator	Annual Operations	Daily Operations	Aircraft Type
Arrow West Aviation, Inc. / Slickrock Air Guides, Inc. (Redtail Aviation)	303	No set limit	GIPPS-GA-8, CE-172-N, CE-207-207, CE-207-T207A, Kodiak-100-100
Adams, Bruce M. (Southwest Safaris)	5	No set limit	CE-182-R, CE-207-T207A
American Aviation, Inc. (Frog Air, American Air Charter)	1	1	CE-172-N, CE-207-207, CE-207-T207A

2.0 DAY/TIME RESTRICTIONS

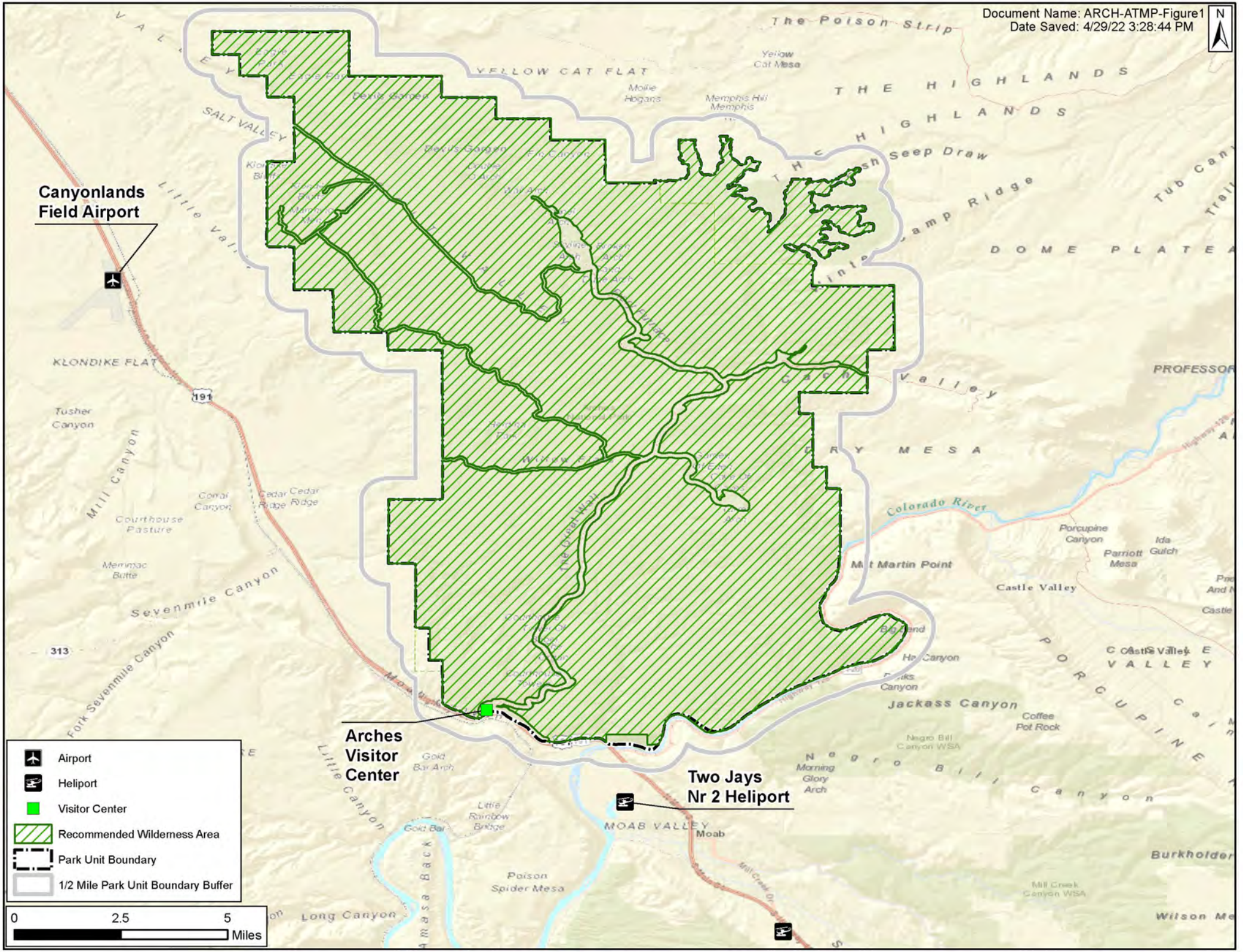
Table 2 lists the time-of-day and day-of-week when air tours may occur.

Table 2. Air Tour Authorizations by Time-of-Day and Day-of-Week

Air Tour Operator	Time-of-Day	Day-of-Week
Arrow West Aviation, Inc. / Slickrock Air Guides, Inc. (Redtail Aviation)	One hour after sunrise until three hours before sunset	The NPS can establish temporary no-fly periods that apply to air tours for special events or planned Park management.
Adams, Bruce M. (Southwest Safaris)	One hour after sunrise until three hours before sunset	The NPS can establish temporary no-fly periods that apply to air tours for special events or planned Park management.
American Aviation, Inc. (Frog Air, American Air Charter)	One hour after sunrise until three hours before sunset	The NPS can establish temporary no-fly periods that apply to air tours for special events or planned Park management.

APPENDIX B

Enlarged Figures 1 and 2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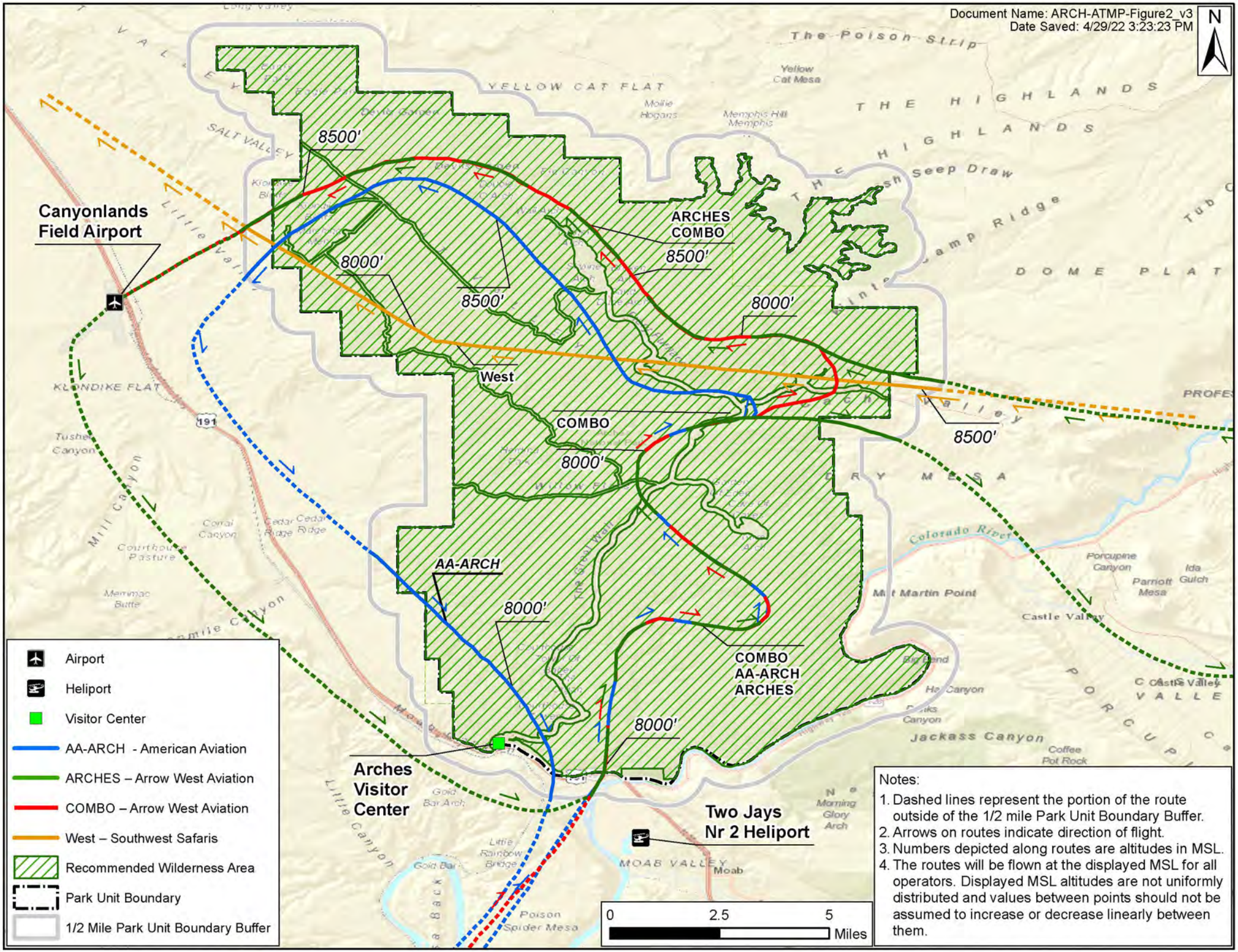
Canyonlands Field Airport
Arches Visitor Center
Two Jays Nr 2 Heliport
Airport
Heliport
Visitor Center
Recommended Wilderness Area
Park Unit Boundary
1/2 Mile Park Unit Boundary Buffer
0
2.5
5
Miles
The Poison Strip
YELLOW CAT FLAT
THE HIGHLANDS
SALT VALLEY
Seep Draw
DOME PLATEA
KLONDIKE FLAT
191
Tusher Canyon
Mill Canyon
Courthouse Pasture
Merrimac Butte
Sevenmile Canyon
Fork Sevenmile Canyon
313
Cedar Ridge
Colorado River
Porcupine Canyon
Parriott Mesa
Mt Martin Point
Castle Valley
PROFESSOR
DRY MESA
Jackass Canyon
Coffee Pot Rock
Negro Bill Canyon
Morning Glory Arch
Gold Bar Arch
Little Rainbow Bridge
Gold Bar
MOAB VALLEY
Moab
Poison Spider Mesa
Long Canyon
Burkholder
Mill Creek Canyon WSA
Wilson Me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Canyonlands Field Airport
8500'
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8500'
ARCHES COMBO
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8000'
West
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8000'
8500'
AA-ARCH
8000'
COMBO AA-ARCH ARCHES
8000'
Arches Visitor Center
Two Jays Nr 2 Heliport
Airport
Heliport
Visitor Center
AA-ARCH - American Aviation
ARCHES – Arrow West Aviation
COMBO – Arrow West Aviation
West – Southwest Safaris
Recommended Wilderness Area
Park Unit Boundary
1/2 Mile Park Unit Boundary Buffer
0
2.5
5
Miles
Notes:
1. Dashed lines represent the portion of the route outside of the 1/2 mile Park Unit Boundary Buffer.
2. Arrows on routes indicate direction of flight.
3. Numbers depicted along routes are altitudes in MSL.
4. The routes will be flown at the displayed MSL for all operators. Displayed MSL altitudes are not uniformly distributed and values between points should not be assumed to increase or decrease linearly between them.

APPENDIX B

Environmental Screening Form

ENVIRONMENTAL SCREENING FORM (ESF)

PROJECT INFORMATION

Project Title: Arches National Park Air Tour Management Plan

PEPC Project Number: 102782

Project Type: Categorical Exclusion

Project Location: Grand County, Utah

PROJECT DESCRIPTION

The proposed action is to implement an Air Tour Management Plan (ATMP) for Arches National Park (the Park). The "Project Description" section of the Categorical Exclusion (CE) Form for the ATMP sets out the elements of the ATMP and is incorporated herein by reference.

RESOURCE IMPACTS TO CONSIDER

Definition of Effects or Impacts (40 CFR § 1508.1(g))

Effects or impacts means changes to the human environment from the proposed action or alternatives that are reasonably foreseeable and include direct effects, indirect effects, and cumulative effects. Effects include ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Effects may also include those resulting from actions which may have both beneficial and detrimental effects, even if on balance the agency believes that the effects will be beneficial.

For the purposes of considering environmental impacts, the National Park Service (NPS) evaluated the change to the human environment resulting from implementation of the ATMP. Consistent with Council on Environmental Quality regulations, the baseline from which to measure environmental impacts of the ATMP is the current condition of the human environment. In this case, the baseline is the current condition of Park resources and values, as impacted by 309 commercial air tours per year (existing three-year average of tours conducted on an annual basis from 2017-2019) along with other planned actions and trends. The baseline also includes the route and altitude information of commercial air tours provided by the operators, as well as the timing and daily commercial air tour information from commercial air tour reports provided by the operators from 2017-2019.

Existing Conditions of Commercial Air Tours over the Park

Eight commercial air tour operators hold Interim Operating Authority (IOA) to conduct a combined total of 623 commercial air tours over the Park each year. However, five of those operators have not reported flying commercial air tours over the Park since reporting began in 2013. Three commercial air tour operators, Arrow West Aviation, Inc. / Slickrock Air Guides, Inc. (Redtail Aviation), Bruce M. Adams (Southwest Safaris), and American Aviation, Inc. (Frog Air, American Air Charter) currently conduct commercial air tours over the Park.

Based on the three-year average of reporting data from 2017-2019, Redtail Aviation conducts an average of 303 commercial air tours over the Park each year; Southwest Safaris conducts an average of five commercial air tours over the Park each year; and American Aviation, Inc. conducts an average of one commercial air tour over the Park each year. The operators conduct commercial air tours on four different routes over the Park. Redtail Aviation conducts commercial air tours on two different routes using GIPPS-GA-8, CE-172-N, CE-207-207, CE-207-T207A, and Kodiak-100-100 aircraft (fixed-wing) at a minimum altitude of 2,900 feet (ft.) above ground level (AGL). Southwest Safaris conducts commercial air tours on one route using CE-182-R and CE-207-T207A aircraft (fixed-wing) at a minimum altitude of 1,000 to 1,500 ft. AGL, depending on location over the Park. American Aviation, Inc. conducts commercial air tours on one route using CE-172-N, CE-207-207, and CE-207-T207A aircraft at a minimum altitude of 2,900 ft. AGL. Commercial air tours are typically conducted between the hours of 7:30 AM and 7:30 PM and occur year-round.

Summary of the ATMP

The ATMP limits the number of commercial air tours that the operators are authorized to conduct over the Park or within ½ mile of its boundary to the existing three-year average of tours conducted from 2017-2019 (303 tours each year for Redtail Aviation, five tours each year for Southwest Safaris, and one tour each year for American Aviation, Inc., for a combined total of 309 commercial air tours each year). The operators will be allowed to conduct commercial air tours on substantially the same routes that the operators currently report flying over the Park. The MSL altitudes required by the ATMP increase the minimum altitude that the operators will be allowed to conduct commercial air tours from a minimum of 1,000 ft. AGL to no lower than 2,600 ft. AGL referencing the topographic high point within ½ mile of the flight path for the entirety of all air tour routes authorized by the ATMP. The ATMP restricts the hours during which commercial air tours may be conducted over the Park, beginning one hour after sunrise until three hours before sunset. Operators that request and are authorized to use the quiet technology incentive may conduct commercial air tours over the Park beginning one hour after sunrise until one hour before sunset. The ATMP allows the Park to establish no-fly periods for special events, which could include planned visits made by traditionally associated indigenous groups for ceremonial purposes, or planned Park management.

EVALUATION OF THE ATMP

Table 1. Potential Issues and Impacts to Resources

Resource	**Potential Issues & Impacts**
Air Air Quality	The findings from the screening analysis demonstrate that implementing the ATMP will not meaningfully impact (meaning that it will have no or minimal impact) local air quality and will not have regional impacts. See *Air Quality Technical Analysis* below.
Biological Species of Special Concern or Their Habitat	<u>Federally Listed Threatened and Endangered Species</u> The Park has a number of Federally designated threatened and endangered species, including listed birds, fish, and flowering plants. The NPS specifically analyzed potential impacts to California condor (*Gymnogyps californianus*) (endangered) and Mexican spotted owl (MSO) (*Strix occidentalis lucida*) (threatened). The Section 7 analysis conducted by the agencies considered the potential effects of the ATMP on listed species and/or designated critical habitat without the consequences to those listed species by the existing commercial air tours, in accordance with 50 CFR § 402.02. The Park is within the historic range of the California condor, however, there have been no documented occurrences within the Park. U.S. Fish and Wildlife Service (USFWS) guidelines for raptor protection from human and land use disturbance recommends a seasonal buffer zone of one mile from February 1 through November 30 to protect nest sites and territories (USFWS, 2012). The ATMP includes this measure to protect California condor should the species range expand and nesting

	occur at the Park. Furthermore, the agencies determined the MSL altitudes required by the ATMP results in flights no lower than 2,600 ft. AGL in order to comply with the USFWS Guidelines for Raptor Protection from Human and Land Use Disturbances (USFWS, 2002). This guidance recommends a seasonal buffer zone to protect individual nest sites and territories to ensure successful breeding and to maintain high use areas by raptors, including MSO. The NPS conducted informal consultation with the USFWS in accordance with Section 7 of the Endangered Species Act. Based on this consultation, it has been determined the ATMP *may affect, not likely to adversely affect* MSO or California condor. The USFWS concurred with this determination on May 3, 2022. Refer to the Section 7 documentation which includes the agencies' analysis. <u>Special Status Species and Migratory Birds</u> Bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) are protected raptor species that are present at the Park.[1] These species are especially sensitive to low flying aircraft and their associated noise. Nesting eagles that are repeatedly disturbed by noise will abandon their nests. Additionally, raptors may collide with aircraft because of the altitude at which raptors fly. Scientific and national level guidance recommends aircraft standoff of 1,000 ft. for bald eagles (USFWS, 2007) and golden eagles to reduce noise impacts (Richardson and Miller, 1997). The ATMP authorizes the same number of flights on substantially the same routes when compared to current operations and establishes MSL altitudes such that air tours will not fly lower than 2,600 ft. AGL referencing the topographic high point within ½ mile of the flight path for the entirety of all air tour routes authorized by this ATMP. Therefore, the ATMP is expected to have limited to no impacts on these species when compared to current conditions. Additionally, as these raptors may be impacted by flights below 1,000 ft. during nesting season and near communal roost sites based on the National Bald Eagle Management Guidelines, there will be beneficial impacts due to the required MSL altitudes which mean that air tours will not fly lower than 2,600 ft. AGL referencing the topographic high point within ½ mile of the flight path (from minimum 1,000 ft. to 1,500 ft. AGL depending on location over the Park under existing conditions) under the ATMP. A number of other migratory birds[2] and other avian species use the Park. Information related to migratory birds are summarized more generally below under wildlife. Migratory birds will be exposed to noise at a similar or decreased level compared to what is currently occurring because the number of authorized flights under the ATMP will be the same as the average number of flights from 2017-2019 on substantially the same routes. Therefore, the ATMP is expected to have negligible or only beneficial impacts on these species when compared to current conditions. In addition, because altitudes will increase when compared with existing operations, new impacts from the ATMP are expected to be beneficial for these species when compared to current conditions. It should be noted that when the altitude of an aircraft is increased, the total area exposed to the noise from that aircraft may also increase depending on the surrounding terrain. Although the area exposed to noise might increase, this would not meaningfully affect raptors or other migratory birds because of the attenuation of the noise from higher altitudes and transient nature of the impacts.

[1] Bald eagles are protected under the Bald and Golden Eagle Protection Act.
[2] Migratory bird species are protected under the Migratory Bird Treaty Act.

Biological Wildlife and/or Wildlife Habitat including terrestrial and aquatic species	The Park and its surroundings are home to a wide variety of wildlife. Animals that have adapted to life in the desert include fox, desert bighorn sheep, mule deer, and a variety of snakes and lizards. While not considered a premier spot for bird watching, nearly 200 species of birds have been seen in the Park. The Park owes much of this diversity to riparian corridors like Courthouse Wash and the Colorado River. Noise from commercial air tours may impact wildlife, migratory birds in particular, in a number of ways: altered vocal behavior, breeding relocation, changes in vigilance and foraging behavior, and impacts on individual fitness and the structure of ecological communities to name a few (Shannon et al., 2016; Kunc et al., 2016; Kunc and Schmidt, 2019). Understanding the relationships between commercial air tour noise attributes (e.g., timing, intensity, duration, and location) and ecosystem responses is essential for understanding impacts to these species and developing management actions to address them (Gutzwiller et al., 2017). Since the ATMP authorizes a maximum number of commercial air tours over the Park each year equivalent to the three-year average of tours conducted from 2017-2019 on substantially the same routes currently used, it is anticipated that there will be little to no change to existing operating conditions and the resultant disturbances to wildlife will have no or only minimal effects compared to current conditions. Furthermore, the ATMP requires the operators to continue to fly on the designated routes and requires MSL altitudes such that air tours will not fly lower than 2,600 ft. AGL referencing the topographic high point within ½ mile of the flight path. This limits noise exposure to wildlife in the Park, including bighorn sheep, and will result in a beneficial impact compared to current conditions. The required MSL altitudes are also protective of bighorn sheep. It should be noted that when the altitude of an aircraft is increased, the total area exposed to the noise from that aircraft may also increase depending on the surrounding terrain. Although the area exposed to noise might increase, this would not meaningfully affect wildlife because of the attenuation of the noise from higher altitudes and transient nature of the impacts. Many species of wildlife move, making daily maximum exposure less likely. Sunrise and sunset are important times of the day for wildlife. Biologically important behaviors for many species occur during these times, such as the dawn chorus for songbirds, foraging, and communication. The day/time restrictions and quiet technology incentives included in the ATMP provide protection to wildlife that are active during sunrise and sunset, which represents an improvement to current conditions. In the event that operators request and are authorized to use the quiet technology incentive, those tours would result in the possibility of noise during the sunrise/sunset time periods. The impacts from these flights would be less than the noise modeled in the *Noise Technical Analysis* but could be more than when there are no flights during this time of day. In conclusion, while wildlife will continue to be exposed to noise, effects are expected to be insignificant and will not be widespread throughout the Park. Any disturbances will likely be temporary in nature and infrequent on both a daily and annual basis. Noise from commercial air tours will be experienced by only those wildlife under or near the designated routes, leaving most wildlife in the Park unaffected. The level of noise exposure will be similar or decrease compared to current conditions because the number of authorized flights under the ATMP will be the same as the average number of flights from 2017-2019 on substantially the same routes. Therefore, impacts to wildlife are not significant, and because altitudes will increase when compared to existing flight operations, new impacts from the ATMP are expected to be beneficial for these species

	when compared to current conditions. See also the discussion above for special status species.
Cultural Cultural Landscapes	The NPS defines a Cultural Landscape as: a geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values. There are four general kinds of cultural landscapes, not mutually exclusive: historic sites, historic designed landscapes, historic vernacular landscapes, and ethnographic landscapes (NPS, 2002). An impact to a Cultural Landscape will occur if the project alters any of the characteristics that help make the cultural landscape eligible for listing the National Register of Historic Places (NRHP). This includes any diminishment of the cultural landscape's integrity of location, design, setting, materials, workmanship, feeling, or association. The potential impacts to cultural landscapes from the ATMP are limited to the continuation of visual and audible elements that diminish the integrity of the landscape setting and/or feeling. The Wolfe Ranch Historic District is a historic property within the Park that has been identified and evaluated within the context of cultural landscapes and is considered eligible for listing on the NRHP. The number of authorized flights under the ATMP will be the same as the average number of flights from 2017-2019 and substantially the same routes will be used. The *Noise Technical Analysis* shows that aircraft noise related to commercial air tours are predicted to be greater than 35 dBA for less than 30 minutes a day near Panorama Point, south of Wolfe Ranch Historic District, at most. Therefore, impacts to cultural landscapes will be similar or decrease compared to impacts currently occurring because the number of authorized flights under the ATMP will be the same as the average number of flights from 2017-2019 on substantially the same routes. The Federal Aviation Administration (FAA), in coordination with the NPS, consulted with the Utah State Historic Preservation Office, Native American tribes, and other consulting parties on the potential impacts of the ATMP on Historic Properties, including cultural landscapes as part of Section 106 consultation. That consultation process led to a finding that the ATMP will have no adverse effect on historic properties. The FAA proposed this finding to all consulting parties. The SHPO concurred with the FAA's proposed finding and no consulting party objected. See CE Form for further information.
Cultural Ethnographic Resources	The NPS defines Ethnographic Resources as: a site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it (National Park Service, 2002). Ethnographic resources include Traditional Cultural Properties (TCPs) (NPS, 1992). An impact to an Ethnographic Resource will occur if the project affects those elements of the resources that make it significant to the group traditionally associated with the resource, or if the project interferes with the use of the resource by the associated groups. The following tribes attach religious or cultural significance to lands within and adjacent to the Park: • Hopi Tribe of Arizona • Jicarilla Apache Nation, New Mexico • Kaibab Band of Paiute Indians of the Kaibab Indian Reservations • Las Vegas Tribe of Paiute Indians of the Las Vegas Indian Colony, Nevada

	• Moapa Band of Paiute Indians of the Moapa River Indian Reservation, Nevada • Navajo Nation, Arizona, New Mexico & Utah • Paiute Indian Tribe of Utah • Pueblo of Acoma, New Mexico • Cochiti Pueblo, New Mexico • Pueblo of Isleta, New Mexico • Pueblo of Jemez, New Mexico • Pueblo of Laguna, New Mexico • Pueblo of Nambe, New Mexico • Pueblo of Picuris, New Mexico • Pueblo of Pojoaque, New Mexico • Pueblo of Sandia, New Mexico • Pueblo of Santa Ana, New Mexico • Pueblo of San Felipe, New Mexico • Pueblo of San Ildefonso • Pueblo of Santa Clara, New Mexico • Pueblo of Taos, New Mexico • Pueblo of Tesuque • Pueblo of Zia, New Mexico • Rosebud Sioux Tribe of the Rosebud Indian Reservation • San Juan Southern Paiute Tribe of Arizona • Southern Ute Indian Tribe of the Southern Ute Reservation Colorado • Ute Indian Tribe of the Uintah & Ouray Reservation, Utah • Ute Mountain Tribe of the Ute Mountain Reservation, Colorado, New Mexico & Utah • White Mesa Ute Community • Ysleta Del Sur Pueblo • Zuni Tribe of the Zuni Reservation, New Mexico Many of the tribes and pueblos listed above attach religious or cultural significance to the arches within the Park. Tribes and pueblos have informed Park staff that a number of TCPs are present within the Park. The TCPs are actively used by tribes and pueblos for ceremonial and other purposes. There are a number of areas throughout the Park that contain traditional natural resources significant to tribes such as arches, medicine and food plants and minerals used in pigments and for ceremonial purposes. The ATMP includes provisions that allow for the establishment of no-fly periods. These no-fly periods may be established to avoid conflicts or impacts to tribal ceremonies or similar activities, therefore no impacts on ethnographic resources are anticipated. Sacred ceremonies or other Tribal activities which occur without notice to the NPS may be interrupted by noise, however, commercial air tours have no effect on Tribal access. The FAA, in coordination with the NPS, consulted with the tribes listed above on the potential impacts of the ATMP on Ethnographic Resources, through compliance with Section 106 of the National Historic Preservation Act (five tribes asked to opt out of additional Section 106 consultation for the undertaking: Kaibab Band of Paiute Indians of the Kaibab Indian Reservation; Moapa Band of Paiute Indians of the Moapa River Indian Reservation, Nevada; Pueblo of Sandia; Santa Ana Pueblo; and Pueblo of San Ildefonso). That consultation led to a finding that the ATMP will have no adverse effect on historic properties, which includes Ethnographic Resources. As explained above, the FAA

	proposed a finding of no adverse effect to all consulting parties. The SHPO concurred with this finding and no consulting party objected.
Cultural Prehistoric/historic structures and TCPs	Cultural resources within the Park include a number of archaeological sites, historic structures, and TCPs. As noted above, impacts to these resources will occur if the ATMP alters the characteristics of an archaeological site, historic structure, or TCP that make it eligible for NRHP listing. Commercial air tours, by their nature, have the potential to impact resources for which only feeling and setting are the contributing elements. Feeling and setting have been identified as contributing elements for 17 cultural resources within the area of potential effect (APE): the Arches (TCP), Colorado River Bridge, Courthouse Wash Pictographs, Hal Canyon Bridge, Julien Inscription Panel, Landscape within the APE (Traditional Cultural Landscape), Levi Drillers Cabin and Corral, Old Spanish Trail, Prehistoric Archaeological Sites (TCP), Ringhoffer Inscription, Rock House, Salt Valley Stock Dam, Stone House, Ureco Complex, Visitor Center Bridge, Willow Flat Stock Dam and Inscription, and Wolfe Ranch Historical District. Refer to the Section 106 documentation for a complete list. Commercial air tours will result in the continuation of visual and audible elements that are inconsistent with the feeling and setting for these resources. These intrusions will be limited to a maximum of 309 instances per year, and of limited duration. The *Noise Technical Analysis* shows that aircraft noise related to commercial air tours are predicted to be greater than 35 dBA for less than 30 minutes a day (*see* Figure 1). These impacts will be similar to or decrease compared to impacts currently occurring because the number of authorized flights under the ATMP will be the same as the average number of flights from 2017-2019 on substantially the same routes. Therefore, the ATMP is expected to have negligible or only beneficial impacts on cultural resources when compared to current conditions. The FAA, in coordination with the NPS, consulted with the Utah State Historic Preservation Office, federally recognized tribes, and other consulting parties on the potential impacts of the ATMP on Historic Properties, including Cultural; prehistoric/historic structures and TCPs as part of Section 106 consultation. That consultation process led to a finding that the ATMP will have no adverse effect on historic properties. As explained above, the FAA proposed a finding of no adverse effect to all consulting parties. The SHPO concurred with this finding and no consulting party objected.
Geologic Geologic Resources	A review of the potential for vibrational impacts on historic buildings and natural features suggests that the potential for damage resulting from fixed-wing propeller aircraft overflights is minimal, as the fundamental blade passage frequency of the aircraft is well above the resonant natural frequency of these structures (i.e., the natural vibrational tendency associated with a structure). Additionally, the vibration amplitude associated with all overflights authorized in the ATMP is well below recommended limits described to avoid structural damage (Hanson, 1991; Volpe, 2014). As a result, overflights authorized in the ATMP create an environment where potential damage to geologic resources is minimal. Therefore, no vibrational impacts to geologic resources within the Park are anticipated for the commercial air tour aircraft specified in the ATMP.
Lightscapes Night Skies	Under the ATMP, unless they qualify for the quiet technology incentive, commercial air tours are not permitted within three hours before sunset and one hour after sunrise, unless the operator has approved quiet technology. Any lights from commercial air tour aircraft are not likely to be noticeable and any impacts will be similar to or decrease compared to current conditions because the number of authorized flights under the ATMP will be the same as the average number of flights from 2017-2019 and there are provisions to protect night, dawn and dusk in the ATMP that are not currently in effect. Therefore, there will

	be no or only minimal impacts, including potentially beneficial impacts to lightscapes, compared to current conditions.
Other Human Health and Safety	Commercial air tours are subject to the FAA regulations for protecting individuals and property on the ground, and preventing collisions between aircraft, land or water vehicles, and airborne objects. The operators must continue to meet the FAA safety regulations.
Socioeconomic Minority and low-income populations, size, migration patterns, etc.	U.S. Census data (United States Census Bureau, 2021) for census blocks surrounding the Park were reviewed to determine the presence of minority or low-income populations immediately outside and within ½-mile of the Park boundary. Based on this review, no minority or low-income populations were identified in Grand County, Utah. Therefore, the ATMP will not have a disproportionate impact on low-income or minority populations.
Socioeconomic Socioeconomic	Commercial air tours generate income for operators and potentially generate income for other ancillary visitor industry businesses. Visitors from outside the immediate area contribute to this income. Because the number of commercial air tours authorized under the ATMP is the same as the average number of flights from 2017-2019 on substantially the same routes, the NPS does not expect visitor spending on commercial air tours or economic activity in the local communities to change. The competitive bidding process may redistribute the number of flights and income between individual operators in the future but is not anticipated to affect the overall average number of flights or local business activity generated by these flights. The agencies acknowledge that the limited number of flights permitted by the ATMP could limit the potential future economic growth for commercial air tour operators that fly over the Park, unless the ATMP were amended to allow for additional tours. However, since the ATMP does not change the number of commercial air tour operations in a meaningful way from the existing number of flights from 2017-2019, significant socioeconomic impacts are not anticipated to occur as a result of the ATMP. An economic impact modeling analysis was not completed as part of the process because the ATMP does not change the number of commercial air tour operations in a meaningful way from the existing number of flights. As to the requirements in ATMP Section 4.1 related to the installation and use of flight monitoring technology, this is necessary to enable the agencies to appropriately monitor compliance with the restrictions in the ATMP. The agencies consulted with National Parks Overflights Advisory Group (NPOAG) and assessed the cost of various flight monitoring technologies and note that there are relatively inexpensive off the shelf options that could meet the requirements of the ATMP. The agencies did not require operators to install and use the more expensive types of flight monitoring technology. The agencies believe the time and cost is reasonable for ensuring compliance with the ATMP.
Soundscapes Acoustic Environment	Baseline acoustic conditions in the Park were measured in 2000 and continued intermittently through 2007 (Ambrose and Florian, 2008). Long term monitoring was conducted at two sites, the existing ambient sound level was reported to be 19 -24 decibels, while the natural ambient sound level was reported to be 18 – 24 decibels. Short-term monitoring was conducted at eight other sites. The existing ambient sound level at the short-term sites was 19 – 42 decibels. Natural ambient sound levels were not modeled for the short-term sites. The existing ambient condition includes all sound associated with a given environment, i.e., natural, human, and mechanical sounds, such as automobiles and aircraft. Aircraft sound measured at a sampling location may include general aviation, commercial jets, military, and air tours. The natural ambient is the sound conditions found in a study area, including all sounds of nature (i.e., wind, water,

	wildlife, etc.) and excluding all human and mechanical sounds. Both the existing and natural ambient conditions were considered in the resource impacts analysis. Depending on a receiver's location on the ground in relation to an aircraft flying overhead, aircraft sound can range from faint and infrequent to loud and intrusive. Impacts of aircraft noise range from masking quieter sounds of nature, such as bird vocalizations, to noise loud enough to interrupt conversational speech between visitors. To capture how noise may affect quieter natural sounds or conversations, the resource impacts analysis below examines the time above 35 decibels (for quieter natural sounds and impacts to natural resources) and time above 52 decibels for conversational speech disturbance and impacts to visitor experience. Overall, noise impacts associated with commercial air tours over the Park are not expected to measurably change, since the ATMP authorizes the same number of flights per year as the average number of flights from 2017-2019 on substantially the same routes and requires commercial air tours to maintain an altitude of at least 2,600 ft. AGL. The increase of at least 1,600 ft. (from minimum 1,000 ft. AGL under existing conditions) will reduce the maximum noise levels at sites directly below the commercial air tour routes. It should be noted that when the altitude of an aircraft is increased, the total area exposed to the noise from that aircraft may also increase depending on the surrounding terrain. Although the area exposed to noise might increase, this would not meaningfully affect the acoustic environment because of the attenuation of the noise from higher altitudes and transient nature of the impacts. For purposes of assessing noise impacts from commercial air tours on the acoustic environment of the Park under the National Environmental Policy Act (NEPA), the FAA noise evaluation is based on Yearly[3] Day Night Average Sound Level (DNL); the cumulative noise energy exposure from aircraft over 24 hours. The DNL analysis indicates that the ATMP would not result in any noise impacts that would be "significant" or "reportable" under FAA's policy for NEPA. Refer to the *Noise Technical Analysis* below.
Viewsheds Viewsheds	While studies indicate that aircraft noise in national parks can impact human perceptions of aesthetic quality of viewsheds (Weinzimmer et al., 2014; Benfield et al., 2018), because the level of commercial air tour activity under the ATMP will remain the same, there will be no change in the effect to visitors in this regard. Other literature for studies on impacts from commercial air tours or overflights generally on viewsheds conclude that the visual impacts of overflights are difficult to identify because visitors primarily notice aircraft because of the accompanying noise. Aircraft are transitory elements in a scene and visual impacts tend to be relatively short. The short duration and low number of flights (along with the position in the scene as viewed from most locations) make it unlikely the typical visitor will notice or be visually distracted by aircraft. The viewer's eye is often drawn to the horizon to take in a park view and aircraft at higher altitudes are less likely to be noticed. Aircraft at lower altitudes may attract visual attention but are also more likely to be screened by topography.

[3] As required by FAA policy, the FAA typically represents yearly conditions as the Average Annual Day (AAD). However, because ATMP operations in the park occur at low annual operational levels and are highly seasonal in nature it was determined that a peak day representation of the operations would more adequately allow for disclosure of any potential impacts. A peak day has therefore been used as a conservative representation of assessment of AAD conditions.

	Under existing conditions, commercial air tours over the Park are flown on multiple routes. Redtail Aviation and American Aviation, Inc. fly three variations of a similar route that enters the Park from the southern end, travels in a northeasterly direction to the vicinity of Delicate Arch, then travels northwest toward Devil's Garden before exiting the Park near Tower Arch in the northwest corner. These routes fly over the Park and ½-mile buffer for between 29 and 32 miles. Bruce M. Adams (Southwest Safaris) flies a route that passes east to west entering the Park near Delicate Arch and exiting near Tower Arch. The route flies over the Park and ½-mile buffer for approximately 13 flight miles. These routes avoid the majority of the Park's area. Reporting data indicates on days when commercial air tours occur over the Park, two flights generally occur per day, leaving the majority of time in the Park free of commercial air tours. The ATMP limits the number of commercial air tours to 309 tours per year and maintains substantially the same routes as are currently flown under existing conditions. Therefore, impacts to viewsheds will be similar to or decrease compared to impacts currently occurring because the number of authorized flights under the ATMP will be the same as the average number of flights from 2017-2019, and routes will remain substantially the same as compared to existing conditions. They would therefore not be considered significant, and because altitudes will increase when compared to existing flight operations, and therefore visitors are less likely to notice them, new impacts from the ATMP are expected to result in beneficial impacts to viewsheds compared to current conditions.
Visitor Use and Experience Recreation Resources	Commercial air tours offer a recreational experience for those who wish to view the Park from a different vantage point. Because the number of commercial air tours under the ATMP is consistent with the average number of flights from 2017-2019 and routes will remain substantially the same as compared to existing conditions, there are no or minimal changes anticipated to the number of commercial air tours offered per year compared to current conditions. Currently, customers on commercial air tours are not required to pay an entrance fee at the Park, nor are the commercial air tour operators required to pay a fee to the Park.
Visitor Use and Experience Visitor Use and Experience	The NPS allows visitor uses that are appropriate to the purpose for which the Park was established and can be sustained without causing unacceptable impacts to Park resources or values. Unacceptable impacts are impacts that, individually or cumulatively, will unreasonably interfere with Park programs or activities including interpretive programs, or the atmosphere of peace and tranquility, or the natural soundscape maintained in wilderness and natural, historic, or commemorative locations within the Park (National Park Service, 2006, 8.2). Effects of commercial air tours on Park visitor experience have been well documented over many years. *See Report on the Effects of Aircraft Overflights on the National Park System* (Department of Interior/NPS, 1995). The primary effect of commercial air tours is the introduction of noise into the acoustic environment. Numerous studies have identified the value and importance of soundscapes as one of the motivations for visiting parks (Haas and Wakefield, 1998; McDonald et al., 1995; Merchan et al., 2014; Miller et al., 2018), including in a cross-cultural context (Miller et al., 2018). Other studies have focused specifically on the effects of aircraft on the visitor experience both in parks and protected areas, and a laboratory setting, indicating that aircraft noise negatively impacts the visitor experience (Anderson et al., 2011; Ferguson, 2018; Mace et al., 2013; Rapoza et al., 2015). Currently, some Park visitors may hear noise from commercial air tours, which may disrupt visitors or degrade the visitor experience at the Park by disturbing verbal communications and masking the sounds of nature. For example, noise from commercial

	air tours may disrupt visitors during interpretive and educational programs at historical sites or while hiking, camping, or participating in other activities. Visitors respond differently to noise from commercial air tour overflights – noise may be more acceptable to some visitors than others. Visitors in backcountry and wilderness areas often find commercial air tours more intrusive than visitors in developed and frontcountry areas where noise from commercial air tours may not be as audible (Rapoza et al., 2015; Anderson et al., 2011). Visitor points of interest include picnic areas, natural rock arches, petrified dunes, visitor centers, and trails. Noise disturbances to visitors from commercial air tours are not expected to measurably change under the ATMP because the ATMP authorizes the same number of commercial air tours as the average number of flights from 2017-2019, routes will remain substantially the same as compared to existing conditions, and requires commercial air tours to fly at the same or increased altitudes reported by the operators. On days when commercial air tours will occur, noise levels above 52 dBA (which is associated with speech interference) will occur for less than five minutes directly under the routes (see Figure 2). See *Noise Technical Analysis* below. It should be noted that when the altitude of an aircraft is increased, the total area exposed to the noise from that aircraft may also increase depending on the surrounding terrain. Although the area, and therefore number of visitors, exposed to noise might increase with higher altitudes, this would not meaningfully affect visitor experience because of the attenuation of sound from the higher altitude and transient nature of the impacts. Finally, limiting the operation of commercial air tours from one hour after sunrise until three hours before sunset, or extending air tours an additional two hours (i.e., up to one hour before sunset) for operators that have converted to quiet technology aircraft, provides times when visitors seeking solitude may explore the Park without disruptions from commercial air tours. Collectively, these changes from existing operations and their effect on the current condition of visitor experience will result in beneficial impacts to the visitor experience at the Park.
Wilderness Wilderness	Approximately 96% of the Park (73,612 acres) is recommended wilderness, which is managed as designated wilderness by the NPS, pursuant to the 2006 NPS Management Policies. Section 2(a) of the Wilderness Act states that wilderness areas "shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character." The NPS manages wilderness to enhance wilderness character consistent with the Act and generally manages for the natural, untrammeled, undeveloped, solitude and unconfined recreation, and other features of value wilderness character qualities. Commercial air tours over the Park may impact the following qualities of wilderness character: opportunity for solitude, the natural quality, and other features of value (e.g., cultural resources). Aircraft that land in wilderness detract from the undeveloped quality of wilderness. Because commercial air tours do not land in wilderness or the Park, the undeveloped quality of wilderness is not considered here. *Keeping it Wild 2, An Updated Interagency Strategy to Monitor Trends in Wilderness Character Across the National Wilderness Preservation System* (Landres et al., 2015) notes that solitude includes attributes such as "separation from people and civilization, inspiration (an awakening of the senses, connection with the beauty of nature and the larger community of life), and a sense of timelessness (allowing one to let go of day-to-day obligations, go at one's own pace, and spend time reflecting)" (p. 51). A review of research suggests that solitude encapsulates a range of experiences, including privacy,

	being away from civilization, inspiration, self-paced activities, and a sense of connection with times past (Borrie and Roggenbuck, 2001)." Generally, solitude improves when sights and sounds of human activity are remote. Commercial air tours can represent both a sight and sound of human activity and therefore detract from this quality of wilderness character. Noise from commercial air tours has the potential to disrupt the opportunity for solitude in recommended wilderness areas. On days when commercial air tours will occur, noise levels above 35 dBA are not anticipated to exceed 30 minutes in the area near Panorama Point (see Figure 1). At other locations beneath and adjacent to the route, noise may be audible for shorter durations (see Figure 1). The average sound level (Equivalent Sound Level or $L_{Aeq\ 12\ hr}$) will not exceed 35 dBA. See *Noise Technical Analysis* below. However, as described in analyses for soundscapes, viewsheds, and visitor use and experience, because the ATMP authorizes the same number of commercial air tours as the average number of flights from 2017-2019, and substantially the same routes will be used, impacts to solitude will be similar or decrease compared to impacts currently occurring. Therefore, the impacts to solitude will not be significant. Impacts on the natural quality of wilderness character are the same as those described under the natural resource categories above (biological, etc.) and will be limited on an annual basis. Therefore, the ATMP is not expected to result in a change in impacts to natural quality compared to current conditions. As described in those previous analyses, because the ATMP authorizes the same number of commercial air tours as the average number of flights from 2017-2019, and substantially the same routes will be used, impacts to natural character will be similar or decrease compared to impacts currently occurring. Therefore, the impacts to natural character will not be significant. Section 2 (c)(4) of the Wilderness Act states that wildernesses "may contain features of ecological, geological, scientific, educational, scenic, or historical value." Where present, cultural resources are part of this "unique" quality of wilderness character. Therefore, active management of wilderness cultural resources must take into account both cultural resource values and contributions to wilderness character. Flights over sensitive cultural resources located in designated wilderness areas have the potential to impact the auditory and visual area of potential effects (APE) of both known and yet unidentified cultural resources. However, as described in analyses for cultural resources above, because the ATMP authorizes the same number of commercial air tours as the average number of flights from 2017-2019, and substantially the same routes will be used, impacts to other features of value will be similar or decrease compared to impacts currently occurring. Therefore, the impacts to other features of value within wilderness will not be significant.
Cumulative Effects	The cumulative impact analysis for the ATMP focuses on noise and viewshed impacts. Impacts to other resources, i.e., wildlife, visitor experience, ethnographic resources, wilderness, etc. all result from noise or viewshed impacts. Many activities may contribute noise to the Park's acoustic environment. Aviation activities such as commercial air tours above 5,000 ft. AGL, and overflights by high altitude jets or private aviation regardless of altitude are not subject to regulation under NPATMA.

	The Park's developed areas and roadways also contribute to ambient noise. Maintenance and other administrative activities, such as search and rescue efforts, etc. may also contribute noise to the acoustic environment, but are generally temporary, irregular, and do not last more than a few hours. Intermittent construction activities may add noise to the Park's acoustic environment, though generally those occur in already developed areas where noise is generally more acceptable and expected. The agencies have qualitatively considered the cumulative impacts of commercial air tours along with impacts from existing activities generally described above. Depending on the level of Park activities at various times of the year, the noise contribution from other sources such as road traffic and visitor use in developed areas may be substantial. There is no known future project that would significantly contribute noise impacts to the project area. Considering existing ambient noise sources and foreseeably future noise sources, the commercial air tour noise is a small contribution of overall noise. Furthermore, the ATMP establishes operating conditions to protect Park natural and cultural resources, and it is unlikely it would measurably change the overall acoustic environment. Commercial air tours over Park roadways are likely to be masked by existing noise and therefore the impacts would be de minimis. Finally, the ATMP does not add new noise to the existing acoustic environment. Therefore, when considering other sources of noise in the Park that are likely to continue under the ATMP, the continuation of 309 commercial air tours will not result in a meaningful change to the current condition of the visual or auditory landscape at the Park. As noted above under viewsheds, visual or viewshed impacts associated with aircraft are most noticeable because of noise. As described above, the ATMP will not result in significant impacts to the acoustic environment. Additionally, there should not be significant cumulative changes to the viewshed since the number of air tours is not increasing but is consistent with the 3-year average. Therefore, no significant cumulative environmental impacts are likely to result from this ATMP.
Indirect Effects	The ATMP applies to all commercial air tours over the Park or within ½ mile outside the boundary of the Park that are flown below 5,000 ft. AGL. These flights takeoff and land from the Canyonlands Field Airport (Arrow West Aviation) and the Santa Fe Regional Airport (Southwest Safaris). The Canyonlands Field Airport is approximately one mile from the nearest point of the Park's ½-mile boundary buffer, and the Santa Fe Regional Airport is located over 200 miles from the Park's ½ mile buffer. Both airports are outside of the area regulated by the ATMP. Land uses between the airports and the Park's ½-mile boundary buffer include developed areas (residential, commercial areas) and undeveloped land uses. Commercial air tours traveling to and from the Park could result in some temporary noise disturbances in these areas. Commercial air tours may fly over developed areas, including residential areas, resulting in temporary noise disturbance to homeowners. Undeveloped lands will likely experience similar impacts to those described in other sections of this ESF, although flight altitudes may be different outside the Park boundary resulting in potentially more adverse impacts than those occurring within the ATMP boundary. Because of the low number of flights authorized by the ATMP (no more than 309 tours per year), and based on the analysis in other sections of the ESF, these indirect effects are expected to be insignificant. Since the ATMP authorizes the same number of commercial air tours per year as existing conditions on substantially the same routes, it is unlikely that the frequency and nature of these disturbances outside of the Park and the ½-mile buffer would result in a change

	from current condition. Therefore, the agencies consider indirect effects of the ATMP to be negligible. However, since the ATMP cannot regulate the flight path, altitude, duration, etc. of flights more than ½-mile outside the boundary of the Park (the operators must comply with relevant FAA regulations), the agencies are unable to require operators to continue to fly more than ½-mile outside the boundary of the Park in the manner in which they currently fly under existing conditions or to require operators to change any operational parameters (e.g., altitude or routes). However, the agencies are unaware of any reason the operators would deviate from their current flight paths outside the ATMP boundary since routes have not substantially changed.

Additional Technical Analysis

AIR QUALITY TECHNICAL ANALYSIS

Potential air quality impacts from proposed commercial air tour operations were estimated using an emissions inventory approach. Annual flight miles by aircraft type were calculated for the parks for which ATMPs are currently being developed and Badlands National Park (BADL) was found to have the highest annual flight miles (58,163 flight miles vs. 10,169 flight miles in Arches National Park). BADL was thus considered the highest anticipated flight activity for parks which meet the National Ambient Air Quality Standards (i.e., attainment parks). The most common aircraft that fly commercial air tours in BADL are the Cessna 206 (fixed-wing) and Robinson R44 (helicopter) and can be considered representative of the types of fixed-wing and helicopter aircraft used for commercial air tours.

The FAA's Aviation Environmental Design Tool (AEDT) version 3d was used to develop emission factors (pounds of emissions per mile flown) for these aircraft, which were derived from the Environmental Protection Agency's (EPA) AP-42: Compilation of Emission Factors (United States Environmental Protection Agency, Office of Noise Abatement and Control, 1974). Although the AP-42 emission factors represent the best available data, they have not been updated since the 1990s and most aircraft engines in use today are likely to be cleaner due to less-polluting fuels and improvements in engine emissions controls. Therefore, these emission rates are considered a conservative estimate of emission rates for aircraft used in commercial air tours.

The maximum emissions (tons per year) were calculated for BADL by multiplying the total number of operations (by aircraft type), the longest route flown by each aircraft type within BADL and the ½-mile boundary outside of BADL, and the aircraft-specific emission factor. The sum of total emissions by aircraft type represent the maximum emissions conditions for BADL. BADL emissions results were compared with the EPA's General Conformity *de minimis* thresholds for the most stringent[4] nonattainment areas. Although BADL and other attainment parks are not subject to General Conformity Requirements, EPA's General Conformity *de minimis* thresholds represent a surrogate for impacts to ambient air quality.

The NPS must also consider impacts to resources that are sensitive to air pollution under the NPS Organic Act mandates and the Clean Air Act (CAA). Such resources include (but are not limited to) sensitive vegetation, streams and lakes, aquatic biota and visibility. These resources are typically referred to as Air Quality Related Values (AQRVs). Parks designated Class I areas under the CAA also receive an additional measure of protection under the CAA provisions. The CAA gives the NPS an "affirmative responsibility to protect the air quality related values (including visibility) of any such lands within a Class I area."

Since emissions estimates for all pollutants in BADL are well below the *de minimis* levels (Table 2), and the Park will have a lower combination of proposed annual operations and route distances using similar fixed-wing

[4] The most stringent non-attainment areas (i.e., lowest *de minimis* thresholds) are categorized as "extreme" for ozone (VOCs or NOx) and "serious" for particulate matter and sulfur dioxide.

aircraft, emissions in the Park will also not exceed *de minimis*. The most stringent *de minimis* emission thresholds for federal conformity determinations are sufficiently low relative to emission thresholds the NPS will use to determine whether additional air quality analysis is necessary under a NEPA analysis. Given this, and the fact that the maximum projected emissions from overflights in the Park are well below these *de minimis* levels (< 1 TPY for nitrogen oxides, particulate matter, and sulfur dioxide – criteria pollutants that have the most significant impact on AQRVs), it is expected that emissions from overflights in the Park under the ATMP will not meaningfully impact AQRVs, or local air quality, and will not have regional impacts from implementation of the ATMP in the Park.

Table 2. Comparison of the emissions inventory for proposed commercial air tours in BADL with *de minimis* thresholds for the most stringent non-attainment areas.

Pollutant	***de minimis* threshold (Tons per Year)**	**Emissions Inventory for BADL (Tons per Year)**
Carbon Monoxide	100	73.11
Volatile Organic Compounds	10	0.61
Nitrogen Oxides	10	0.01
Particulate Matter, diam. < 2.5 μm	70	0.04
Particulate Matter, diam. < 10 μm	70	0.04
Lead	25	0.04
Sulfur Oxides	70	0.06
Carbon Dioxide	n/a	156.43

NOISE TECHNICAL ANALYSIS

Indicators of acoustic conditions

There are numerous ways to measure the potential impacts of noise from commercial air tours on the acoustic environment of a park, including intensity, duration, and spatial footprint of the noise. The metrics and acoustical terminology used for the ATMP are shown in Table 3.

Table 3. Primary metrics used for the noise analysis.

Metric	**Relevance and citation**
Time Above 35 dBA [5]	The amount of time (in minutes) that aircraft sound levels are above a given threshold (i.e., 35 dBA) In quiet settings, outdoor sound levels exceeding 35 dB degrade experience in outdoor performance venues (American National Standards Institute (ANSI), 2007); Blood pressure increases in sleeping humans (Haralabidis et al., 2008); maximum background noise level inside classrooms (American National Standards Institute/Acoustical Society of America S12.60/Part 1-2010).
Time Above 52 dBA	The amount of time (in minutes) that aircraft sound levels are above a given threshold (i.e., 52 dBA)

[5] dBA (A-weighted decibels): Sound is measured on a logarithmic scale relative to the reference sound pressure for atmospheric sources, 20 μPa. The logarithmic scale is a useful way to express the wide range of sound pressures perceived by the human ear. Sound levels are reported in units of decibels (dB) (ANSI S1.1-1994, American National Standard Acoustical Terminology). A-weighting is applied to sound levels in order to account for the sensitivity of the human ear (ANSI S1.42-2001, Design Response of Weighting Networks for Acoustical Measurements). To approximate human hearing sensitivity, A-weighting discounts sounds below 1 kHz and above 6 kHz.

	This metric represents the level at which one may reasonably expect interference with Park interpretive programs. At this background sound level (52 dB), normal voice communication at five meters (two people five meters apart), or a raised voice to an audience at ten meters would result in 95% sentence intelligibility (United States Environmental Protection Agency, Office of Noise Abatement and Control, 1974).
Equivalent sound level, $L_{Aeq,\ 12\ hr}$	The logarithmic average of commercial air tour sound levels, in dBA, over a 12-hour day. The selected 12-hour period is 7 a.m. to 7 p.m. to represent typical daytime commercial air tour operating hours.
Day-night average sound level, L_{dn} (or DNL)	The logarithmic average of sound levels, in dBA, over a 24-hour day, DNL takes into account the increased sensitivity to noise at night by including a ten dB penalty between 10 p.m. and 7 a.m. local time. Note: Both $L_{Aeq,\ 12hr}$ and L_{dn} characterize: • Increases in both the loudness and duration of noise events • The number of noise events during specific time period (12 hours for $L_{Aeq,\ 12hr}$ and 24-hours for L_{dn}) If there are no nighttime events, then $L_{Aeq,\ 12hr}$ is arithmetically three dBA higher than L_{dn}. The FAA's (2015 Exhibit 4-1) indicators of significant impacts are for an action that would increase noise by DNL 1.5 dB or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe.
Maximum sound level, L_{max}	The loudest sound level, in dBA, generated by the loudest event; it is event-based and is independent of the number of operations. L_{max} does not provide any context of frequency, duration, or timing of exposure.

ATMP as related to indicators

In order to provide a conservative evaluation of potential noise effects produced by commercial air tours under the ATMP, the CE analysis is based on a representation of a peak day[6] of commercial air tour activity. For the busiest year of commercial air tour activity from 2017-2019 based on the total number of commercial air tour operations and total flight miles over the Park, the 90th percentile day was identified for representation of a peak day in terms of number of operations, and then further assessed for the type of aircraft and route flown to determine if it is a reasonable representation of the commercial air tour activity over the Park. For the Park, the 90th percentile day was identified as the following:

- ARCHES – one flight, Cessna CE-172 aircraft
- COMBO – two flights, Cessna CE-207 aircraft

Noise contours for the following acoustic indicators were developed using the FAA's AEDT version 3d and are provided below. A noise contour presents a graphical illustration or "footprint" of the area potentially affected by the noise.

- Time above 35 dBA (minutes) – see Figure 1
- Time above 52 dBA (minutes) – see Figure 2
- Equivalent sound level, $L_{Aeq,\ 12hr}$

[6] As required by FAA policy, the FAA typically represents yearly conditions as the Average Annual Day (AAD). However, because ATMP operations in the park occur at low annual operational levels and are highly seasonal in nature it was determined that a peak day representation of the operations would more adequately allow for disclosure of any potential impacts. A peak day has therefore been used as a conservative representation of assessment of AAD conditions.

- Note 1: Contours are not presented for $L_{Aeq,\ 12hr}$ as the average sound levels were below 35 dBA for the ATMP modeled for the Park.
- Note 2: Contours are not presented for L_{dn} (or DNL) as it is arithmetically three dBA lower than $L_{Aeq,\ 12hr}$ if there are no nighttime events, which is the case for the ATMP modeled for the Park.

- Maximum sound level or L_{max} – see Figure 3

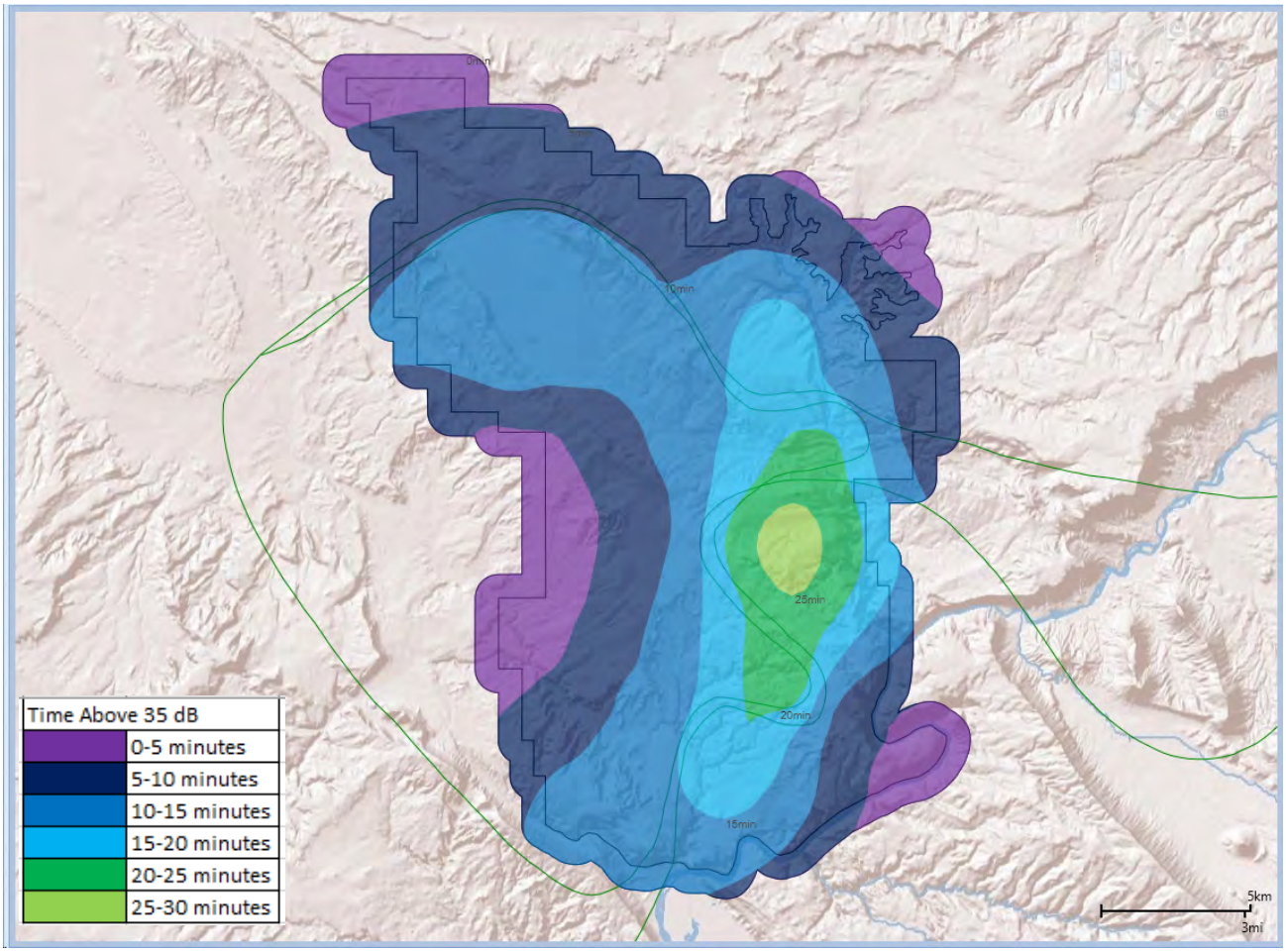

Figure 1. Noise contour results for Time Above 35 dBA

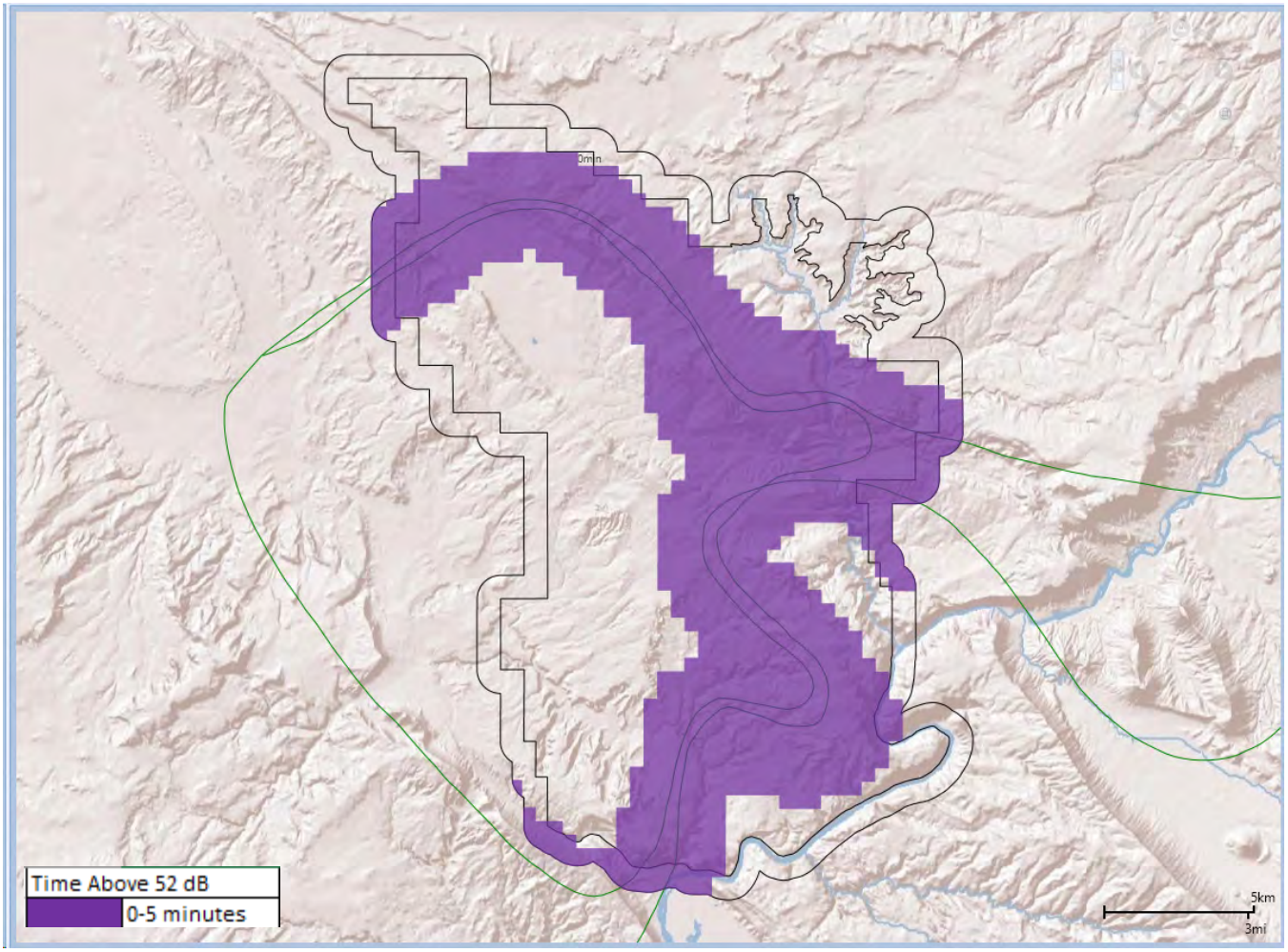

Figure 2. Noise contour results for Time Above 52 dBA

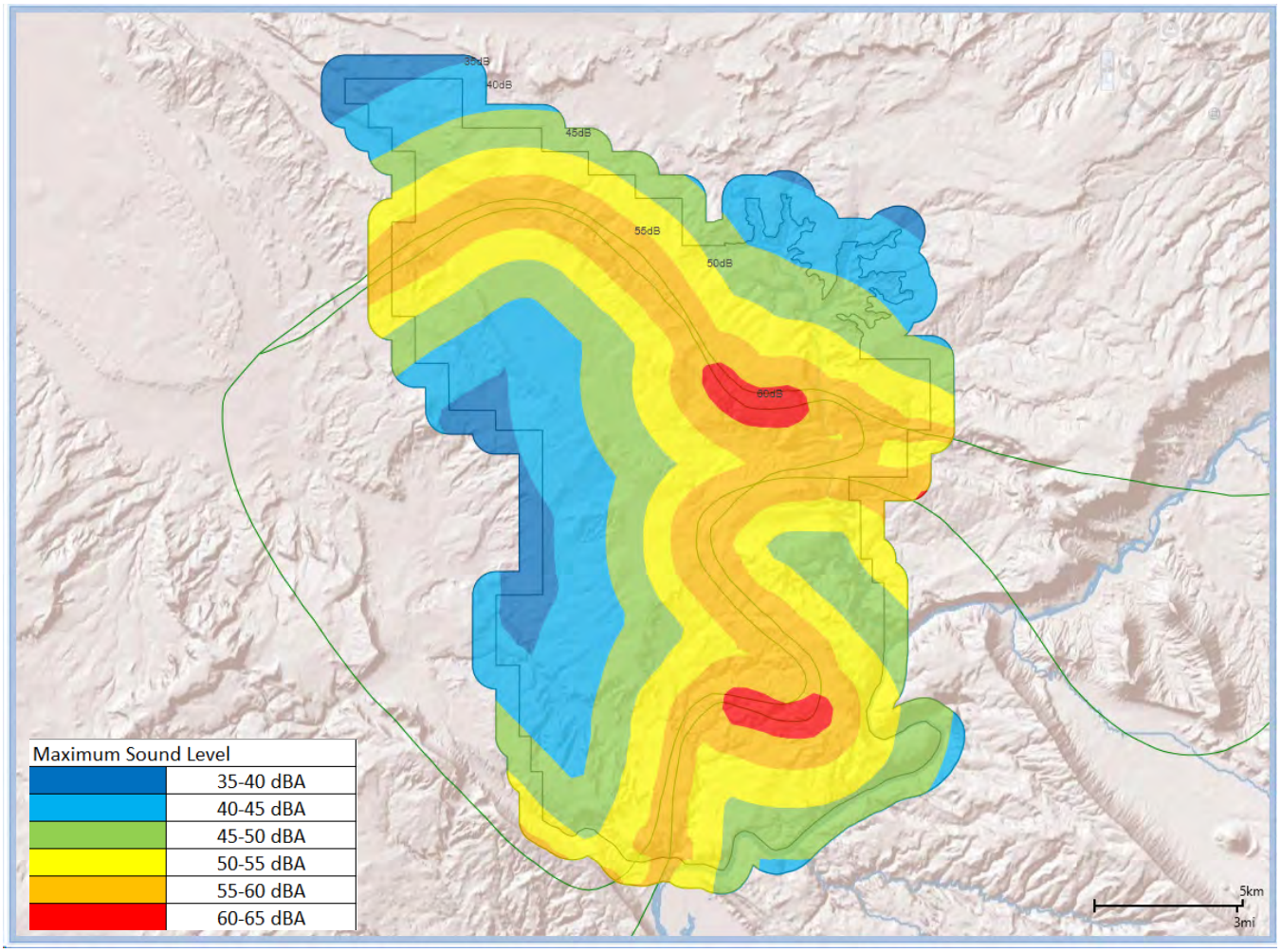

Figure 3. Noise contour results for maximum sound level

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APPENDIX C

Categorical Exclusion Documentation Form

Categorical Exclusion Documentation Form (CE Form)

PROJECT INFORMATION

Project Title: Arches National Park Air Tour Management Plan

PEPC Project Number: 102782

Project Type: Categorical Exclusion

Project Location: Grand County, Utah

PROJECT DESCRIPTION

The proposed action is to implement an Air Tour Management Plan (ATMP) for Arches National Park (the Park). The ATMP includes the following operating parameters to mitigate impacts from commercial air tours on Park resources. For a full discussion of the impacts of commercial air tours and how these operating parameters will maintain or reduce impacts to Park resources, see the *Environmental Screening Form (ESF)*.

Commercial Air Tour Authorizations

Under the ATMP, 309 commercial air tours are authorized per year. Table 1 identifies the operators authorized to conduct commercial air tours and annual flight allocations.

Table 1. Commercial Air Tour Operations and Aircraft Type by Operator

Commercial Air Tour Operator	Annual Operations	Daily Operations	Aircraft Type
Arrow West Aviation, Inc. / Slickrock Air Guides, Inc. (Redtail Aviation)	303	No set limit	GIPPS-GA-8, CE-172-N, CE-207-207, CE-207-T207A, Kodiak-100-100
Adams, Bruce M. (Southwest Safaris)	5	No set limit	CE-182-R, CE-207-T207A
American Aviation, Inc. (Frog Air, American Air Charter)	1	1	CE-172-N, CE-207-207, CE-207-T207A

Commercial Air Tours Routes and Altitudes

Commercial air tours authorized under the ATMP shall be conducted on the designated air tour routes and altitudes specific to each operator in Figure 1. Altitude expressed in units above ground level (AGL) is a measurement of the distance between the ground surface and the aircraft, whereas altitude expressed in mean sea level (MSL) refers to the altitude of an aircraft above sea level, regardless of the terrain below it. Aircraft flying at a constant MSL altitude would simultaneously fly at varying AGL altitudes, and vice versa, assuming uneven terrain is present below the aircraft. The MSL altitudes depicted in Figure 1 mean that commercial air tours will not fly lower than 2,600 feet (ft.) AGL referencing the topographic high point within ½ mile of the flight path for

the entirety of all air tour routes authorized by the ATMP. Except in an emergency or to avoid unsafe conditions, or unless otherwise authorized for a specified purpose, operators may not deviate from these routes and altitudes.

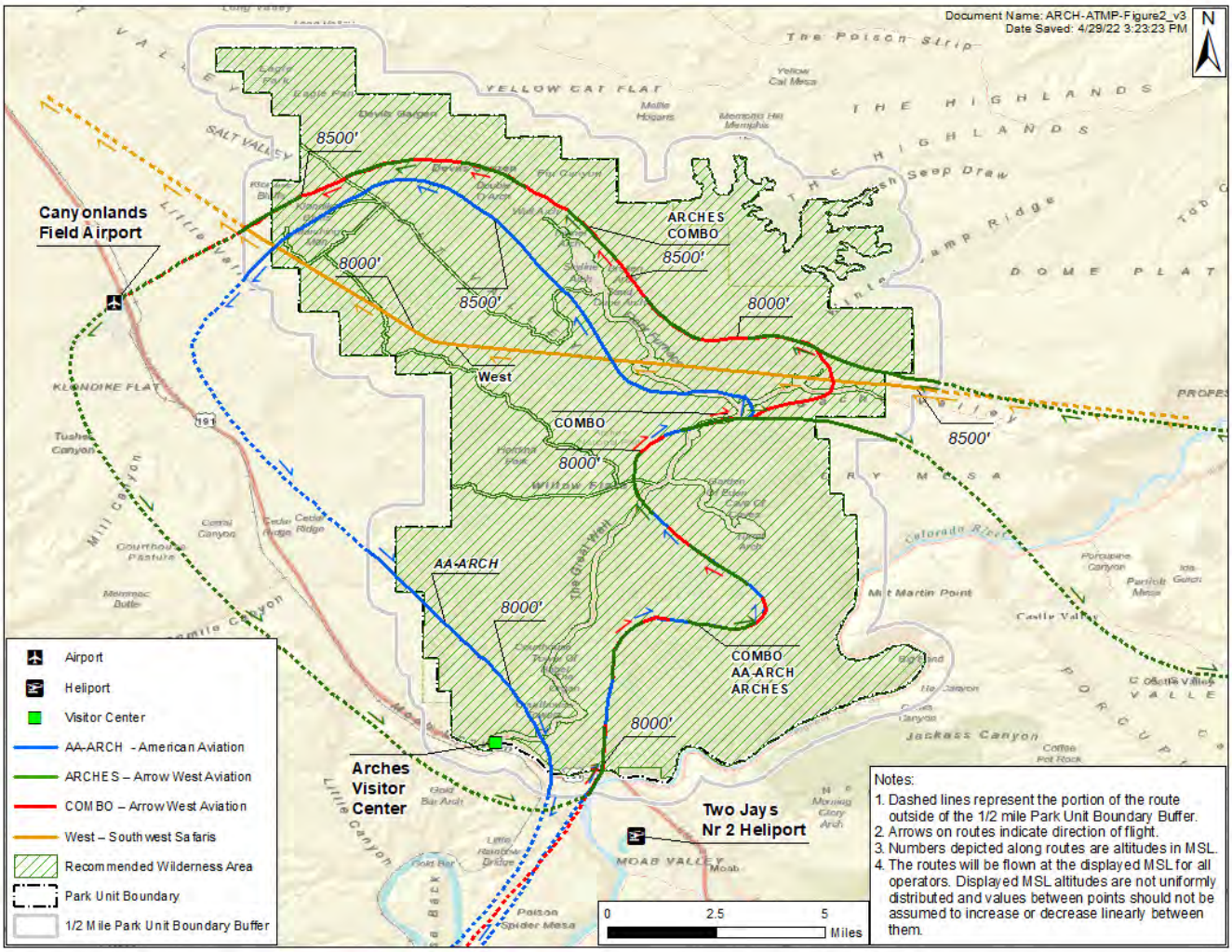

Figure 1. Commercial air tour routes over the Park

Aircraft Type

The aircraft types authorized to be used for commercial air tours are identified in Table 1. Any new or replacement aircraft must not exceed the noise level produced by the aircraft being replaced. In addition to any other applicable notification requirements, operators will notify the Federal Aviation Administration (FAA) and the National Park Service (NPS) in writing of any prospective new or replacement aircraft and obtain concurrence before initiating air tours with the new or replacement aircraft.

Day/Time

Except as provided in the "Quiet Technology Incentives" section below, air tours may operate one hour after sunrise until three hours before sunset, as defined by the National Oceanic and Atmospheric Administration (NOAA).[1] Air tours may operate any day of the year, except under circumstances provided in the following section entitled "Restrictions for Particular Events."

[1] Sunrise and sunset data are available from the NOAA Solar Calculator, https://www.esrl.noaa.gov/gmd/grad/solcalc/

Restrictions for Particular Events

The NPS can establish temporary no-fly periods that apply to air tours for special events or planned Park management. Absent exigent circumstances or emergency operations, the NPS will provide a minimum of 15 days written notice to operators for any restrictions that temporarily restrict certain areas or certain times of day, or 60 days written notice to operators for any full-day restrictions in advance of the no-fly period. Events may include tribal ceremonies or other similar events.

Quiet Technology Incentives

The ATMP incentivizes the use of quiet technology aircraft by commercial air tour operators. Operators that have converted to quiet technology aircraft, or are considering converting to quiet technology aircraft, may request to be allowed to extend air tours an additional two hours (i.e., up to one hour before sunset) on all days that flights are authorized. Because aviation technology continues to evolve and advance and FAA updates its noise certification standards periodically, the aircraft eligible for this incentive will be analyzed on a case-by-case basis at the time of the operator's request to be considered for this incentive. The NPS will periodically monitor Park conditions and coordinate with FAA to assess the effectiveness of this incentive. If implementation of this incentive results in unanticipated effects on Park resources, tribal use, or visitor experience, further agency action may be required to ensure the protection of Park resources, tribal use, and visitor experience.

Additional ATMP Parameters

- *Wildlife Avoidance* – California condors have not been found to be present in the Park and their presence is thus not a current resource condition requiring active mitigation. However, California condor habitat does exist in the Park, and protective measures are necessary should a condor be identified in the Park. The ATMP includes the following protective measures for California condors:
    - Air tour operators are required to report visual identification of California condors to the NPS, with an optional notification to U.S. Fish and Wildlife Service (USFWS), within 24 hours of initial sighting.
    - Once NPS becomes aware of the presence of California condor nests, notification and coordination will be conducted between the Park staff, the NPS Intermountain Region Wildlife Biologist and Threatened and Endangered Species Coordinator, the local USFWS field office, the air tour operators, and the Flight Standards District Office (FSDO), as necessary, to determine the best avoidance measures for operators to take. Generally, operators will be required to avoid identified nesting areas, feeding areas, or other known areas of congregation by 1 mile vertically or laterally as long as the NPS determines that other natural or cultural resources are not impacted or affected and such avoidance measures would not result in operating conditions deemed unsafe by the FAA.
    - The agencies may temporarily restrict use of air tour routes over nesting areas, feeding areas, or other known areas of congregation while: 1) working with operators to modify air tour routes (i.e., 1 mile shifts away from sensitive condor areas); and 2) assessing the natural, cultural, and safety impacts of any changes.
    - Avoidance measures will remain in effect until the NPS determines that condors are no longer present and the NPS notifies the operators in writing that avoidance measures are no longer necessary.

The following elements of the ATMP are not anticipated to have any environmental effects:

- *Compliance* – The NPS and the FAA are both responsible for the monitoring and oversight of the ATMP. To ensure compliance, operators are required to equip all aircraft used for air tours with flight monitoring technology, use flight monitoring technology during all air tours under the ATMP, and to report flight monitoring data as an attachment to the operator's semi-annual reports.

- *Required Reporting* – Operators will submit to the FAA and the NPS semi-annual reports regarding the number of commercial air tours over the Park or within ½ mile of its boundary, and flight monitoring data.
- *Operator Training and Education* – When made available by Park staff, operators/pilots will take at least one training course per year conducted by the NPS.
- *Annual Meeting* – At the request of either of the agencies, the Park staff, the local FAA FSDO, and all operators will meet once per year to discuss the implementation of the ATMP and any amendments or other changes to the ATMP.
- *In-Flight Communication* – For situational awareness when conducting tours of the Park, the operators will utilize frequency 122.9 and report when they enter and depart a route. The pilot should identify their company, aircraft, and route to make any other aircraft in the vicinity aware of their position.
- *Non-transferability of Allocations* – Annual operations under the ATMP are non-transferable.

CE Citation

NPS NEPA Handbook 3.3 A1 (516 DM 12): Changes or amendments to an approved action when such changes will cause no or only minimal environmental impact.

CE Justification

In 2000, Congress passed the National Parks Air Tour Management Act (NPATMA). NPATMA required operators who wish to conduct commercial air tours over national parks to apply to the FAA for authority to conduct such tours. NPATMA provided for existing commercial air tour operations occurring at the time the law was enacted to continue until an ATMP for the Park was implemented by expressly requiring the FAA to grant interim operating authority (IOA) to existing operators, authorizing them to conduct, on an annual basis, "the greater of (i) the number of flights used by the operator to provide the commercial air tour operations within the 12-month period prior to the date of the enactment of the act, or (ii) the average number of flights per 12-month period used by the operator to provide such operations within the 36-month period prior to such date of enactment, and, for seasonal operations, the number of flights so used during the season or seasons covered by that 12-month period."[2] Under NPATMA, the FAA was required to grant IOA for commercial air tours over the Park. [3] IOA does not provide any operating conditions (e.g., route, altitudes, time of day, etc.) for commercial air tours other than an annual limit. In 2012, NPATMA was amended, requiring commercial air tour operators to report actual commercial air tours to the FAA and the NPS. IOA issued by the FAA consistent with NPATMA is the approved action for purposes of the CE, as it is a non-discretionary authorization directed by Congress.

Eight commercial air tour operators hold IOA to conduct a combined total of 623 commercial air tours over the Park each year. [4] However, five of those operators have not reported flying commercial air tours over the Park since reporting began in 2013. Three commercial air tour operators, Arrow West Aviation, Inc. / Slickrock Air Guides, Inc. (Redtail Aviation), Bruce M. Adams (Southwest Safaris), and American Aviation, Inc. (Frog Air, American Air Charter) currently conduct commercial air tours over the Park. Based on the three-year average of reporting data from 2017-2019, Redtail Aviation conducts an average of 303 commercial air tours over the Park each year; Southwest Safaris conducts an average of five commercial air tours over the Park each year; and American Aviation, Inc. conducts an average of one commercial air tour over the Park each year. *See* Table 2, *Reported Commercial Air Tours from 2013-2020.* Reporting data from 2013 and 2014 are considered incomplete as reporting protocols were not fully in place at that time and likely do not reflect actual flights. The agencies consider the 2017-2019, three-year average, which is 309 commercial air tours, to be the existing commercial air tour operations for the purposes of understanding both the existing number of commercial air tour flights over the

[2] 49 U.S.C. § 40128(c)(2)(A)(i-ii)
[3] *Id.*
[4] Notice of Interim Operating Authority Granted to Commercial Air Tour Operators Over National Parks and Tribal Lands Within or Abutting National Parks, 70 Fed. Reg. 36,456 (June 23, 2005).

Park and impacts from that activity. Flight numbers from a single year were not chosen as the existing condition because the three-year average accounts for both variation across years and takes into account the most recent years prior to the COVID-19 pandemic. The 2020 COVID-19 pandemic resulted in atypical commercial air tour operations, which does not represent the conditions in a typical year. In addition, the year 2021 was not included because the planning and impact analysis for the ATMP occurred before 2021 reporting information was collected and analyzed. Although the approved action (IOA) allowed 623 flights annually, the current condition of Park resources and values reflects the impact of an average of 309 flights annually, which represents existing commercial air tour operations. The ATMP sets a maximum of 309 flights annually.

The operators conduct commercial air tours on four different routes over the Park. Redtail Aviation conducts commercial air tours on two different routes using GIPPS-GA-8, CE-172-N, CE-207-207, CE-207-T207A, and Kodiak-100-100 aircraft (fixed-wing) at a minimum altitude of 2,900 ft. AGL. Southwest Safaris conducts commercial air tours on one route using CE-182-R and CE-207-T207A aircraft (fixed-wing) at a minimum altitude of 1,000 to 1,500 ft. AGL, depending on location over the Park. American Aviation, Inc. conducts commercial air tours on one route using CE-172-N, CE-207-207, and CE-207-T207A aircraft at a minimum altitude of 2,900 ft. AGL. Commercial air tours are typically conducted between the hours of 7:30 AM and 7:30 PM and occur year-round.

The ATMP limits the number of commercial air tours that the operators are authorized to conduct over the Park or within ½ mile of its boundary to the existing three-year average of tours conducted from 2017-2019 (303 tours each year for Redtail Aviation, five tours each year for Southwest Safaris, and one tour each year for American Aviation, Inc., for a combined total of 309 commercial air tours each year). The operators will be allowed to conduct commercial air tours on substantially the same routes that the operators currently report flying over the Park. The MSL altitudes required by the ATMP increase the minimum altitude that the operators will be allowed to conduct commercial air tours from minimum 1,000 ft. AGL to no lower than 2,600 ft. AGL referencing the topographic high point within ½ mile of the flight path for the entirety of all air tour routes authorized by the ATMP. The ATMP restricts the hours during which commercial air tours may be conducted over the Park, beginning one hour after sunrise until three hours before sunset. Operators that request and are authorized to use the quiet technology incentive may conduct commercial air tours over the Park beginning one hour after sunrise until one hour before sunset. The ATMP allows the Park to establish no-fly periods for special events, which could include planned visits made by traditionally associated indigenous groups for ceremonial purposes, or planned Park management.

Table 2. Reported Commercial Air Tours from 2013-2020

Operator	Aircraft	IOA	2013	2014	2015	2016	2017	2018	2019	2020[5]
Arrow West Aviation, Inc. / Slickrock Air Guides, Inc. (Redtail Aviation)	GIPPS-GA-8, CE-172-N, CE-207-207, CE-207-T207A, Kodiak-100-100	380	105	75	96	268	388	222	298	159
Bruce M. Adams (Southwest Safaris)	CE-182-R, CE-207-T207A	57	10	8	19	6	5	3	7	5

[5] Based on unpublished reporting data.

American Aviation, Inc. (Frog Air, American Air Charter)	CE-172-N, CE-207-207, CE-207-T207A	137	0	0	0	0	2	0	0	0
Aero-Copters of Arizona, Inc. (Helivision, Canyon Airlines, Bryce Canyon Helicopters, Bryce Canyon Airlines)	No data	10	0	0	0	0	0	0	0	0
Air Grand Canyon, Inc. (Air Grand Canyon, Air Grand Canyon Family Air Tours, Air Grand Canyon Scenic Flights)	No data	8	0	0	0	0	0	0	0	0
Grand Canyon Airlines, Inc. (Grand Canyon Airlines, Scenic Airlines, Grand Canyon Scenic Airlines)	No data	4	0	0	0	0	0	0	0	0
Maverick Helicopters, Inc.	No data	15	0	0	0	0	0	0	0	0
Papillon Airways, Inc. (Papillon Grand Canyon Helicopters, Grand Canyon Helicopters)	No data	12	0	0	0	0	0	0	0	0
Total		**623**	**115**	**83**	**106**	**274**	**395**	**225**	**305**	**164**

Consistent with Council on Environmental Quality regulations, the baseline from which to measure environmental impacts of the ATMP is the current condition of the human environment. In this case, the baseline is the current condition of Park resources and values, as impacted by current commercial air tours flown under IOA (between 225 and 395 commercial air tours per year, or an average of 309 commercial air tours per year.) Though IOA does not set a minimum altitude or set designated routes, the baseline also includes the route and altitude information provided by the operators, as well as timing and daily air tour information during the years of 2017-2019 as reported by the operators. Environmental impacts or effects are changes to the human environment (natural and physical) from the ATMP.[6] Because the ATMP is very similar to existing commercial air tour operations and includes new operating parameters designed to improve resource protections and visitor experience, impacts resulting from effects of the ATMP will result in no or only minimal environmental impacts. Under the ATMP, the number of commercial air tours may not increase without an amendment to the ATMP, guaranteeing no greater impacts to the environment will occur without subsequent review consistent with the National Environmental Policy Act (NEPA). An amendment would also be required for a change in the routes beyond that permitted by adaptive management or where the impacts have been already analyzed by the agencies. In addition, the inclusion of mitigating elements including altitude restrictions, time of day restrictions, and quiet aircraft technology incentives will further reduce the impacts of commercial air tours under the ATMP, which will lead to beneficial impacts to the environment compared to current conditions. The use of CE 3.3 A1 is appropriate because environmental impacts resulting from the ATMP will result in no or only minimal changes to the current condition of Park resources and values and impacts will be beneficial compared to current conditions.

[6] *See* 40 CFR § 1508.1(g)

Even if impacts of the ATMP were measured against the total number of commercial air tours authorized under IOA for the Park (though such a baseline does not reflect actual commercial air tours conducted over the Park as demonstrated by reported data and is not, therefore, an accurate depiction of the current condition of the human environment) impacts compared to current conditions will be beneficial because the ATMP will set the maximum number of commercial air tours at a level much lower than the maximum number of commercial air tours authorized under IOA and includes mitigating elements noted above. Therefore, even if the analysis were approached from a baseline of IOA, the CE would still be an acceptable NEPA pathway since NEPA is primarily concerned with adverse impacts, not beneficial ones like those that will result from the ATMP. In conclusion, the use of this CE is justified because the changes to the approved action (IOA) from the implementation of the ATMP will result in no or only minimal environmental impacts. The use of the CE is consistent with NEPA.

Table 3. Extraordinary Circumstances

If implemented, would the proposal...	Yes/No	Notes
A. Have significant impacts on public health or safety?	No	Commercial air tours are subject to the FAA regulations for protecting individuals and property on the ground, and preventing collisions between aircraft, land or water vehicles, and airborne objects. The operators must continue to meet the FAA safety regulations. Therefore, health and safety impacts will not be significant.
B. Have significant impacts on such natural resources and unique geographic characteristics as historic or cultural resources; park, recreation, or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (Executive Order 11990); floodplains (Executive Order 11988); national monuments; migratory birds; and other ecologically significant or critical areas?	No	As noted above, the ATMP authorizes the average number of flights that that were flown from 2017-2019 on substantially the same routes. Therefore, there will be no or minimal change in the potential for impacts compared to current conditions. The route restrictions, altitude requirements, and time of day restrictions further mitigate any potential adverse impacts and will ensure that no significant adverse environmental effects will occur and that impacts will be beneficial compared to current conditions. *See* ESF for a full description of the impacts considered.
C. Have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources (NEPA section 102(2)(E))?	No	There are no highly controversial environmental effects. Impacts from commercial air tours generally are understood from existing modeling and literature and can be projected for Park resources. Information and models used to assess impacts for commercial air tours, as discussed in the ESF, are consistent with peer reviewed literature. Additionally, there are no unresolved conflicts over available resources. This extraordinary circumstance applies to the use or consumption of resources in a way that prohibits another use of the same resource. Commercial air tours do not consume NPS resources. The impacts from tours affect resources but the resources remain present for others to enjoy or appreciate.
D. Have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks?	No	There are no highly uncertain impacts associated with commercial air tours over the Park. The significance of the environmental effects is to be measured by the change from current condition. As noted above, the

		ATMP authorizes the average number of flights that were flown from 2017-2019 on substantially the same routes. Therefore, there will be no or only minimal impacts compared to current conditions. As also noted above, the route restrictions, altitude requirements, and time of day restrictions further mitigate any potential adverse impacts and will ensure that no significant adverse environmental effects will occur and that impacts will be beneficial compared to current conditions. *See* ESF for more information.
E. Establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects?	No	The ATMP will not make any decisions in principle about future actions or set a precedent for future action. The NPS and the FAA may choose to amend the ATMP at any time consistent with NPATMA.
F. Have a direct relationship to other actions with individually insignificant, but cumulatively significant, environmental effects?	No	The FAA and the NPS qualitatively considered the cumulative impacts of commercial air tours along with impacts from existing activities described in the ESF. In some cases, the noise contribution from other sources may be substantial, such as high-altitude jets or roadway traffic. The addition of commercial air tour noise is such a small contribution of noise overall that it is unlikely they would result in perceptible change to the overall acoustic environment. Commercial air tours over roadways are likely to be masked by existing noise and therefore the impacts would be de minimis. Finally, the ATMP does not add new noise to the existing acoustic environment and visual impacts associated with aircraft are most noticeable because of noise and have been found to be not significant. Therefore, when considering other sources of noise in the Park that are likely to continue under the ATMP, the continuation of 309 commercial air tours will result in no or only minimal change to the current condition of the visual or auditory landscape at the Park, and no significant cumulative environmental impacts are likely to result from the ATMP. *See* ESF for more information.
G. Have significant impacts on properties listed or eligible for listing on the National Register of Historic Places, as determined by either the bureau or office?	No	As noted above, the ATMP authorizes the average number of flights that were flown from 2017-2019 on substantially the same routes. Therefore, there will be no or only minimal change in the potential for impacts compared to current condition. The route restrictions, altitude requirements, and time of day restrictions further mitigate any potential adverse impacts; and will ensure that no significant adverse environmental effects will occur and that impacts will be beneficial compared to current conditions. The authorized level of commercial air tours is not anticipated to adversely affect properties eligible for

		listing on the National Register of Historic Places. The FAA, in coordination with the NPS, consulted with the State Historic Preservation Office, Tribal Historic Preservation Offices, federally recognized tribes and other consulting parties to reach this determination pursuant to 36 CFR Part 800. The FAA subsequently concluded that there will be no adverse effects to historic properties that will result from this undertaking. The FAA proposed this finding to all consulting parties. The SHPO concurred with the finding of no adverse effect. The FAA did not receive any objections to the finding. *See* ESF for more information.
H. Have significant impacts on species listed or proposed to be listed on the List of Endangered or Threatened Species, or have significant impacts on designated Critical Habitat for these species?	No	As noted above, the ATMP authorizes the average number of flights that were flown from 2017-2019 on substantially the same routes. Therefore, there will be no or only minimal change in the potential for impacts compared to current conditions. The route restrictions, altitude requirements, and time of day restrictions further mitigate any potential adverse impacts, and will ensure that no significant adverse environmental effects will occur and that impacts will be beneficial compared to current conditions. The NPS has determined the ATMP *may affect, but is not likely to adversely affect* the Mexican spotted owl and California condor. Therefore, there is no potential for significant impacts to any listed species associated with the commercial air tour activity proposed in the ATMP. *See* ESF for more information.
I. Violate a federal, state, local or tribal law or requirement imposed for the protection of the environment?	No	The ATMP will comply with all applicable federal, state, local and tribal laws. *See* ESF for more information.
J. Have a disproportionately high and adverse effect on low income or minority populations (EO 12898)?	No	The ATMP will not have a disproportionate effect on low income or minority populations. *See* ESF for more information.
K. Limit access to and ceremonial use of Indian sacred sites on federal lands by Indian religious practitioners or adversely affect the physical integrity of such sacred sites (EO 130007)?	No	The ATMP will not limit access to, or change ceremonial use of Indian sacred sites on federal lands in any way. Sacred ceremonies or other tribal activities which occur without notice to the NPS may be interrupted by noise, however, air tours have no effect on Tribal access. Additionally, the ATMP does not involve any ground disturbing or other activities that would adversely affect the physical integrity of sacred sites. *See* ESF for more information.
L. Contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range	No	The ATMP does not involve any ground disturbance or other activities with the potential to contribute to the introduction, continued existence, spread, growth, or expansion of invasive or exotic species in the Park.

of such species (Federal Noxious Weed Control Act and Executive Order 13112)?		

Decision

I find that the action fits within the categorical exclusion above. Therefore, I am categorically excluding the described project from further NEPA analysis. No extraordinary circumstances apply.

Signature

PAUL LARSON Digitally signed by PAUL LARSON Date: 2022.10.12 08:39:05 -06'00'

Paul Larson
Chief Ranger
Acting Superintendent for Patricia S. Trap
Southeast Utah Group
National Park Service

Date

APPENDIX D

FAA Categorical Exclusion Adoption

Federal Aviation Administration

Adoption of the Categorical Exclusion Determination by the National Park Service for the Arches National Park Air Tour Management Plan.

The National Parks Air Tour Management Act (NPATMA) requires that all commercial air tour operators conducting or intending to conduct a commercial air tour operation over a unit of the National Park System apply to the Federal Aviation Administration (FAA) for authority to undertake such activity. 49 U.S.C. § 40128(a)(2)(A). NPATMA, as amended, further requires the FAA, in cooperation with the National Park Service (NPS), to establish an Air Tour Management Plan (ATMP) or voluntary agreement for each park that did not have such a plan or agreement in place at the time the applications were made, unless a park has been exempted otherwise from this requirement. 49 U.S.C. § 40128(b)(1)(A).

The FAA and the NPS are proposing to implement the ATMP for Arches National Park (Park), in accordance with NPATMA, as amended, its implementing regulations (14 Code of Federal Regulations (CFR) Part 136), and all other applicable laws and policies. This document memorializes the FAA's adoption of the NPS determination that its categorical exclusion (CATEX) covers the scope of its proposed action.

1. Regulatory Framework

The Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (NEPA), 40 CFR Parts 1500-1508, require an agency wishing to apply a CATEX identified in its agency NEPA procedures to first make a determination that the CATEX covers the proposed action and to "evaluate the action for extraordinary circumstances in which a normally excluded action may have a significant effect." 40 CFR § 1501.4(b). If the agency determines that no extraordinary circumstances exist or that "there are circumstances that lessen the impacts or other conditions sufficient to avoid significant effects," the agency may categorically exclude the proposed action. 40 CFR §1501.4(b)(1).

Section 1506.3(a) of the CEQ regulations authorizes agencies to adopt other agencies' NEPA documents under certain conditions, while section 1506.3(d) of the regulations applies specifically to the adoption of other agencies' CATEX determinations and reads as follows:

> An agency may adopt another agency's determination that a categorical exclusion applies to a proposed action if the action covered by the original categorical exclusion determination and the adopting agency's proposed action are substantially the same. The agency shall document the adoption.

40 CFR § 1506.3(d). This document has been prepared to comply with that Regulation.

2. The NPS's Proposed Action

The NPS's proposed action is to implement an ATMP for the Park. The ATMP includes operating parameters to mitigate impacts from commercial air tours on Park resources, which are described in the NPS Categorical Exclusion Documentation Form attached to the Record of Decision (ROD) as Appendix C.

3. FAA's Proposed Action

Like the NPS, the FAA's Proposed Action is to implement the ATMP for the Park subject to the operating parameters described in the NPS Categorical Exclusion Documentation Form (see Appendix C of the ROD). In addition, the FAA will update the operations specifications (OpSpecs) for the air tour operators to incorporate the terms and conditions of the ATMP accordingly.

4. Scope of Applicable CATEX and the NPS Extraordinary Circumstances Analysis

For its proposed action, the NPS has applied the Categorical Exclusion from the NPS NEPA Handbook 3.3 A1 (516 DM 12): "Changes or amendments to an approved action when such changes will cause no or only minimal environmental impact."

Per 40 CFR § 1501.4(b), an agency must first determine that the categorical exclusion identified in its agency NEPA procedures covers the proposed action. In this case, the NPS states as follows:

> In 2000, Congress passed the National Parks Air Tour Management Act (NPATMA). NPATMA required operators who wish to conduct commercial air tours over national parks to apply to the FAA for authority to conduct such tours. NPATMA provided for existing commercial air tour operations occurring at the time the law was enacted to continue until an ATMP for the Park was implemented by expressly requiring the FAA to grant interim operating authority (IOA) to existing operators, authorizing them to conduct, on an annual basis, "the greater of (i) the number of flights used by the operator to provide the commercial air tour operations within the 12-month period prior to the date of the enactment of the act, or (ii) the average number of flights per 12-month period used by the operator to provide such operations within the 36-month period prior to such date of enactment, and, for seasonal operations, the number of flights so used during the season or seasons covered by that 12-month period." Under NPATMA, the FAA issued IOA for commercial air tours over the Park. IOA does not provide any operating conditions (e.g., route, altitudes, time of day, etc.) for commercial air tours other than an annual limit. In 2012, NPATMA was amended, requiring commercial air tour operators to report actual commercial air tours to the FAA and the NPS. IOA issued by the FAA consistent with NPATMA is the approved action for purposes of the CE, as it is a non-discretionary authorization directed by Congress.
>
> …The use of CE 3.3 A1 is appropriate because environmental impacts resulting from the ATMP will result in no or only minimal changes to the current condition of Park resources and values and impacts will be beneficial compared to current conditions.

For a complete discussion of the NPS's justification for using the above-noted CE, *see* the NPS's Categorical Exclusion Documentation Form, attached to the ROD as Appendix C.

Section 1501.4(b) of the CEQ regulations requires an agency seeking to categorically exclude a proposed action to "evaluate the action for extraordinary circumstances in which a normally excluded action may have a significant effect." The NPS confirms it has performed an appropriate extraordinary

circumstances analysis. *See* the NPS's Categorical Exclusion Documentation Form, attached to the ROD as Appendix C, and the NPS's Environmental Screening Form, attached to the ROD as Appendix B.

5. FAA's "Substantially the Same Action" Determination

As noted above, the CEQ Regulations provide that an agency "may adopt another agency's determination that a categorical exclusion applies to a proposed action **if the action covered by the original categorical exclusion determination and the adopting agency's proposed action are substantially the same.**" 40 CFR § 1506.3(d) (emphasis added). Thus, in order to adopt the NPS's CATEX determination, the FAA must conclude that its proposed action and the NPS's Proposed Action are "substantially the same."

In the preamble to the final amended regulations, CEQ stated:

> The final rule provides agencies the flexibility to adopt another agency's determination that a [CATEX] applies to an action when the actions are substantially the same to address situations where a proposed action would result in a [CATEX] determination by one agency and an EA and FONSI by another agency.

85 Fed. Reg. 43304, 43336 (July 16, 2020).

In this case, the FAA has been directed by Congress to implement an ATMP for the Park in cooperation with the NPS. The proposed action is an action to be taken jointly by both agencies, as NPATMA requires. Therefore, the proposed actions of the agencies are necessarily substantially the same and any reasonably foreseeable changes to the human environment arising from the NPS's implementation of the proposed action are identical to those that would arise from the FAA's proposed action. While the FAA's action also includes updating the operators' OpSpecs, the update would simply further require the operators to comply with the terms and conditions contained in the ATMP and would not result in any impacts beyond those that could result from implementation of the ATMP itself. Accordingly, the FAA determines that the NPS's Proposed Action and FAA's Proposed Action are substantially the same.[1]

6. FAA's Extraordinary Circumstances Analysis

Extraordinary circumstances are factors or circumstances in which a normally categorically excluded action may have a significant environmental impact that then requires further analysis in an EA or an EIS. For FAA proposed actions, extraordinary circumstances exist when the proposed action: (1) involves any of the circumstances described in paragraph 5-2 of FAA Order 1050.1F; and (2) may have a significant impact. *See* FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, section 5-2.

The most potentially relevant circumstances listed in paragraph 5-2 of FAA Order 1050.1F are as follows:[2]

[1] Updating the operators' OpSpecs is also independently subject to an FAA CATEX covering "Operating specifications and amendments that do not significantly change the operating environment of the airport." FAA Order 1050.1F, § 5-6.2(d).

[2] Section 5-2(b)(10) of FAA Order 1050.1F includes a circumstance reading "[i]mpacts on the quality of the human environment that are likely to be highly controversial on environmental grounds" and explains that "[t]he term 'highly controversial on environmental grounds' means there is a substantial dispute involving reasonable disagreement over the degree, extent, or nature of a proposed action's environmental impacts or over the action's risks of causing environmental harm. Mere opposition is not sufficient for a proposed action or its impacts to be considered highly controversial on environmental grounds." The 2020 updates to the CEQ regulations eliminated

- An adverse effect on cultural resources protected under the National Historic Preservation Act (*see* ROD Appendix F);
- An impact on properties protected under Section 4(f) of the Department of Transportation Act;
- An impact on natural, ecological, or scenic resources of Federal, state, tribal, or local significance (e.g., federally listed or proposed endangered, threatened, or candidate species, or designated or proposed critical habitat under the Endangered Species Act) (*see* ROD Appendix E);
- An impact on national marine sanctuaries or wilderness areas;
- An impact to noise levels at noise sensitive areas;
- An impact on air quality or violation of Federal, state, tribal, or local air quality standards under the Clean Air Act; and
- An impact on the visual nature of surrounding land uses.

In support of this adoption, the FAA performed its own extraordinary circumstances analysis to ensure that a CATEX was the appropriate level of environmental review and adoption of the NPS's CATEX determination was permissible. The FAA evaluated each of its extraordinary circumstances to determine if any would have the potential for significant impacts and determined that no extraordinary circumstances exist. *See* Documentation of FAA's Extraordinary Circumstances Analysis for the Park, attached as Exhibit 1.

7. Section 4(f) of the Department of Transportation Act

Section 4(f) of the Department of Transportation Act (codified at 49 U.S.C. § 303(c)), states that, subject to exceptions for *de minimis* impacts:

> … the Secretary may approve a transportation program or project…requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if –
>
> 1. There is no prudent and feasible alternative to using that land; and
>
> 2. The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

The term "use" refers to both direct (physical) and indirect (constructive) impacts to Section 4(f) resources. A physical use involves the physical occupation or alteration of a Section 4(f) resource, while constructive use occurs when a proposed action results in substantial impairment of a resource to the degree that the activities, features, or attributes of the resource that contribute to its significance or enjoyment are substantially diminished. Under the ATMP, potential impacts to Section 4(f) resources from commercial air tours may include noise from aircraft within the acoustic environment, as well as visual impacts.

To comply with Section 4(f) and as part of its extraordinary circumstances analysis, the FAA prepared a 4(f) analysis, which is attached as Exhibit 2, and determined that there would be no use of any 4(f) resource associated with the implementation of the proposed action. As part of this analysis, the FAA

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the "intensity" factor on which this circumstance is based. The FAA nevertheless considered this factor in its extraordinary circumstances analysis for disclosure purposes and to the extent relevant.

consulted with Officials with Jurisdiction of 4(f) resources in the study area. Further information about those consultations is included in Exhibit 2.

8. Attachments

The FAA prepared this document on review and contemplation of the documents appended to the ROD in addition to the following documents, which are attached hereto:

- Exhibit 1: Documentation of FAA Extraordinary Circumstances Analysis
- Exhibit 2: FAA Section 4(f) Analysis for Arches National Park

9. Adoption Statement

In accordance with 40 CFR § 1506.3(d), the FAA hereby finds that the NPS's and FAA's proposed actions are substantially the same, that no extraordinary circumstances exist, and that adoption of the NPS's CATEX determination is otherwise appropriate. Accordingly, the FAA hereby adopts the NPS's CATEX determination.

Approved: ALETA BEST Digitally signed by ALETA BEST Date: 2022.10.13 07:46:15 -07'00'

Date:_____

Aleta Best
Deputy Regional Administrator (A)
Northwest Mountain Region
Federal Aviation Administration

EXHIBIT 1

Documentation of FAA Extraordinary Circumstances Analysis

The FAA's Extraordinary Circumstance Analysis
For Arches National Park ATMP

Extraordinary Circumstance	Yes	No	Notes
1. Is the action likely to have an adverse effect on cultural resources protected under the National Historic Preservation Act of 1966, as amended?		✓	The FAA, in coordination with the NPS, consulted with the Utah State Historic Preservation Office, Native American tribes, and other consulting parties on the potential impacts of the ATMP on Historic Properties, including cultural landscapes. That consultation process led to a finding that the ATMP will have no adverse effect on historic properties. The FAA proposed this finding to all consulting parties. The SHPO concurred with the finding of no adverse effect. The FAA did not receive any objections to the finding. See Section 106 documentation for more information.
2. Is the action likely to have an impact on properties protected under Section 4(f) of the Department of Transportation Act?		✓	The ATMP limits the number of commercial air tours to 309 tours per year and maintains substantially the same routes as are currently flown under existing conditions. Overall, noise impacts associated with commercial air tours over the Park are not expected to measurably change, since the ATMP authorizes the same number of flights per year as the average number of flights from 2017-2019 and requires commercial air tours to maintain substantially the same routes and increased altitudes as compared to existing conditions. Refer to the Noise Technical Analysis. For purposes of assessing noise impacts from commercial air tours on the acoustic environment of the Park under the National Environmental Policy Act (NEPA), the FAA noise evaluation is based on Yearly[1] Day Night Average Sound Level (Ldn or DNL); the cumulative noise energy exposure from aircraft over 24 hours. The DNL analysis indicates that the ATMP will not result in any noise impacts that would be "significant" or "reportable" under FAA's policy for NEPA. In addition, visual impacts to Section 4(f) resources will be similar to impacts currently occurring because the number of authorized flights under the ATMP will be the same as the average number of flights from 2017-2019, and routes will remain substantially the same as compared to existing conditions. After consulting with officials with jurisdiction over appropriate 4(f) resources, the FAA has determined that the ATMP will not result in substantial impairment of Section 4(f) resources; therefore, no constructive use of a Section

[1] As required by FAA policy, the FAA typically represents yearly conditions as the Average Annual Day (AAD). However, because ATMP operations in the park occur at low annual operational levels and are highly seasonal in nature FAA determined that a peak day representation of the operations would more adequately allow for disclosure of any potential impacts. A peak day has therefore been used as a conservative representation of assessment of AAD conditions required by FAA policy.

Extraordinary Circumstance	Yes	No	Notes
			4(f) resource associated with the ATMP will occur. See Section 4(f) analysis.
3. Is the action likely to have an impact on natural, ecological, or scenic resources of Federal, state, tribal or local significance?		✓	The ATMP limits the number of commercial air tours to 309 tours per year and maintains substantially the same routes as are currently flown under existing conditions. Therefore, impacts to viewsheds will be similar to impacts currently occurring because the number of authorized flights under the ATMP will be the same as the average number of flights from 2017-2019 and the routes will remain substantially the same as compared to existing conditions. Furthermore, since altitudes will increase as compared to existing conditions and therefore visitors are less likely to notice overflights, the ATMP is expected to result in beneficial impacts to viewsheds compared to current conditions. Therefore, the ATMP will not impact scenic resources. The FAA and NPS determined the ATMP *may affect, not likely to adversely affect* Mexican spotted owl and California condor. The USFWS concurred with this determination on May 3, 2022. See Section 7 correspondence.
4. Is this action likely to have an impact on the following resources:			
Resources protected by the Fish and Wildlife Coordination Act		✓	The ATMP will not result in the control or modification of a natural stream or body of water. Therefore, no resources protected by the Fish and Wildlife Coordination Act will be impacted.
Wetlands		✓	While wetlands are present within the project area, the ATMP will not result in ground disturbance or fill. Therefore, no impacts to wetlands will occur.
Floodplains		✓	While floodplains are present within the project area, the ATMP will not result in ground disturbance or fill. Therefore, no impacts to floodplains will occur.
Coastal zones		✓	No coastal zones are located within the Park or its ½-mile boundary.
National marine sanctuaries		✓	No national marine sanctuaries are located within the Park or its ½-mile boundary.
Wilderness areas		✓	Approximately 96% of the Park is recommended wilderness. Because commercial air tours do not land in wilderness or parks, the undeveloped quality of wilderness will be maintained. Because the ATMP authorizes the same number of commercial air tours as the average number of flights from 2017-2019, and substantially the same routes will be used, impacts to solitude and the

Extraordinary Circumstance	Yes	No	Notes
			natural quality of wilderness character will be similar or decrease compared to impacts currently occurring.
National Resource Conservation Service-designated prime and unique farmlands		✓	The ATMP will not result in ground disturbance. Therefore, the project will not impact designated prime and unique farmlands.
Energy supply and natural resources		✓	The ATMP will not affect energy supplies or natural resources.
Resources protected under the Wild and Scenic Rivers Act and rivers, or river segments listed on the Nationwide Rivers Inventory (NRI)		✓	No wild and scenic rivers are located within the Park.
Solid waste management		✓	The ATMP will not result in the generation of solid waste, construction, or demolition debris.
5. Is the action likely to cause a division or disruption of an established community, or a disruption of orderly, planned development, or an inconsistency with community plans or goals?		✓	The ATMP will not disrupt communities or development plans or goals.
6. Is the action likely to cause an increase in surface transportation congestion?		✓	The ATMP will not cause an increase in surface transportation congestion.
7. Is the action likely to have an impact on noise levels in noise-sensitive areas?		✓	Overall, noise impacts associated with commercial air tours over the Park are not expected to measurably change, since the ATMP authorizes the same number of flights per year as the average number of flights from 2017-2019 on substantially the same routes, and requires commercial air tours to fly at increased altitudes as compared to those flown under existing conditions. Refer to the Noise Technical Analysis in the ESF. For purposes of assessing noise impacts from commercial air tours on the acoustic environment of the Park under NEPA, the FAA noise evaluation is based on Yearly Day Night Average Sound Level (Ldn or DNL); the cumulative noise energy exposure from aircraft over 24 hours. The DNL analysis indicates that the undertaking will not result in any noise impacts that would be "significant" or "reportable" as defined in FAA Order 1050.1F.

Extraordinary Circumstance	Yes	No	Notes
8. Is the action likely to have an impact on air quality or violate Federal, state, tribal, or local air quality standards under the Clean Air Act?		✓	The findings from the air quality screening analysis demonstrate that implementing the ATMP will not meaningfully impact local air quality and will not have regional impacts from implementation of the ATMP in the Park. See Air Quality Technical Analysis in the ESF.
9. Is the action likely to have an impact on water quality, aquifers, public water supply systems, or state or tribal water quality standards under the Clean Water Act or the Safe Drinking Water Act?		✓	The ATMP will not result in ground disturbance or other activities that will impact water quality, aquifers, public water supply systems, or water quality standards under the Clean Water Act or Safe Drinking Water Act.
10. Is the action likely to be highly controversial on environmental grounds?		✓	There are no highly controversial environmental effects. The term "highly controversial on environmental grounds" means there is a substantial dispute involving reasonable disagreement over the degree, extent, or nature of a proposed action's environmental impacts or over the action's risks of causing environmental harm. Mere opposition is not sufficient for a proposed action or its impacts to be considered highly controversial on environmental grounds. See FAA Order 1050.1F 5-2(b)(10) [2]. Impacts from commercial air tours generally are understood from existing modeling and literature and can be accurately projected for Park resources. Information and models used to assess impacts for commercial air tours, as discussed in the NPS CE/ESF, is consistent with peer reviewed literature. Therefore, the ATMP will not result in substantial dispute involving reasonable disagreement over the degree, extent, or nature of the environmental impacts or the risk of causing environmental harm.
11. Is the action likely to be inconsistent with any Federal, State, Tribal, or local law relating to the environmental aspects of the project?		✓	The ATMP will be consistent with all applicable Federal, State, Tribal, and local law.

[2] The 2020 updates to the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA eliminated the "intensity" factor on which this circumstance is based. It is nevertheless included for disclosure purposes and to the extent relevant.

Extraordinary Circumstance	Yes	No	Notes
12. Is the action likely to directly, indirectly, or cumulatively create a significant impact on the human environment?		✓	The FAA and NPS qualitatively considered the cumulative impacts of commercial air tours along with impacts from existing activities described in the NPS CE/ESF. In some cases, the noise contribution from other sources may be substantial, such as commercial overflights. In those cases, the addition of air tour noise is such a small contribution of noise overall that it is unlikely they would result in noticeable or meaningful change in the acoustic environment. Commercial air tours over roadways are likely to be masked by existing noise and therefore the impacts would be de minimis. Finally, the ATMP does not add new noise to the existing acoustic environment. Therefore, when considering other sources of noise in the Park that are likely to continue under the ATMP, the continuation of 309 commercial air tours per year will not result in a meaningful change to the current condition of the visual or auditory landscape at the Park.

**Extraordinary circumstances exist when the proposed action (1) involves any of the listed circumstances, and (2) may have significant impacts (FAA Order 1050.1F para. 5-2 and 40 CFR §1508.4). See also FAA Order 1050.1F Desk Reference for a more detailed description of the analysis for each extraordinary circumstance.*

EXHIBIT 2

FAA Section 4(f) Analysis for Arches National Park

Section 4(f) Analysis in FAA Adoption Document

Table of Contents

Introduction

The Federal Aviation Administration (FAA) prepared this document to analyze and evaluate the Proposed Action's potential impacts to resources protected under Section 4(f) of the U.S. Department of Transportation Act (Section 4(f)). The Proposed Action is to implement an Air Tour Management Plan (ATMP) at Arches National Park (the Park). As land acquisition, construction, or other ground disturbance activities would not occur under the ATMP, the Proposed Action would not have the potential to cause a direct impact to a Section 4(f) resource. Therefore, analysis of potential impacts to Section 4(f) resources is limited to identifying impacts that could result in a constructive use. Section 4(f) is applicable to historic sites and publicly owned parks, recreation areas, and wildlife and waterfowl refuges of national, state, or local significance that may be impacted by transportation programs or projects carried out by the U.S. Department of Transportation (USDOT) and its operating administrations, including the FAA.

This document describes Section 4(f) regulations and requirements, the study area for Section 4(f), the process used to identify Section 4(f) resources in the study area, and consideration of potential impacts that could result in substantial impairment to Section 4(f) resources in the study area.

Regulatory Context

Section 4(f) of the Department of Transportation Act (codified at 49 U.S.C. § 303(c)), states that, subject to exceptions for *de minimis* impacts:

> "… the Secretary may approve a transportation program or project…requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if –

1. There is no prudent and feasible alternative to using that land; and
2. The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use."

The term "use" refers to both direct (physical) and indirect (constructive) impacts to Section 4(f) resources. A physical use involves the physical occupation or alteration of a Section 4(f) resource, while constructive use occurs when a proposed action results in substantial impairment of a resource to the degree that the activities, features, or attributes of the resource that contribute to its significance or enjoyment are substantially diminished. Under the ATMP, potential impacts to Section 4(f) resources from commercial air tours may include noise from aircraft within the acoustic environment, as well as visual impacts.

The FAA uses procedures in FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*[1] for meeting Section 4(f) requirements. Federal Highway Administration/Federal Transit Administration regulations and policy are not binding on the FAA; however, the FAA may use them as guidance to the extent relevant to aviation projects.[2] The FAA requires consideration of noise impacts for proposed changes in air traffic procedures or airspace redesign across a study area which may extend vertically from the surface to 10,000 feet above ground level (AGL).[3] The land use compatibility guidelines in 14 CFR Part 150 assist with determining whether a proposed action would constructively use a Section 4(f) resource. These guidelines rely on the Day Night Average Sound level (DNL), which is considered the best measure of impacts to the quality of the human environment from exposure to noise.

The FAA acknowledges that the land use categories in 14 CFR Part 150 may not be sufficient to determine the noise compatibility of Section 4(f) properties (including, but not limited to, noise sensitive areas within national parks and wildlife refuges), where a quiet setting is a generally recognized purpose and attribute. The FAA has consulted with the National Park Service (NPS) and included supplemental noise metrics in the Section 4(f) analysis for the ATMP (see Modeling Noise Impacts below).

Section 4(f) is applicable to all historic sites of national, state, or local significance, whether or not they are publicly owned or open to the public. Except in unusual circumstances, Section 4(f) protects only those historic sites that are listed or eligible for inclusion on the National Register of Historic Places (NRHP).[4] Historic sites are normally identified during the process required under Section 106 of the National Historic Preservation Act. Section 4(f) is not applicable to privately owned parks, recreation areas, and wildlife and waterfowl refuges.

Section 4(f) Resources

The study area for considering Section 4(f) resources for the ATMP consists of the Park and a ½ mile buffer outside the boundary of the Park. The study area for Section 4(f) resources also corresponds with

[1] Federal Aviation Administration. 2015. 1050.1F - *Environmental Impacts: Policies and Procedures.* Also see 1050.F Desk Reference (Version 2, February 2020).
[2] See 1050.1F Desk Reference, Section 5-3.
[3] Department of Transportation, Federal Aviation Administration, Order 1050.1F, *Environmental Impacts: Policies and Procedures*, Appendix B. Federal Aviation Administration Requirements for Assessing Impacts Related to Noise and Noise-Compatible Land Use and Section 4(f) of the Department of Transportation Act (49 U.S.C. § 303), Para. B-1.3, Affected Environment. July 16, 2015.
[4] If a historic site is not NRHP-listed or eligible, a State or local official may formally provide information to FAA to indicate that a historic site is locally significant. The responsible FAA official may then determine it is appropriate to apply Section 4(f). See FAA Order 1050.1F and the 1050.1F Desk Reference, for further detail.

the Area of Potential Effects (APE) used for compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966 (Section 106) for the Park. See Figure 1 for a depiction of the Section 4(f) study area. Historic properties were identified as part of the Section 106 consultation process. Parks, recreational areas, and wildlife and waterfowl refuges were identified using public datasets from Federal, State, and local sources, which included the Bureau of Land Management and City of Moab. Each resource that intersected the study area (i.e., some portion of the property fell within the ½ mile buffer) was included in the Section 4(f) analysis.

Table 1 lists Section 4(f) historic sites and Table 2 shows Section 4(f) parks and recreational areas identified in the study area.[5] There were no wildlife or waterfowl refuges identified in the study area. Figure 1 shows a map of all Section 4(f) resources within the study area.[6]

Table 1. Section 4(f) historic sites within the study area

Property Name	Official(s) with Jurisdiction	Property Type	Eligibility Status	Significant Characteristics
Colorado River Bridge	NPS, State Historic Preservation Officer (SHPO)	Structure	Eligible	The Colorado River Bridge is significant as a representative example of a cast concrete structure and for its association with transportation in Utah. Erected in 1955, the bridge carries Highway 191 across the Colorado River.
Courthouse Wash Pictographs	NPS, SHPO	Site, Traditional Cultural Property (TCP)	Listed	The pictographs are significant for their association with the pre-history of Arches National Park. The earliest pictographs include those of the Barrier Canyon style which date to at least the first century B.C.E. and represent the easternmost occurrence of this regionally significant style.
Hal Canyon Bridge	NPS, SHPO, BLM	Structure	Eligible	The Hal Canyon Bridge is a small structure significant for its association with transportation in Utah. Erected in 1950, the small structure carries Highway 128 across a dry gulch.
Julien Inscription Panel	NPS, SHPO	Site	Listed	The inscription is significant as an example of the presence of sheep herders and fur traders within the park during the first half of the nineteenth century. The panel includes and overlies a prehistoric panel significant as an example of Native American presence within the park between the tenth through thirteenth centuries.

[5] All data sources were accessed the week of March 21, 2022.
[6] In order to protect resources and confidentiality, Traditional Cultural Properties, archeological sites, and other sensitive sites are not displayed on Figure 1.

Property Name	Official(s) with Jurisdiction	Property Type	Eligibility Status	Significant Characteristics
Levi Drillers Cabin and Corral	NPS, SHPO	Building	Eligible	The Levi Drillers Cabin and Corral are locally significant for their association with early extraction/mining and ranching.
Old Spanish Trail	NPS, SHPO, BLM	Linear Feature	Listed	This site is an ancient Native American trail that provided a crossing of the Colorado River to the Green River desert. Significant characteristics include its association as an early trade route for Native Americans, Spanish and Anglo settlers. The trail was modified in the eighteenth century by earthwork and removal of stone to allow the passage of wheeled carts over the trail.
Ringhoffer Inscription	NPS, SHPO	Site	Listed	The inscription is significant as an example of the early period in the development of Arches National Park. Alex Ringhoffer campaigned the National Park Service to create Arches National Monument, ultimately established in 1929.
Rock House	NPS, SHPO	Building	Listed	The Rock House is significant as an unusual example of Greco-federalist style architecture and its association with early Park Development. Constructed in 1941 by the Civilian Coservation Corp, the structure provided housing for the Parks early custodian.
Salt Valley Stock Dam	NPS, SHPO	Structure and Site	Listed	The earthen dam was built by the Bureau of Land Management and/or local stockmen to provide water for animals grazing in Salt Valley. The site is significant as a representative example of the historic development and land use within Arches National Park. The site was determined eligible as part of the landscape that includes the Levi Drillers Cabin and Corral.
Stone House	NPS, SHPO	Building and Site	Eligible	The Stone House is important for its association with historic mining and extraction activities that took place prior to the creation of Arches National Park.

Property Name	Official(s) with Jurisdiction	Property Type	Eligibility Status	Significant Characteristics
Ureco Complex	NPS, SHPO, BLM	Traditional Cultural Landscape	Eligible	The Ureco Complex is an example of a post-World War II industrial complex in Utah. The buildings comprising the uranium mill were erected to capitalize on the uranium extraction boom in the southwestern US during the 1950s. When constructed, the mill was one of ten in the area used to process uranium oxide for the production of nuclear warheads.
Visitor Center Bridge	NPS, SHPO	Structure	Eligible	The visitor center bridge is significant for its association with early Park Development and growth and development of the tourist industry. Constructed in 1940 by the Civilian Conservation Corp, it provided the main access into Arches National Park until 2004.
Willow Flat Stock Dam and Inscription	NPS, SHPO	Site	Eligible	The site is significant as a representative example of the historic development and land use within Arches National Park. The dam was abandoned after the NPS began to phase out grazing during the 1960.
Wolfe Ranch Historical District	NPS, SHPO	District	Listed	In 1907, John Wesley Wolfe, a disabled Civil War veteran from Ohio built a single-story single pen log cabin and associated single-room log dugout cellar and corral in the isolated Cache valley. Wolfe and his son damned the wash and irrigated a garden. Drinking water came from a spring ¾ mile distant. The Wolfe's fledgling 70 acre ranch is an example of early subsistence farming and grazing in a marginal environment.
Prehistoric Archeological Site	NPS, SHPO	Site, TCP	Eligible	Arches National Park currently lists 107 NRHP eligible Native American ancestral sites that represent the pre-history of the park. The Hopi Tribe identified prehistoric archaeological sites within the APE as TCPs in correspondence dated February 18, 2022.

Table 2. Section 4(f) parks and recreational resources in the study area

Property Name	Official(s) with Jurisdiction	Description	Approximate Size
Arches National Park	NPS	National Park in eastern Utah with more than 2,000 natural sandstone arches, including Delicate Arch.	119.8 square miles (76,680 acres)
Colorado Riverway Special Recreation Management Area	Bureau of Land Management	The Colorado Riverway Recreation Area follows the Colorado River from Dewey Bridge to Canyonlands National Park. Opportunities include camping adjacent to the Colorado River, as well as climbing, mountain biking, hiking, and more.	142,500 acres (4,071 acres in study area)
Labyrinth Rims / Gemini Bridges Special Recreation Management Area	Bureau of Land Management	Recreation area known for over 1,000 miles of inventoried routes, commonly used by off-road motorized vehicles.	493,300 acres (9,581 acres in study area)
Lions Park	City of Moab	City park just north of Moab.	36 acres (all in study area)
Sand Flats Special Recreation Management Area	Bureau of Land Management, Grand County Utah	A high plain of slick rock domes, bowls, and fins, it rises in the east to meet the colorful mesas and nearly 13,000-foot peaks of the La Sal Mountains.	10,250 acres (611 acres in study area)

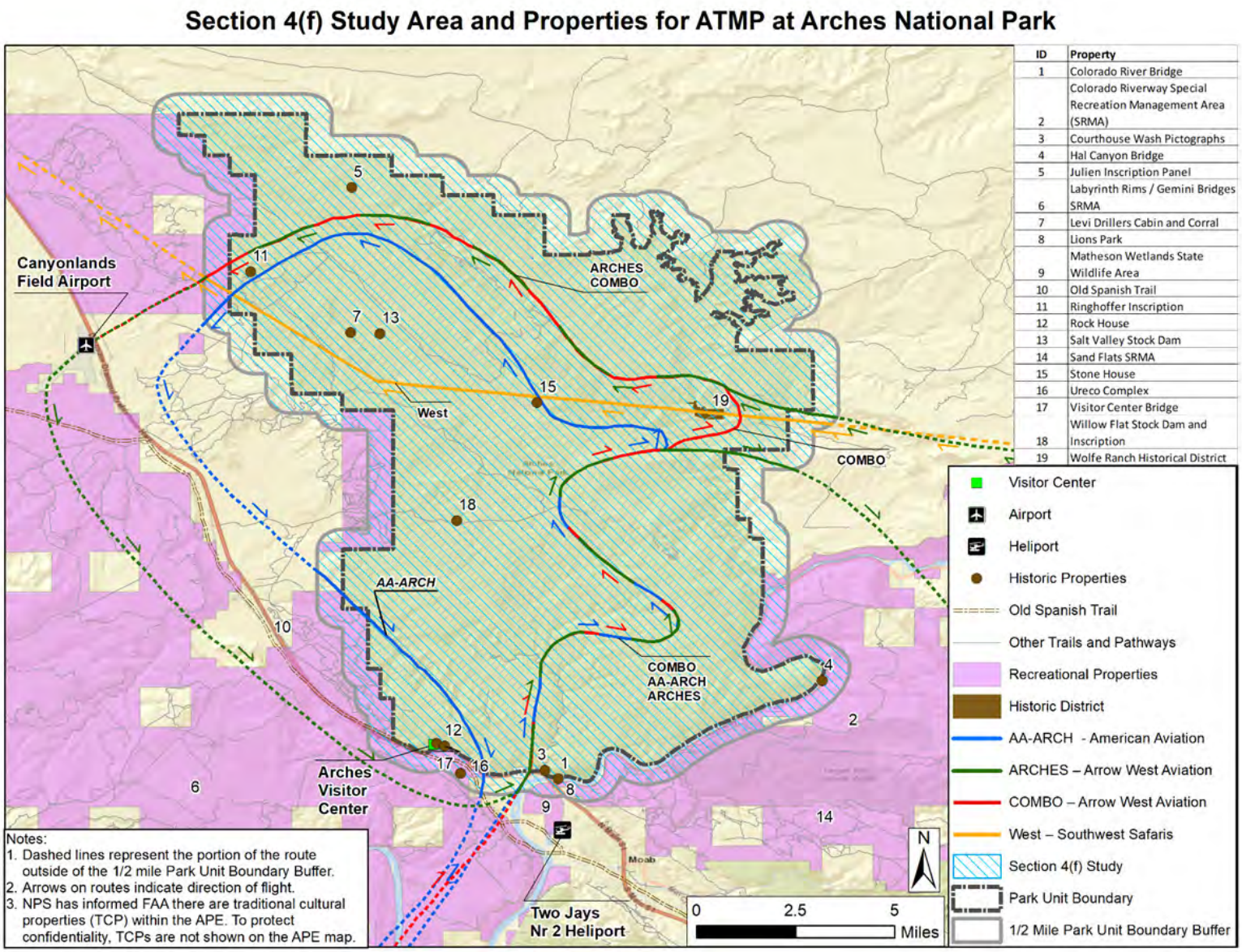


Figure 1. Map of Section 4(f) resources at the Park; includes resources entirely and partially within the Park study area.

Potential Use of Section 4(f) Resources

Evaluating potential impacts to Section 4(f) resources focuses on changes in aircraft noise exposure and visual effects resulting from implementing the ATMP. A constructive use of a Section 4(f) resource would occur if there was a substantial impairment of the resource to the degree that the activities, features, or attributes of the site that contribute to its significance or enjoyment are substantially diminished. This could occur as a result of both visual and noise impacts. The FAA evaluated the Section 4(f) resources for potential noise (including vibration) and visual impacts to determine if there was substantial impairment to Section 4(f) resources due to the ATMP that would result in a constructive use.

Noise Impacts Analysis

Indicators of Acoustic Conditions

There are numerous ways to describe the potential impacts of noise from commercial air tours on the acoustic environment of a park, including intensity, duration, and spatial footprint of the noise. The FAA's noise evaluation is based on Day Night Average Sound Level Average Annual Day (L_{dn} or DNL), the cumulative noise energy exposure from aircraft. As part of the ATMP noise analysis, the NPS provided supplemental metrics to assess the impact of commercial air tours on visitor experience in quiet settings, including noise sensitive areas of Section 4(f) resources. The metrics and acoustical terminology considered for the Section 4(f) noise analysis are shown in Table 3**.**

Table 3. Metrics used for the noise analysis.

Metric	**Relevance and citation**
Day-night average sound level, DNL	The logarithmic average of sound levels, in dBA, over a 24-hour day DNL takes into account the increased sensitivity to noise at night by including a ten dB penalty between 10 p.m. and 7 a.m. local time. The FAA's indicators of significant impacts are for an action that would increase noise by DNL 1.5 dB or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe.[7]
Equivalent sound level, $L_{Aeq,\ 12\ hr}$	The logarithmic average of commercial air tour sound levels, in dBA, over a 12-hour day. The selected 12-hour period is 7 a.m. to 7 p.m. to represent typical daytime commercial air tour operating hours. Note: Both $L_{Aeq,\ 12hr}$ and DNL characterize: • Increases in both the loudness and duration of noise events • The number of noise events during specific time period (12 hours for $L_{Aeq,\ 12hr}$ and 24-hours for DNL) However, DNL takes into account the increased sensitivity to noise at night by including a ten dB penalty between 10 p.m. and 7 a.m. local time. If there are no nighttime events, $L_{Aeq,\ 12hr}$ will be three dB higher than DNL.

[7] FAA Order 1050.1F, Exhibit 4-1

Maximum sound level, L_{max}	The loudest sound level, in dBA, generated by the loudest event; it is event-based and is independent of the number of operations. L_{max} does not provide any context of frequency, duration, or timing of exposure.
Time Above 35 dBA[8]	The amount of time (in minutes) that aircraft sound levels are above a given threshold (i.e., 35 dBA) In quiet settings, outdoor sound levels exceeding 35 dB degrade experience in outdoor performance venues (ANSI 12.9-2007, Quantities And Procedures For Description And Measurement Of Environmental Sound – Part 5: Sound Level Descriptors For Determination Of Compatible Land Use); Blood pressure increases in sleeping humans (Haralabidis et al., 2008); maximum background noise level inside classrooms (ANSI/ASA S12.60/Part 1-2010, Acoustical Performance Criteria, Design Requirements, And Guidelines For Schools, Part 1: Permanent Schools).
Time Above 52 dBA	The amount of time (in minutes) that aircraft sound levels are above a given threshold (i.e., 52 dBA) This metric represents the level at which one may reasonably expect interference with Park interpretive programs. At this background sound level (52 dB), normal voice communication at five meters (two people five meters apart), or a raised voice to an audience at ten meters would result in 95% sentence intelligibility.[9]

Modeling Noise Impacts

For aviation noise analyses under the National Environmental Policy Act (NEPA), the FAA determines the cumulative noise energy exposure of individuals resulting from aviation activities in terms of the Average Annual Day (AAD). However, because ATMP operations in the park occur at low annual operational levels and are highly seasonal in nature FAA determined that a peak day representation of the operations would more adequately allow for disclosure of any potential impacts.[10] A peak day has therefore been used as a conservative representation of assessment of AAD conditions required by FAA policy.

This provides a conservative evaluation of potential noise impacts to park resources, as well as Section 4(f) resources, under the ATMP, as the AAD will always reflect fewer commercial air tour operations than a peak day. The 90th percentile day was identified for representation of a peak day and derived from the busiest year of commercial air tour activity from 2017-2019, based on the total number of commercial air tour operations (309 annual commercial air tours) and total flight miles over the Park.

[8] dBA (A-weighted decibels): Sound is measured on a logarithmic scale relative to the reference sound pressure for atmospheric sources, 20 μPa. The logarithmic scale is a useful way to express the wide range of sound pressures perceived by the human ear. Sound levels are reported in units of decibels (dB) (ANSI S1.1-1994, American National Standard Acoustical Terminology). A-weighting is applied to sound levels in order to account for the sensitivity of the human ear (ANSI S1.42-2001, Design Response of Weighting Networks for Acoustical Measurements). To approximate human hearing sensitivity, A-weighting discounts sounds below 1 kHz and above 6 kHz.

[9] Environmental Protection Agency. Information on Levels of Noise Requisite to Protect the Public Health and Welfare with an Adequate Margin of Safety, March 1974.

[10] See *U.S. Air Tour Ass'n v. F.A.A.*, 298 F.3d 997, 1017-18 (D.C. Cir. 2002).

The type of aircraft and routes currently flown by operators were further assessed to determine a reasonable representation of the commercial air tour activity at the Park. Under the ATMP, operators will be allowed to conduct commercial air tours on substantially the same routes that the operators currently report flying over the Park. The ATMP increases the minimum altitude that the operators will be allowed to conduct commercial air tours from a minimum of 1,000 ft. AGL to no lower than 2,600 ft AGL referencing the topographic high point within ½ mile of the flight path for the entirety of all air tour routes authorized by the ATMP. For the Park, the 90th percentile day was identified as the following:

- ARCHES – one flight, Cessna CE-172 aircraft
- COMBO – two flights, Cessna CE-207 aircraft

The noise was modeled for the acoustic indicators in Table 3 and 90th percentile day using the FAA's Aviation Environmental Design Tool (AEDT) version 3d. The noise was modeled at points spaced every 0.25 nautical mile throughout the potentially affected area. Please refer to the Environmental Screening Form for further detail.

Summary of Potential Noise Impacts

The noise analysis indicates that the ATMP would not result in any noise impacts that would be "significant" or "reportable" under FAA's policy for the NEPA guidance .[11] Under the ATMP, there are no substantial changes to the routes or number of commercial air tours as compared with existing conditions. The resultant DNL due to the ATMP is expected to be below DNL 45 dBA and does not cause any reportable noise as there is no expected increase or change in noise from the ATMP.

Because the number of authorized flights under the ATMP would be the same as the average number of flights from 2017 to 2019, evaluation of the NPS supplemental metrics show that impacts to Section 4(f) resources would be similar to impacts currently occurring:

- On days when commercial air tours will occur, noise levels above 35 dBA (an indicator used by NPS to assess the potential for degradation of the natural sound environment) will occur for up to 25-30 minutes in the vicinity of Delicate Arch. Section 4(f) resources in the study area fall under the 35 dBA noise contour for up to 20 minutes, with the exception of special recreation management areas outside of the Park boundary (see NPS Environmental Screening Form, Figure 2).
- On days when commercial air tours will occur, noise levels above 52 dBA (which is associated with speech interference) will occur for less than five minutes in several areas directly beneath and adjacent to the route. Section 4(f) resources which fall under the 52 dBA noise contour include: Courthouse Wash Pictographs, Hal Canyon Bridge, Julien Inscription Panel, Prehistoric Archeological Sites, Ringhoffer Inscription, Rock House, Stone House, Wolfe Ranch Historical District, and those resources along the southern edge of the study area near the Park Visitor Center (see Environmental Screening Form, Figure 3).

In addition, the ATMP limits the operation of commercial air tours to between one hour after sunrise until three hours before sunset, or for an additional two hours (i.e., up to one hour before sunset) for operators that have converted to quiet technology aircraft, which provides times when visitors seeking solitude may experience the Section 4(f) resources without disruptions from commercial air tours. Since the ATMP

[11] Per FAA Order 1050.1F, the FAA refers to noise changes meeting the following criteria as "reportable": for DNL 65 dB and higher, ± DNL 1.5 dB; for DNL 60 dB to <65 dB, ± DNL 3 dB; for DNL 45 dB to <60 dB, ± DNL 5 dB. See also 1050.1F Desk Reference, Section 11.3.

also increases the minimum altitude flown by air tours by at least 1,600 ft. AGL, there will be a decrease in the maximum noise levels at sites directly below the commercial air tour routes. Collectively, these changes from existing operations and their effect on the Section 4(f) resources will likely result in beneficial impacts to the Section 4(f) resources.

As a result, FAA concludes there would be no substantial impairment of Section 4(f) resources in the study area from noise-related effects by the implementation of the ATMP. The ATMP would not result in significant or reportable increase in noise at the Park and the ATMP will likely provide beneficial impacts to Section 4(f) resources. This all supports the FAA's determination that implementation of the Proposed Action would not constitute a constructive use of Section 4(f) resources in the study area. This Section 4(f) determination consistent with the Section 106 no adverse effect determination at the Park (see Section 106 Consultation and Finding of No Adverse Effect letter).

Vibrational Impacts

A review of the potential for vibrational impacts on sensitive structures such as historic buildings and archaeological sites suggests that the potential for damage resulting from fixed-wing propeller aircraft overflights is minimal, as the fundamental blade passage frequency is well above the natural frequency of these structures. Additionally, the vibration amplitude of these overflights at the altitudes prescribed in the ATMP will be well below recommended limits.[12, 13] Vibrational impacts are not anticipated to surrounding parkland and National Forest areas given that aircraft overflights do not contain vibrational energy at levels which would affect outdoor areas or natural features and there is no substantial change from existing conditions.[14]

Visual Impacts Analysis

The ATMP would not substantially impair Section 4(f) resources within the study area because there would be no measurable change in visual effects from existing conditions. The level of commercial air tour activity under the ATMP will remain the same. Recognizing that some types of Section 4(f) resources may be affected by visual effects of commercial air tours, the FAA and NPS considered the potential for the introduction of visual elements that could substantially diminish the significance or enjoyment of Section 4(f) resources in the study area. Aircraft are transitory elements in a scene and visual impacts tend to be relatively short. The short duration and low number of flights make it unlikely a historic property, forest, or parkland would experience a visual effect from the ATMP. One's perspective of or viewshed from a historic property and natural areas is often drawn to the horizon and aircraft at higher altitudes are less likely to be noticed. Aircraft at lower altitudes may attract visual attention but are also more likely to be screened by vegetation or topography. The ATMP allows the Park to establish no-fly periods for special events, which may include tribal ceremonies or similar events, or planned Park management.

The ATMP limits the annual number of commercial air tours to 309 flights and maintains substantially similar routes as are currently flown under existing conditions. Based on the three-year average of reporting data (2017-2019), under current conditions, people in the park are not likely to see more than 3

[12] Hanson, C.E., King, K.W., et al., "Aircraft Noise Effects on Cultural Resources: Review of Technical Literature," NPOA Report No. 91-3 (HMMH Report No.290940.04-1), September 1991.
[13] Volpe National Transportation Systems Center, Department of Transportation, 2014. Literature Review: Vibration of Natural Structures and Ancient/Historical Dwellings, Internal Report for National Park Service, Natural Sounds and Night Skies Division, August 21, 2014.
[14] Volpe National Transportation Systems Center, Department of Transportation, 2014. Literature Review: Vibration of Natural Structures and Ancient/Historical Dwellings, Internal Report for National Park Service, Natural Sounds and Night Skies Division, August 21, 2014.

commercial air tours per day. The ATMP also allows the Park to establish no-fly periods for special events or planned Park management, with a minimum of 15 days written notice to operators for any restrictions that temporarily restrict certain areas or certain times of day, or 60 days written notice to operators for any full-day restrictions in advance of the no-fly period.

Visual impacts to Section 4(f) resources will be similar to impacts currently occurring because the number of authorized flights under the ATMP will be the same as or less than the average number of flights from 2017-2019, and the routes will remain substantially the same as compared to existing conditions. The ATMP would not introduce visual elements or result in visual impacts that would substantially diminish the activities, features or attributes of a Section 4(f) resource. Therefore, there would be no constructive use from visual impacts of Section 4(f) resources.

Conclusion

The FAA has determined that there would be no constructive use to Section 4(f) properties from implementation of the Proposed Action because noise and visual impacts from commercial air tours under the ATMP would not constitute a substantial impairment of Section 4(f) resources in the study area. The noise analysis indicated that there would be no significant impact or reportable increase from implementation of the ATMP. NPS's supplemental noise metrics show that the noise impacts would be similar to current conditions and provisions within the ATMP would provide benefits to Section 4(f) resources. Likewise, the visual impacts to Section 4(f) resources would be similar to impacts currently occurring because the number of authorized flights under the ATMP (309 flights per year) would be the same as or less than the average number of flights from 2017 to 2019, and the routes would remain substantially the same as compared to existing conditions. Together, this supports the FAA's determination that the Proposed Action would not substantially diminish the protected activities, features, or attributes of the Section 4(f) resources in the study area.

The FAA consulted with the NPS and other officials with jurisdiction (OWJ) over Section 4(f) resources in the study area regarding FAA's finding of no substantial impairment, and hence, its no constructive use determination. As a cooperating agency on the Air Tour Management Plan and associated environmental review, NPS was actively engaged with FAA on the proposed action. FAA consulted with the State Historic Preservation Office (SHPO) on historic properties and received a concurrence on a finding of "no adverse effect."

In addition to consultation with the NPS and the SHPO, FAA corresponded with the officials with jurisdiction related to the remaining Section 4(f) resources. On June 7, 2022, FAA sent two letters to the Bureau of Land Management, a letter to Grand County Utah, and a letter to the City of Moab describing the proposed action, analysis on potential use of Section 4(f) resources under their respective jurisdiction, and FAA's preliminary determination (see attached). Follow-up emails were sent on June 15, 2022. No responses, and hence, no objections, were received.

CORRESPONDENCE

U.S. Department of Transportation
Federal Aviation Administration

United States Department of Transportation
FEDERAL AVIATION ADMINISTRATION
Office of Policy, International Affairs & Environment
Office of Environment and Energy

NATIONAL PARKS AIR TOUR MANAGEMENT PROGRAM

June 7, 2022

Re: Consultation under Section 4(f) of the U.S. Department of Transportation Act (49 U.S.C. § 303) for the development of an Air Tour Management Plan for Arches National Park

Gary Torres
Bureau of Land Management
82 East Dogwood
Moab, UT 84532

Dear Gary Torres:

The Federal Aviation Administration (FAA), in cooperation with the National Park Service (NPS), is developing an Air Tour Management Plan (ATMP) for the Arches National Park (Park). The FAA is preparing documentation for the ATMP in accordance with the National Parks Air Tour Management Act (NPATMA) and other applicable laws, including Section 4(f) of the U.S. Department of Transportation Act (Section 4(f)). The purpose of this letter is to coordinate with you on FAA's preliminary findings related to the ATMP's potential impacts to the Colorado Riverway Special Recreation Management Area and Labyrinth Rims/Gemini Bridges Special Recreation Management Area, which are protected properties under Section 4(f).

Project Background and Purpose of the Action

NPATMA (Public Law 106-181, codified at 49 U.S.C. § 40128) of 2000, directs the agencies to develop ATMPs for commercial air tour operations over units of the national park system. A commercial air tour operation is defined as "a flight conducted for compensation or hire in a powered aircraft where the purpose of the flight is sightseeing over a national park, within ½ mile outside the boundary of a national park or over tribal lands, during which the aircraft flies below an altitude of 5,000 feet (ft.) above ground level (AGL) or less than 1 mile laterally from any geographic feature within the park (unless more than ½ mile outside the boundary)." When NPATMA was passed in 2000, existing air tour operators were permitted to continue air tour operations in parks until an ATMP was completed. To facilitate this continued use, FAA issued Interim Operating Authority (IOA) to existing air tour operators. IOA set an annual limit of the number of flights per operator for each park. In 2012, NPATMA was amended by Congress to, among other things, require operators to report the number of flights conducted on a quarterly interval each year. On February 14, 2019, Public Employees for Environmental Responsibility and the Hawai'i Coalition Malama Pono filed a petition for writ of mandamus seeking to have the agencies complete air tour management plans or voluntary agreements at seven specified parks, In re

Public Employees for Environmental Responsibility, et al., Case No. 19-1044 (D.C. Cir.). On May 1, 2020, the United States Court of Appeals for the District of Columbia Circuit Court granted the petition and ordered the agencies to file a proposed schedule for bringing twenty-three eligible parks, including Arches National Park, into compliance with NPATMA within two years. The agencies submitted a plan to complete all ATMPs to the court on August 31, 2020.

Section 4(f) is applicable to historic sites and publicly owned parks, recreation areas, and wildlife and waterfowl refuges of national, State, or local significance that may be impacted by transportation programs or projects carried out by the U.S. Department of Transportation (USDOT) and its operating administrations, including the FAA. Section 4(f) of the Department of Transportation Act (codified at 49 U.S.C. § 303(c)), states that, subject to exceptions for *de minimis* impacts:

> "… the Secretary may approve a transportation program or project…requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if –
>
> 1. There is no prudent and feasible alternative to using that land; and
> 2. The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use."

The term "use" refers to both direct (physical) and indirect (constructive) impacts to Section 4(f) resources. A physical use involves the physical occupation or alteration of a Section 4(f) resource, while constructive use occurs when a proposed action results in substantial impairment of a resource to the degree that the activities, features, or attributes of the resource that contribute to its significance or enjoyment are substantially diminished. Under the ATMP, potential impacts to Section 4(f) resources from commercial air tours may include noise from aircraft within the acoustic environment, as well as visual impacts.

Description of the Proposed Action

The FAA and the NPS (collectively, the agencies) are developing ATMPs for 24 parks, [1] including the Arches National Park. The ATMPs are being developed in accordance with NPATMA. Each ATMP is unique and therefore, each ATMP is being assessed individually under Section 4(f).

Commercial air tours have been operating intermittently over the Park for over 20 years. Since 2005, these air tours have been conducted pursuant to IOA issued by FAA in accordance with NPATMA. IOA does not provide any operating conditions (e.g., routes, altitudes, time of day, etc.) for air tours other than a limit of 566 air tours per year. The ATMP will replace IOA.

The FAA and the NPS have documented the existing conditions for commercial air tour operations at the Park. The FAA and the NPS consider the existing operations for commercial air tours to be an average of 2017-2019 annual air tours flown, which is 309 air tours. The agencies decided to use a three-year

[1] On March 4, 2021, the NPS notified the FAA that an air tour management plan was necessary to protect Muir Woods National Monument's resources and values and withdrew the exemption for the that park. The the agencies are now proceeding with ATMPs for 24 parks instead of 23.

average because it reflects the most accurate and reliable air tour conditions based on available operator reporting, and accounts for variations across multiple years, excluding more recent years affected by the COVID 19 pandemic.[2]

The proposed action is implementing the ATMP at the Park. The following elements of the ATMP are included for the Park:

- A maximum of 309 commercial air tours are authorized per year on the routes depicted in **Attachment A**;
- The air tours will fly no lower than 2,600 ft. AGL when over the Park or within ½ mile of its boundary;
- The aircraft types authorized for the commercial air tours include: GIPPS-GA-8, CE-172-N, CE-207-207, CE-207-T207A, Kodiak-100-100, and CE-182-R. Any new or replacement aircraft must not exceed the noise level produced by the aircraft being replaced;
- The air tours may operate between one hour after sunrise until three hours before sunset any day of the year, except as provided by the quiet technology incentive. The NPS can establish temporary no-fly periods that apply to commercial air tours for special event, including tribal ceremonies or similar events, or planned Park management.
- The operator is required to install and use flight monitoring technology on all authorized commercial air tours, and to include flight monitoring data in their semi-annual reports to the agencies, along with the number of commercial air tours conducted;
- When made available by Park staff, the operator/pilot may take at least one training course per year conducted by the NPS. The training will include Park information that the operator can use to further their own understanding of Park priorities and management objectives as well as enhance the interpretive narrative for air tour clients and increase understanding of parks by air tour clients;
- At the request of either of the agencies, the Park staff, the FAA Flight Standards District Office (FSDO), and the operator may meet once per year to discuss the implementation of this ATMP and any amendments or other changes to the ATMP. This annual meeting could be conducted in conjunction with any required annual training; and
- For situational awareness when conducting tours of the Park, the operator will utilize frequency 122.9 and report when they enter and depart a route. The pilot should identify their company, aircraft, and route to make any other aircraft in the vicinity aware of their position.

The FAA and the NPS are both responsible for monitoring and oversight of the ATMP.

Section 4(f)

The study area for considering Section 4(f) resources for the ATMP consists of the Park and a ½ mile buffer outside the boundary of the Park. The study area for Section 4(f) resources also corresponds with the Area of Potential Effects (APE) used for compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966 (Section 106) for the Park. See **Attachment A** for a depiction of the Section 4(f) study area. Historic properties were identified as part of the Section 106 consultation process. Parks, recreational areas, and wildlife and waterfowl refuges were identified using public

[2] Altitude expressed in units above ground level (AGL) is a measurement of the distance between the ground surface and the aircraft, whereas altitude expressed in median sea level (MSL) refers to the altitude of aircraft above sea level, regardless of the terrain below it. Aircraft flying at a constant MSL altitude would simultaneously fly at varying AGL altitudes, and vice versa, assuming uneven terrain is present below the aircraft.

datasets from Federal, State, and local sources, which included the Bureau of Land Management and City of Moab. Each resource that intersected the study area (i.e., some portion of the property fell within the Park or ½ mile buffer around the Park) was included in the Section 4(f) analysis.

Potential Use of Section 4(f) Resources

Evaluating potential impacts to Section 4(f) resources focuses on changes in aircraft noise exposure and visual effects resulting from implementing the ATMP. A constructive use of a Section 4(f) resource would occur if there was a substantial impairment of the resource to the degree that the activities, features, or attributes of the site that contribute to its significance or enjoyment are substantially diminished. This could occur as a result of both visual and noise impacts. The FAA evaluated the Section 4(f) resources for potential noise (including vibration) and visual impacts to determine if there was substantial impairment to Section 4(f) resources due to the ATMP that might result in a constructive use.

Noise Impacts Analysis

The FAA's noise evaluation is based on Day Night Average Sound Level Average Annual Day (Ldn or DNL), the cumulative noise energy exposure from aircraft. As part of the ATMP noise analysis, the NPS provided supplemental metrics to assess the impact of commercial air tours on visitor experience in quiet settings, including noise sensitive areas of Section 4(f) resources. The metrics and acoustical terminology considered for the Section 4(f) noise analysis are shown in the table below.

Metric	**Relevance and citation**
Day-night average sound level, DNL	The logarithmic average of sound levels, in dBA, over a 24-hour day DNL takes into account the increased sensitivity to noise at night by including a ten dB penalty between 10 p.m. and 7 a.m. local time. The FAA's indicators of significant impacts are for an action that would increase noise by DNL 1.5 dB or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe.[3]
Equivalent sound level, $L_{Aeq,\ 12\ hr}$	The logarithmic average of commercial air tour sound levels, in dBA, over a 12-hour day. The selected 12-hour period is 7 a.m. to 7 p.m. to represent typical daytime commercial air tour operating hours. Note: Both $L_{Aeq,\ 12hr}$ and DNL and characterize: • Increases in both the loudness and duration of noise events • The number of noise events during specific time period (12 hours for $L_{Aeq,\ 12hr}$ and 24-hours for DNL) However, DNL takes into account the increased sensitivity to noise at night by including a ten dB penalty between 10 p.m. and 7 a.m. local time. If there are no nighttime events, $L_{Aeq,\ 12hr}$ will be three dB higher than DNL.

[3] FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, Exhibit 4-1

Maximum sound level, L_{max}	The loudest sound level, in dBA, generated by the loudest event; it is event-based and is independent of the number of operations. L_{max} does not provide any context of frequency, duration, or timing of exposure.
Time Above 35 dBA[4]	The amount of time (in minutes) that aircraft sound levels are above a given threshold (i.e., 35 dBA) In quiet settings, outdoor sound levels exceeding 35 dB degrade experience in outdoor performance venues (ANSI 12.9-2007, Quantities And Procedures For Description And Measurement Of Environmental Sound – Part 5: Sound Level Descriptors For Determination Of Compatible Land Use); Blood pressure increases in sleeping humans (Haralabidis et al., 2008); maximum background noise level inside classrooms (ANSI/ASA S12.60/Part 1-2010, Acoustical Performance Criteria, Design Requirements, And Guidelines For Schools, Part 1: Permanent Schools).
Time Above 52 dBA	The amount of time (in minutes) that aircraft sound levels are above a given threshold (i.e., 52 dBA) This metric represents the level at which one may reasonably expect interference with Park interpretive programs. At this background sound level (52 dB), normal voice communication at five meters (two people five meters apart), or a raised voice to an audience at ten meters would result in 95% sentence intelligibility.[5]

For aviation noise analyses under the National Environmental Policy Act (NEPA), the FAA determines the cumulative noise energy exposure of individuals resulting from aviation activities in terms of the Average Annual Day (AAD). However, because ATMP operations in the park occur at low annual operational levels and are highly seasonal in nature, the FAA determined that a peak day representation of the operations would more adequately allow for disclosure of any potential impacts. A peak day has therefore been used as a conservative representation of assessment of AAD conditions required by FAA policy.

This provides a conservative evaluation of potential noise impacts to park resources, as well as Section 4(f) resources, under the ATMP, as the AAD will always reflect fewer commercial air tour operations than a peak day. The 90th percentile day was identified for representation of a peak day and derived from the busiest year of commercial air tour activity from 2017-2019, based on the total number of commercial air tour operations and total flight miles over the Park.

[4] dBA (A-weighted decibels): Sound is measured on a logarithmic scale relative to the reference sound pressure for atmospheric sources, 20 µPa. The logarithmic scale is a useful way to express the wide range of sound pressures perceived by the human ear. Sound levels are reported in units of decibels (dB) (ANSI S1.1-1994, American National Standard Acoustical Terminology). A-weighting is applied to sound levels in order to account for the sensitivity of the human ear (ANSI S1.42-2001, Design Response of Weighting Networks for Acoustical Measurements). To approximate human hearing sensitivity, A-weighting discounts sounds below 1 kHz and above 6 kHz.

[5] Environmental Protection Agency. Information on Levels of Noise Requisite to Protect the Public Health and Welfare with an Adequate Margin of Safety, March 1974.

The type of aircraft and routes currently flown by operators were further assessed to determine a reasonable representation of the commercial air tour activity at the Park. Under the ATMP, operators will be allowed to conduct commercial air tours on substantially the same routes that the operators currently report flying over the Park. The ATMP increases the minimum altitude that the operators will be allowed to conduct commercial air tours from a minimum of 1,000 ft. AGL to no lower than 2,600 ft AGL referencing the topographic high point within ½ mile of the flight path for the entirety of all air tour routes authorized by the ATMP. For the Park, the 90th percentile day was identified as the following:

- ARCHES – one flight, Cessna CE-172 aircraft
- COMBO – two flights, Cessna CE-207 aircraft

The noise was modeled for the acoustic indicators in the table above and 90th percentile day using the FAA's Aviation Environmental Design Tool (AEDT) version 3d. The noise was modeled at points spaced every 0.25 nautical mile throughout the potentially affected area.

The noise analysis indicates that the ATMP would not result in any noise impacts that would be "significant" or "reportable" under FAA's policy for the NEPA Guidance.[6] Under the ATMP, there are minimal changes to the routes and no changes to the number of commercial air tours per year as compared with existing conditions. The resultant DNL due to the ATMP is expected to be below DNL 45 dBA and does not cause any reportable noise as there is no expected increase or change in noise from the ATMP.

Because the number of authorized flights under the ATMP would be the same as the average number of flights from 2017 to 2019, evaluation of the NPS supplemental metrics show that impacts to Section 4(f) resources would be similar to impacts currently occurring:

- On days when commercial air tours will occur, noise levels above 35 dBA (an indicator used by NPS to assess the potential for degradation of the natural sound environment) will occur for up to 25-30 minutes in the vicinity of Delicate Arch. Section 4(f) resources in the study area fall under the 35 dBA noise contour for up to 20 minutes, with the exception of special recreation management areas outside of the Park boundary.
- On days when commercial air tours will occur, noise levels above 52 dBA (which is associated with speech interference) will occur for less than five minutes in several areas directly beneath and adjacent to the route. The Colorado Riverway Special Recreation Management Area and Labyrinth Rims/Gemini Bridges Special Recreation Management Area do not fall under the 52 dBA noise contour.

In addition, the ATMP limits the operation of commercial air tours to between one hour after sunrise until three hours before sunset, or for an additional two hours (i.e., up to one hour before sunset) for operators that have converted to quiet technology aircraft, which provides times when visitors seeking solitude may experience the Section 4(f) resources without disruptions from commercial air tours. Since the ATMP also increases the minimum altitude flown by air tours by at least 1,600 ft. AGL, there will be a decrease in the maximum noise levels at sites directly below the commercial air tour routes.

[6] Per FAA Order 1050.1F, the FAA refers to noise changes meeting the following criteria as "reportable": for DNL 65 dB and higher, ± DNL 1.5 dB; for DNL 60 dB to <65 dB, ± DNL 3 dB; for DNL 45 dB to <60 dB, ± DNL 5 dB. See also 1050.1F Desk Reference, Section 11.3.

Collectively, these changes from existing operations and their effect on the current use of Section 4(f) resources will likely result in beneficial impacts to the Section 4(f) resources.

A review of the potential for vibrational impacts on historic buildings, parklands, and forests suggests that the potential for damage resulting from fixed-wing propeller aircraft overflights is minimal, as the fundamental blade passage frequency is well above the natural frequency of these structures. Additionally, the vibration amplitude of these overflights at the altitudes prescribed in the ATMP will be well below recommended limits.

As a result, FAA concludes there would be no substantial impairment of Section 4(f) resources in the study area from noise-related and vibrational effects by the implementation of the ATMP. The ATMP would not result in significant or reportable increase in noise at the Park and the ATMP will likely provide beneficial impacts to Section 4(f) resource. Likewise, vibrational impacts from air tour overflights would be minimal. This all supports the FAA's determination that implementation of the Proposed Action would not constitute a constructive use of Section 4(f) resources in the study area.

Visual Impacts Analysis

The ATMP would not substantially impair Section 4(f) resources within the study area because there would be no measurable change in visual effects from existing conditions. The level of commercial air tour activity under the ATMP will remain the same. Recognizing that some types of Section 4(f) resources may be affected by visual effects of commercial air tours, the FAA and NPS considered the potential for the introduction of visual elements that could substantially diminish the significance or enjoyment of Section 4(f) resources in the study area. Aircraft are transitory elements in a scene and visual impacts tend to be relatively short. The short duration and low number of flights make it unlikely a historic property, forest, or parkland would experience a visual effect from the ATMP. One's perspective of or viewshed from a historic property and natural areas is often drawn to the horizon and aircraft at higher altitudes are less likely to be noticed. Aircraft at lower altitudes may attract visual attention but are also more likely to be screened by vegetation or topography. The ATMP allows the Park to establish no-fly periods for special events or planned Park management.

The ATMP limits the annual number of commercial air tours to 309 flights and maintains substantially similar routes as are currently flown under existing conditions. Based on the three-year average of reporting data (2017-2019), under current conditions, visitors are not likely to see more than 3 commercial air tours per day on a typical day during which air tours are conducted.

Visual impacts to Section 4(f) resources will be similar to impacts currently occurring because the number of authorized flights under the ATMP will be the same as or less than the average number of flights from 2017-2019, and the routes will remain substantially the same as compared to existing conditions. The ATMP would not introduce visual elements or result in visual impacts that would substantially diminish the activities, features or attributes of a Section 4(f) resource. Therefore, there would be no constructive use from visual impacts to Section 4(f) resources.

Preliminary Finding

The FAA has preliminarily determined the ATMP would not substantially diminish the protected activities, features, or attributes of the Section 4(f) resources in the study area. There is no anticipated change in visual and noise impacts over existing conditions as a result of the ATMP. Moreover, the noise analysis indicated that there would be no significant impact or reportable increase from implementation

of the ATMP. The ATMP would not result in substantial impairment of Section 4(f) resources; therefore, based on the analysis above, FAA intends to make a determination of no constructive use of Colorado Riverway Special Recreation Management Area and Labyrinth Rims/Gemini Bridges Special Recreation Management Area. We request that you review this information and respond with any concerns or need for further consultation on the FAA's proposed no substantial impairment finding within fourteen days of receiving this letter.

Should you have any questions regarding any of the above, please contact Eric Elmore at 202-267-8335 or eric.elmore@faa.gov and copy the ATMP team at ATMPTeam@dot.gov.

Sincerely,

ERIC M ELMORE

Digitally signed by ERIC M ELMORE
Date: 2022.06.07 01:03:01 -04'00'

Eric Elmore
Senior Policy Advisor
Office of Environment and Energy
Federal Aviation Administration

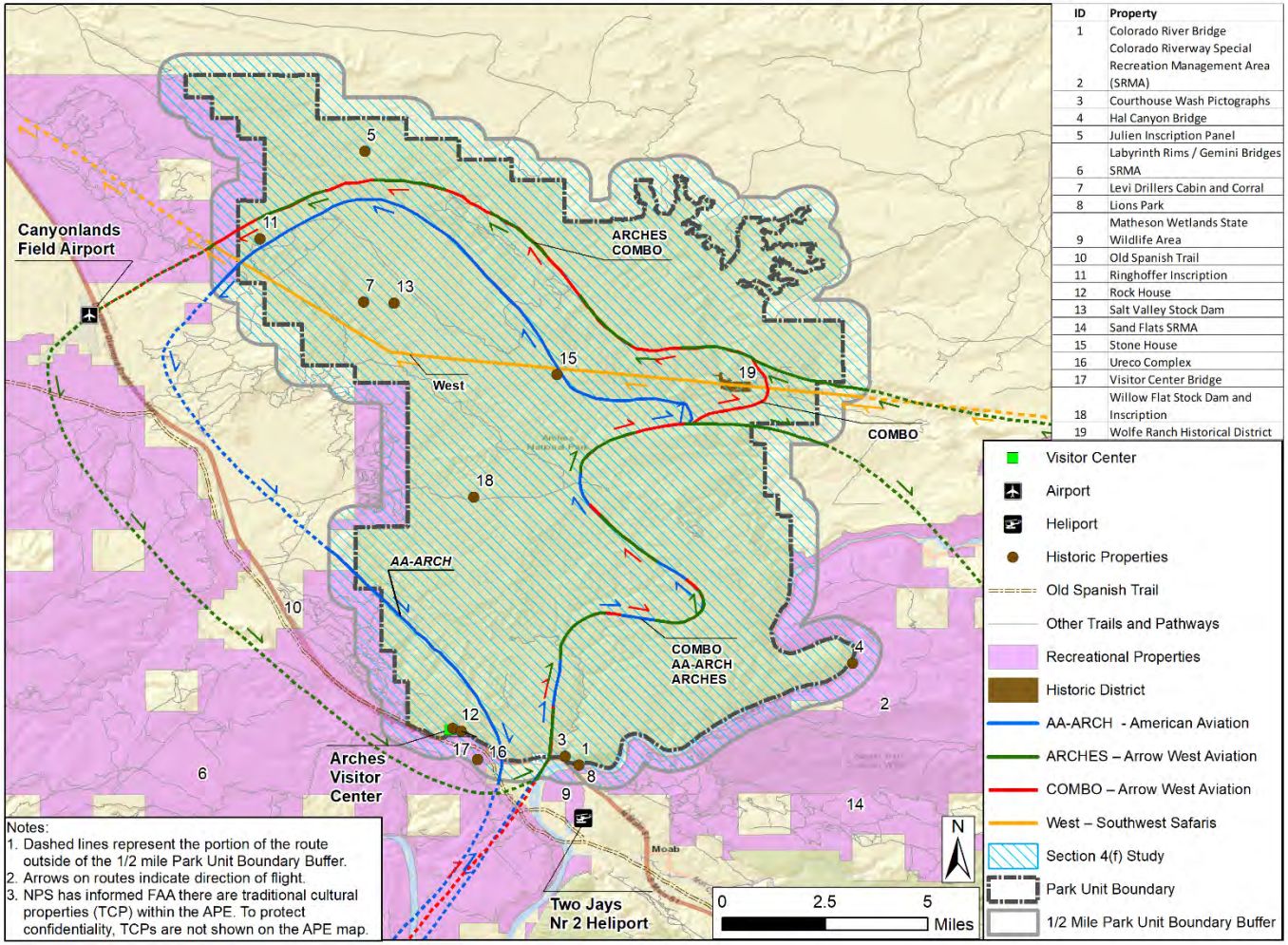
Attachments

A. Map including proposed Commercial Air Tour Routes, Section 4(f) Study Area, and Section 4(f) Resources

ATTACHMENT A

Map of Proposed Commercial Air Tour Routes, Section 4(f) Study Area, and Section 4(f) Resource

Section 4(f) Study Area and Properties for ATMP at Arches National Park



ID	Property
1	Colorado River Bridge
2	Colorado Riverway Special Recreation Management Area (SRMA)
3	Courthouse Wash Pictographs
4	Hal Canyon Bridge
5	Julien Inscription Panel
6	Labyrinth Rims / Gemini Bridges SRMA
7	Levi Drillers Cabin and Corral
8	Lions Park
9	Matheson Wetlands State Wildlife Area
10	Old Spanish Trail
11	Ringhoffer Inscription
12	Rock House
13	Salt Valley Stock Dam
14	Sand Flats SRMA
15	Stone House
16	Ureco Complex
17	Visitor Center Bridge
18	Willow Flat Stock Dam and Inscription
19	Wolfe Ranch Historical District

U.S. Department of Transportation
Federal Aviation Administration

United States Department of Transportation
FEDERAL AVIATION ADMINISTRATION
Office of Policy, International Affairs & Environment
Office of Environment and Energy

NATIONAL PARKS AIR TOUR MANAGEMENT PROGRAM

June 7, 2022

Re: Consultation under Section 4(f) of the U.S. Department of Transportation Act (49 U.S.C. § 303) for the development of an Air Tour Management Plan for Arches National Park

Keith Rigtrup
Bureau of Land Management
345 East Riverside Drive
St. George, UT 84790

Dear Keith Rigtrup:

The Federal Aviation Administration (FAA), in cooperation with the National Park Service (NPS), is developing an Air Tour Management Plan (ATMP) for the Arches National Park (Park). The FAA is preparing documentation for the ATMP in accordance with the National Parks Air Tour Management Act (NPATMA) and other applicable laws, including Section 4(f) of the U.S. Department of Transportation Act (Section 4(f)). The purpose of this letter is to coordinate with you on FAA's preliminary findings related to the ATMP's potential impacts to the Hal Canyon Bridge, Old Spanish Trail, and Ureco Complex, which are protected properties under Section 4(f).

Project Background and Purpose of the Action

NPATMA (Public Law 106-181, codified at 49 U.S.C. § 40128) of 2000, directs the agencies to develop ATMPs for commercial air tour operations over units of the national park system. A commercial air tour operation is defined as "a flight conducted for compensation or hire in a powered aircraft where the purpose of the flight is sightseeing over a national park, within ½ mile outside the boundary of a national park or over tribal lands, during which the aircraft flies below an altitude of 5,000 feet (ft.) above ground level (AGL) or less than 1 mile laterally from any geographic feature within the park (unless more than ½ mile outside the boundary)." When NPATMA was passed in 2000, existing air tour operators were permitted to continue air tour operations in parks until an ATMP was completed. To facilitate this continued use, FAA issued Interim Operating Authority (IOA) to existing air tour operators. IOA set an annual limit of the number of flights per operator for each park. In 2012, NPATMA was amended by Congress to, among other things, require operators to report the number of flights conducted on a quarterly interval each year. On February 14, 2019, Public Employees for Environmental Responsibility and the Hawai'i Coalition Malama Pono filed a petition for writ of mandamus seeking to have the agencies complete air tour management plans or voluntary agreements at seven specified parks, In re Public Employees for Environmental Responsibility, et al., Case No. 19-1044 (D.C. Cir.). On May 1, 2020, the United States Court of Appeals for the District of Columbia Circuit Court granted the petition and

ordered the agencies to file a proposed schedule for bringing twenty-three eligible parks, including Arches National Park, into compliance with NPATMA within two years. The agencies submitted a plan to complete all ATMPs to the court on August 31, 2020.

Section 4(f) is applicable to historic sites and publicly owned parks, recreation areas, and wildlife and waterfowl refuges of national, State, or local significance that may be impacted by transportation programs or projects carried out by the U.S. Department of Transportation (USDOT) and its operating administrations, including the FAA. Section 4(f) of the Department of Transportation Act (codified at 49 U.S.C. § 303(c)), states that, subject to exceptions for *de minimis* impacts:

> "… the Secretary may approve a transportation program or project…requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if –
>
> 1. There is no prudent and feasible alternative to using that land; and
> 2. The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use."

The term "use" refers to both direct (physical) and indirect (constructive) impacts to Section 4(f) resources. A physical use involves the physical occupation or alteration of a Section 4(f) resource, while constructive use occurs when a proposed action results in substantial impairment of a resource to the degree that the activities, features, or attributes of the resource that contribute to its significance or enjoyment are substantially diminished. Under the ATMP, potential impacts to Section 4(f) resources from commercial air tours may include noise from aircraft within the acoustic environment, as well as visual impacts.

Description of the Proposed Action

The FAA and the NPS (collectively, the agencies) are developing ATMPs for 24 parks, [1] including the Arches National Park. The ATMPs are being developed in accordance with NPATMA. Each ATMP is unique and therefore, each ATMP is being assessed individually under Section 4(f).

Commercial air tours have been operating intermittently over the Park for over 20 years. Since 2005, these air tours have been conducted pursuant to IOA issued by FAA in accordance with NPATMA. IOA does not provide any operating conditions (e.g., routes, altitudes, time of day, etc.) for air tours other than a limit of 566 air tours per year. The ATMP will replace IOA.

The FAA and the NPS have documented the existing conditions for commercial air tour operations at the Park. The FAA and the NPS consider the existing operations for commercial air tours to be an average of 2017-2019 annual air tours flown, which is 309 air tours. The agencies decided to use a three-year average because it reflects the most accurate and reliable air tour conditions based on available

[1] On March 4, 2021, the NPS notified the FAA that an air tour management plan was necessary to protect Muir Woods National Monument's resources and values and withdrew the exemption for the that park. The the agencies are now proceeding with ATMPs for 24 parks instead of 23.

operator reporting, and accounts for variations across multiple years, excluding more recent years affected by the COVID 19 pandemic.[2]

The proposed action is implementing the ATMP at the Park. The following elements of the ATMP are included for the Park:

- A maximum of 309 commercial air tours are authorized per year on the routes depicted in **Attachment A**;
- The air tours will fly no lower than 2,600 ft. AGL when over the Park or within ½ mile of its boundary;
- The aircraft types authorized for the commercial air tours include: GIPPS-GA-8, CE-172-N, CE-207-207, CE-207-T207A, Kodiak-100-100, and CE-182-R. Any new or replacement aircraft must not exceed the noise level produced by the aircraft being replaced;
- The air tours may operate between one hour after sunrise until three hours before sunset any day of the year, except as provided by the quiet technology incentive. The NPS can establish temporary no-fly periods that apply to commercial air tours for special event, including tribal ceremonies or similar events, or planned Park management.
- The operator is required to install and use flight monitoring technology on all authorized commercial air tours, and to include flight monitoring data in their semi-annual reports to the agencies, along with the number of commercial air tours conducted;
- When made available by Park staff, the operator/pilot may take at least one training course per year conducted by the NPS. The training will include Park information that the operator can use to further their own understanding of Park priorities and management objectives as well as enhance the interpretive narrative for air tour clients and increase understanding of parks by air tour clients;
- At the request of either of the agencies, the Park staff, the FAA Flight Standards District Office (FSDO), and the operator may meet once per year to discuss the implementation of this ATMP and any amendments or other changes to the ATMP. This annual meeting could be conducted in conjunction with any required annual training; and
- For situational awareness when conducting tours of the Park, the operator will utilize frequency 122.9 and report when they enter and depart a route. The pilot should identify their company, aircraft, and route to make any other aircraft in the vicinity aware of their position.

The FAA and the NPS are both responsible for monitoring and oversight of the ATMP.

Section 4(f)

The study area for considering Section 4(f) resources for the ATMP consists of the Park and a ½ mile outside the boundary of the Park. The study area for Section 4(f) resources also corresponds with the Area of Potential Effects (APE) used for compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966 (Section 106) for the Park. See **Attachment A** for a depiction of the Section 4(f) study area. Historic properties were identified as part of the Section 106 consultation process. Parks, recreational areas, and wildlife and waterfowl refuges were identified using public datasets from Federal, State, and local sources, which included the Bureau of Land Management and

[2] Altitude expressed in units above ground level (AGL) is a measurement of the distance between the ground surface and the aircraft, whereas altitude expressed in median sea level (MSL) refers to the altitude of aircraft above sea level, regardless of the terrain below it. Aircraft flying at a constant MSL altitude would simultaneously fly at varying AGL altitudes, and vice versa, assuming uneven terrain is present below the aircraft.

City of Moab. Each resource that intersected the study area (i.e., some portion of the property fell within the Park or ½ mile buffer around the Park) was included in the Section 4(f) analysis.

Potential Use of Section 4(f) Resources

Evaluating potential impacts to Section 4(f) resources focuses on changes in aircraft noise exposure and visual effects resulting from implementing the ATMP. A constructive use of a Section 4(f) resource would occur if there was a substantial impairment of the resource to the degree that the activities, features, or attributes of the site that contribute to its significance or enjoyment are substantially diminished. This could occur as a result of both visual and noise impacts. The FAA evaluated the Section 4(f) resources for potential noise (including vibration) and visual impacts to determine if there was substantial impairment to Section 4(f) resources due to the ATMP that might result in a constructive use.

Noise Impacts Analysis

The FAA's noise evaluation is based on Day Night Average Sound Level Average Annual Day (Ldn or DNL), the cumulative noise energy exposure from aircraft. As part of the ATMP noise analysis, the NPS provided supplemental metrics to assess the impact of commercial air tours on visitor experience in quiet settings, including noise sensitive areas of Section 4(f) resources. The metrics and acoustical terminology considered for the Section 4(f) noise analysis are shown in the table below.

Metric	**Relevance and citation**
Day-night average sound level, DNL	The logarithmic average of sound levels, in dBA, over a 24-hour day DNL takes into account the increased sensitivity to noise at night by including a ten dB penalty between 10 p.m. and 7 a.m. local time. The FAA's indicators of significant impacts are for an action that would increase noise by DNL 1.5 dB or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe.[3]
Equivalent sound level, $L_{Aeq,\ 12\ hr}$	The logarithmic average of commercial air tour sound levels, in dBA, over a 12-hour day. The selected 12-hour period is 7 a.m. to 7 p.m. to represent typical daytime commercial air tour operating hours. Note: Both $L_{Aeq,\ 12hr}$ and DNL and characterize: • Increases in both the loudness and duration of noise events • The number of noise events during specific time period (12 hours for $L_{Aeq,\ 12hr}$ and 24-hours for DNL) However, DNL takes into account the increased sensitivity to noise at night by including a ten dB penalty between 10 p.m. and 7 a.m. local time. If there are no nighttime events, $L_{Aeq,\ 12hr}$ will be three dB higher than DNL.

[3] FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, Exhibit 4-1

Maximum sound level, L_{max}	The loudest sound level, in dBA, generated by the loudest event; it is event-based and is independent of the number of operations. L_{max} does not provide any context of frequency, duration, or timing of exposure.
Time Above 35 dBA[4]	The amount of time (in minutes) that aircraft sound levels are above a given threshold (i.e., 35 dBA) In quiet settings, outdoor sound levels exceeding 35 dB degrade experience in outdoor performance venues (ANSI 12.9-2007, Quantities And Procedures For Description And Measurement Of Environmental Sound – Part 5: Sound Level Descriptors For Determination Of Compatible Land Use); Blood pressure increases in sleeping humans (Haralabidis et al., 2008); maximum background noise level inside classrooms (ANSI/ASA S12.60/Part 1-2010, Acoustical Performance Criteria, Design Requirements, And Guidelines For Schools, Part 1: Permanent Schools).
Time Above 52 dBA	The amount of time (in minutes) that aircraft sound levels are above a given threshold (i.e., 52 dBA) This metric represents the level at which one may reasonably expect interference with Park interpretive programs. At this background sound level (52 dB), normal voice communication at five meters (two people five meters apart), or a raised voice to an audience at ten meters would result in 95% sentence intelligibility.[5]

For aviation noise analyses under the National Environmental Policy Act (NEPA), the FAA determines the cumulative noise energy exposure of individuals resulting from aviation activities in terms of the Average Annual Day (AAD). However, because ATMP operations in the park occur at low annual operational levels and are highly seasonal in nature, the FAA determined that a peak day representation of the operations would more adequately allow for disclosure of any potential impacts. A peak day has therefore been used as a conservative representation of assessment of AAD conditions required by FAA policy.

This provides a conservative evaluation of potential noise impacts to park resources, as well as Section 4(f) resources, under the ATMP, as the AAD will always reflect fewer commercial air tour operations than a peak day. The 90th percentile day was identified for representation of a peak day and derived from the busiest year of commercial air tour activity from 2017-2019, based on the total number of commercial air tour operations and total flight miles over the Park.

[4] dBA (A-weighted decibels): Sound is measured on a logarithmic scale relative to the reference sound pressure for atmospheric sources, 20 µPa. The logarithmic scale is a useful way to express the wide range of sound pressures perceived by the human ear. Sound levels are reported in units of decibels (dB) (ANSI S1.1-1994, American National Standard Acoustical Terminology). A-weighting is applied to sound levels in order to account for the sensitivity of the human ear (ANSI S1.42-2001, Design Response of Weighting Networks for Acoustical Measurements). To approximate human hearing sensitivity, A-weighting discounts sounds below 1 kHz and above 6 kHz.

[5] Environmental Protection Agency. Information on Levels of Noise Requisite to Protect the Public Health and Welfare with an Adequate Margin of Safety, March 1974.

The type of aircraft and routes currently flown by operators were further assessed to determine a reasonable representation of the commercial air tour activity at the Park. Under the ATMP, operators will be allowed to conduct commercial air tours on substantially the same routes that the operators currently report flying over the Park. The ATMP increases the minimum altitude that the operators will be allowed to conduct commercial air tours from a minimum of 1,000 ft. AGL to no lower than 2,600 ft AGL referencing the topographic high point within ½ mile of the flight path for the entirety of all air tour routes authorized by the ATMP. For the Park, the 90th percentile day was identified as the following:

- ARCHES – one flight, Cessna CE-172 aircraft
- COMBO – two flights, Cessna CE-207 aircraft

The noise was modeled for the acoustic indicators in the table above and 90th percentile day using the FAA's Aviation Environmental Design Tool (AEDT) version 3d. The noise was modeled at points spaced every 0.25 nautical mile throughout the potentially affected area.

The noise analysis indicates that the ATMP would not result in any noise impacts that would be "significant" or "reportable" under FAA's policy for the NEPA Guidance.[6] Under the ATMP, there are minimal changes to the routes and no changes to the number of commercial air tours per year as compared with existing conditions. The resultant DNL due to the ATMP is expected to be below DNL 45 dBA and does not cause any reportable noise as there is no expected increase or change in noise from the ATMP.

Because the number of authorized flights under the ATMP would be the same as the average number of flights from 2017 to 2019, evaluation of the NPS supplemental metrics show that impacts to Section 4(f) resources would be similar to impacts currently occurring:

- On days when commercial air tours will occur, noise levels above 35 dBA (an indicator used by NPS to assess the potential for degradation of the natural sound environment) will occur for up to 25-30 minutes in the vicinity of Delicate Arch. Section 4(f) resources in the study area fall under the 35 dBA noise contour for up to 20 minutes, with the exception of special recreation management areas outside of the Park boundary.
- On days when commercial air tours will occur, noise levels above 52 dBA (which is associated with speech interference) will occur for less than five minutes in several areas directly beneath and adjacent to the route. Hal Canyon Bridge and Old Spanish Trail do not fall under the 52 dB noise contour; the Ureco Complex falls under the 52 dBA noise contour.

In addition, the ATMP limits the operation of commercial air tours to between one hour after sunrise until three hours before sunset, or for an additional two hours (i.e., up to one hour before sunset) for operators that have converted to quiet technology aircraft, which provides times when visitors seeking solitude may experience the Section 4(f) resources without disruptions from commercial air tours. Since the ATMP also increases the minimum altitude flown by air tours by at least 1,600 ft. AGL, there will be a decrease in the maximum noise levels at sites directly below the commercial air tour routes.

[6] Per FAA Order 1050.1F, the FAA refers to noise changes meeting the following criteria as "reportable": for DNL 65 dB and higher, ± DNL 1.5 dB; for DNL 60 dB to <65 dB, ± DNL 3 dB; for DNL 45 dB to <60 dB, ± DNL 5 dB. See also 1050.1F Desk Reference, Section 11.3.

Collectively, these changes from existing operations and their effect on the current use of Section 4(f) resources will likely result in beneficial impacts to the Section 4(f) resources.

A review of the potential for vibrational impacts on historic buildings, parklands, and forests suggests that the potential for damage resulting from fixed-wing propeller aircraft overflights is minimal, as the fundamental blade passage frequency is well above the natural frequency of these structures. Additionally, the vibration amplitude of these overflights at the altitudes prescribed in the ATMP will be well below recommended limits.

As a result, FAA concludes there would be no substantial impairment of Section 4(f) resources in the study area from noise-related and vibrational effects by the implementation of the ATMP. The ATMP would not result in significant or reportable increase in noise at the Park and the ATMP will likely provide beneficial impacts to Section 4(f) resource. Likewise, vibrational impacts from air tour overflights would be minimal. This all supports the FAA's determination that implementation of the Proposed Action would not constitute a constructive use of Section 4(f) resources in the study area.

Visual Impacts Analysis

The ATMP would not substantially impair Section 4(f) resources within the study area because there would be no measurable change in visual effects from existing conditions. The level of commercial air tour activity under the ATMP will remain the same. Recognizing that some types of Section 4(f) resources may be affected by visual effects of commercial air tours, the FAA and NPS considered the potential for the introduction of visual elements that could substantially diminish the significance or enjoyment of Section 4(f) resources in the study area. Aircraft are transitory elements in a scene and visual impacts tend to be relatively short. The short duration and low number of flights make it unlikely a historic property, forest, or parkland would experience a visual effect from the ATMP. One's perspective of or viewshed from a historic property and natural areas is often drawn to the horizon and aircraft at higher altitudes are less likely to be noticed. Aircraft at lower altitudes may attract visual attention but are also more likely to be screened by vegetation or topography. The ATMP allows the Park to establish no-fly periods for special events or planned Park management.

The ATMP limits the annual number of commercial air tours to 309 flights and maintains substantially similar routes as are currently flown under existing conditions. Based on the three-year average of reporting data (2017-2019), under current conditions, visitors are not likely to see more than 3 commercial air tours per day on a typical day during which air tours are conducted.

Visual impacts to Section 4(f) resources will be similar to impacts currently occurring because the number of authorized flights under the ATMP will be the same as or less than the average number of flights from 2017-2019, and the routes will remain substantially the same as compared to existing conditions. The ATMP would not introduce visual elements or result in visual impacts that would substantially diminish the activities, features or attributes of a Section 4(f) resource. Therefore, there would be no constructive use from visual impacts to Section 4(f) resources.

Preliminary Finding

The FAA has preliminarily determined the ATMP would not substantially diminish the protected activities, features, or attributes of the Section 4(f) resources in the study area. There is no anticipated change in visual and noise impacts over existing conditions as a result of the ATMP. Moreover, the noise analysis indicated that there would be no significant impact or reportable increase from implementation

of the ATMP. The ATMP would not result in substantial impairment of Section 4(f) resources; therefore, based on the analysis above, FAA intends to make a determination of no constructive use of the Hal Canyon Bridge, Old Spanish Trail, and Ureco Complex. We request that you review this information and respond with any concerns or need for further consultation on the FAA's proposed no substantial impairment finding within fourteen days of receiving this letter.

Should you have any questions regarding any of the above, please contact Eric Elmore at 202-267-8335 or eric.elmore@faa.gov and copy the ATMP team at ATMPTeam@dot.gov.

Sincerely,

ERIC M ELMORE

Digitally signed by ERIC M ELMORE
Date: 2022.06.07 01:04:28 -04'00'

Eric Elmore
Senior Policy Advisor
Office of Environment and Energy
Federal Aviation Administration

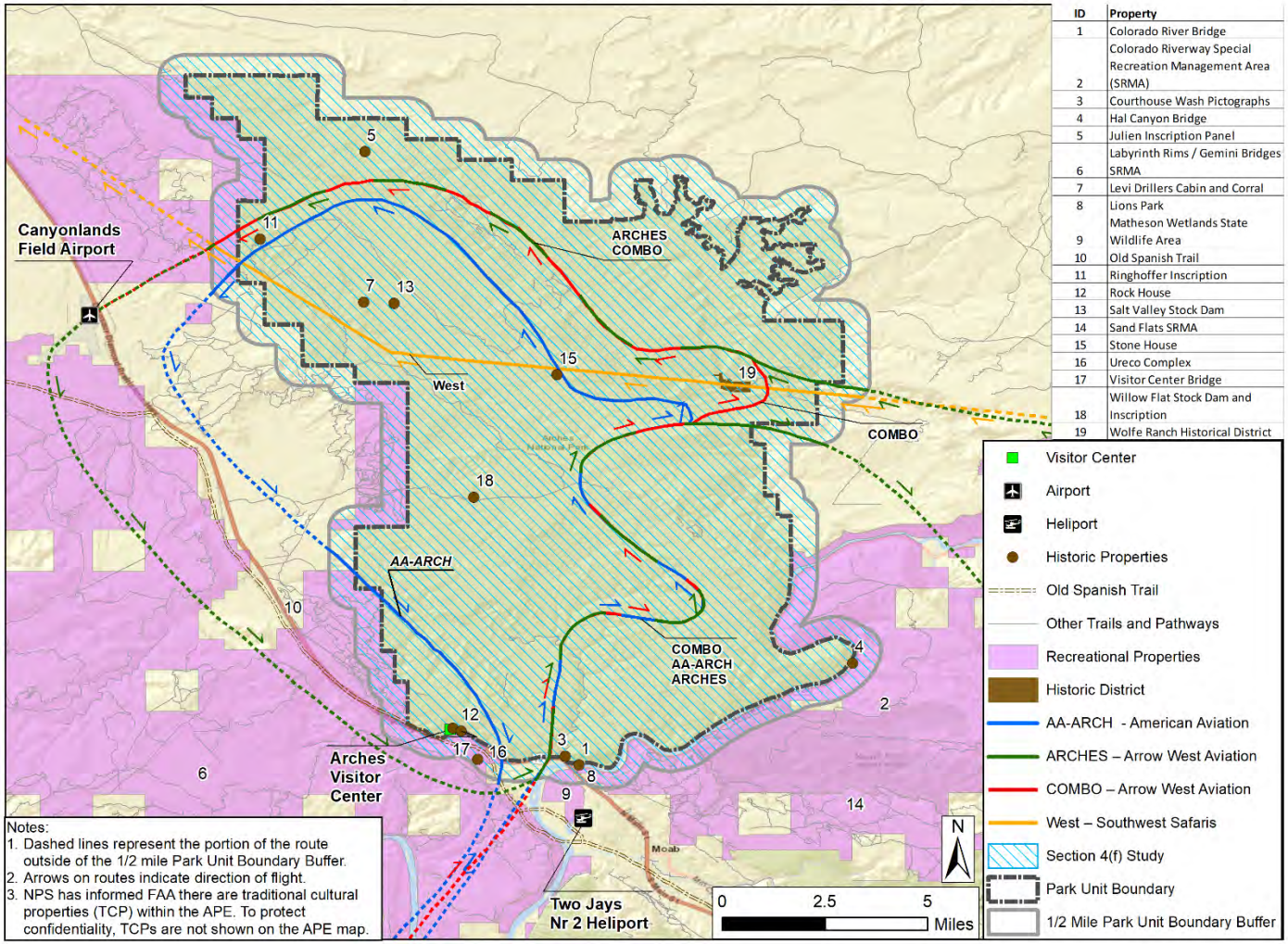
Attachments

A. Map including proposed Commercial Air Tour Routes, Section 4(f) Study Area, and Section 4(f) Resources

ATTACHMENT A

Map of Proposed Commercial Air Tour Routes, Section 4(f) Study Area, and Section 4(f) Resources

Section 4(f) Study Area and Properties for ATMP at Arches National Park



ID	Property
1	Colorado River Bridge
2	Colorado Riverway Special Recreation Management Area (SRMA)
3	Courthouse Wash Pictographs
4	Hal Canyon Bridge
5	Julien Inscription Panel
6	Labyrinth Rims / Gemini Bridges SRMA
7	Levi Drillers Cabin and Corral
8	Lions Park
9	Matheson Wetlands State Wildlife Area
10	Old Spanish Trail
11	Ringhoffer Inscription
12	Rock House
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NATIONAL PARKS AIR TOUR MANAGEMENT PROGRAM

June 7, 2022

Re: Consultation under Section 4(f) of the U.S. Department of Transportation Act (49 U.S.C. § 303) for the development of an Air Tour Management Plan for Arches National Park

Andrea Brand
Grand County, UT
125 East Center St.
Moab, UT 84532

Dear Andrea Brand:

The Federal Aviation Administration (FAA), in cooperation with the National Park Service (NPS), is developing an Air Tour Management Plan (ATMP) for the Arches National Park (Park). The FAA is preparing documentation for the ATMP in accordance with the National Parks Air Tour Management Act (NPATMA) and other applicable laws, including Section 4(f) of the U.S. Department of Transportation Act (Section 4(f)). The purpose of this letter is to coordinate with you on FAA's preliminary findings related to the ATMP's potential impacts to Sand Flats Special Recreation Management Area, which is a protected property under Section 4(f).

Project Background and Purpose of the Action

NPATMA (Public Law 106-181, codified at 49 U.S.C. § 40128) of 2000, directs the agencies to develop ATMPs for commercial air tour operations over units of the national park system. A commercial air tour operation is defined as "a flight conducted for compensation or hire in a powered aircraft where the purpose of the flight is sightseeing over a national park, within ½ mile outside the boundary of a national park or over tribal lands, during which the aircraft flies below an altitude of 5,000 feet (ft.) above ground level (AGL) or less than 1 mile laterally from any geographic feature within the park (unless more than ½ mile outside the boundary)." When NPATMA was passed in 2000, existing air tour operators were permitted to continue air tour operations in parks until an ATMP was completed. To facilitate this continued use, FAA issued Interim Operating Authority (IOA) to existing air tour operators. IOA set an annual limit of the number of flights per operator for each park. In 2012, NPATMA was amended by Congress to, among other things, require operators to report the number of flights conducted on a quarterly interval each year. On February 14, 2019, Public Employees for Environmental Responsibility and the Hawai'i Coalition Malama Pono filed a petition for writ of mandamus seeking to have the agencies complete air tour management plans or voluntary agreements at seven specified parks, In re Public Employees for Environmental Responsibility, et al., Case No. 19-1044 (D.C. Cir.). On May 1, 2020, the United States Court of Appeals for the District of Columbia Circuit Court granted the petition and

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> 1. There is no prudent and feasible alternative to using that land; and
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- At the request of either of the agencies, the Park staff, the FAA Flight Standards District Office (FSDO), and the operator may meet once per year to discuss the implementation of this ATMP and any amendments or other changes to the ATMP. This annual meeting could be conducted in conjunction with any required annual training; and
- For situational awareness when conducting tours of the Park, the operator will utilize frequency 122.9 and report when they enter and depart a route. The pilot should identify their company, aircraft, and route to make any other aircraft in the vicinity aware of their position.

The FAA and the NPS are both responsible for monitoring and oversight of the ATMP.

Section 4(f)

The study area for considering Section 4(f) resources for the ATMP consists of the Park and a ½ mile buffer outside the boundary of the Park. The study area for Section 4(f) resources also corresponds with the Area of Potential Effects (APE) used for compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966 (Section 106) for the Park. See **Attachment A** for a depiction of the Section 4(f) study area. Historic properties were identified as part of the Section 106 consultation process. Parks, recreational areas, and wildlife and waterfowl refuges were identified using public datasets from Federal, State, and local sources, which included the Bureau of Land Management and

[2] Altitude expressed in units above ground level (AGL) is a measurement of the distance between the ground surface and the aircraft, whereas altitude expressed in median sea level (MSL) refers to the altitude of aircraft above sea level, regardless of the terrain below it. Aircraft flying at a constant MSL altitude would simultaneously fly at varying AGL altitudes, and vice versa, assuming uneven terrain is present below the aircraft.

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Potential Use of Section 4(f) Resources

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The FAA's noise evaluation is based on Day Night Average Sound Level Average Annual Day (Ldn or DNL), the cumulative noise energy exposure from aircraft. As part of the ATMP noise analysis, the NPS provided supplemental metrics to assess the impact of commercial air tours on visitor experience in quiet settings, including noise sensitive areas of Section 4(f) resources. The metrics and acoustical terminology considered for the Section 4(f) noise analysis are shown in the table below.

Metric	**Relevance and citation**
Day-night average sound level, DNL	The logarithmic average of sound levels, in dBA, over a 24-hour day DNL takes into account the increased sensitivity to noise at night by including a ten dB penalty between 10 p.m. and 7 a.m. local time. The FAA's indicators of significant impacts are for an action that would increase noise by DNL 1.5 dB or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe.[3]
Equivalent sound level, $L_{Aeq,\ 12\ hr}$	The logarithmic average of commercial air tour sound levels, in dBA, over a 12-hour day. The selected 12-hour period is 7 a.m. to 7 p.m. to represent typical daytime commercial air tour operating hours. Note: Both $L_{Aeq,\ 12hr}$ and DNL and characterize: • Increases in both the loudness and duration of noise events • The number of noise events during specific time period (12 hours for $L_{Aeq,\ 12hr}$ and 24-hours for DNL) However, DNL takes into account the increased sensitivity to noise at night by including a ten dB penalty between 10 p.m. and 7 a.m. local time. If there are no nighttime events, $L_{Aeq,\ 12hr}$ will be three dB higher than DNL.

[3] FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, Exhibit 4-1

Maximum sound level, L_{max}	The loudest sound level, in dBA, generated by the loudest event; it is event-based and is independent of the number of operations. L_{max} does not provide any context of frequency, duration, or timing of exposure.
Time Above 35 dBA[4]	The amount of time (in minutes) that aircraft sound levels are above a given threshold (i.e., 35 dBA) In quiet settings, outdoor sound levels exceeding 35 dB degrade experience in outdoor performance venues (ANSI 12.9-2007, Quantities And Procedures For Description And Measurement Of Environmental Sound – Part 5: Sound Level Descriptors For Determination Of Compatible Land Use); Blood pressure increases in sleeping humans (Haralabidis et al., 2008); maximum background noise level inside classrooms (ANSI/ASA S12.60/Part 1-2010, Acoustical Performance Criteria, Design Requirements, And Guidelines For Schools, Part 1: Permanent Schools).
Time Above 52 dBA	The amount of time (in minutes) that aircraft sound levels are above a given threshold (i.e., 52 dBA) This metric represents the level at which one may reasonably expect interference with Park interpretive programs. At this background sound level (52 dB), normal voice communication at five meters (two people five meters apart), or a raised voice to an audience at ten meters would result in 95% sentence intelligibility.[5]

For aviation noise analyses under the National Environmental Policy Act (NEPA), the FAA determines the cumulative noise energy exposure of individuals resulting from aviation activities in terms of the Average Annual Day (AAD). However, because ATMP operations in the park occur at low annual operational levels and are highly seasonal in nature, the FAA determined that a peak day representation of the operations would more adequately allow for disclosure of any potential impacts. A peak day has therefore been used as a conservative representation of assessment of AAD conditions required by FAA policy.

This provides a conservative evaluation of potential noise impacts to park resources, as well as Section 4(f) resources, under the ATMP, as the AAD will always reflect fewer commercial air tour operations than a peak day. The 90th percentile day was identified for representation of a peak day and derived from the busiest year of commercial air tour activity from 2017-2019, based on the total number of commercial air tour operations and total flight miles over the Park.

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[5] Environmental Protection Agency. Information on Levels of Noise Requisite to Protect the Public Health and Welfare with an Adequate Margin of Safety, March 1974.

The type of aircraft and routes currently flown by operators were further assessed to determine a reasonable representation of the commercial air tour activity at the Park. Under the ATMP, operators will be allowed to conduct commercial air tours on substantially the same routes that the operators currently report flying over the Park. The ATMP increases the minimum altitude that the operators will be allowed to conduct commercial air tours from a minimum of 1,000 ft. AGL to no lower than 2,600 ft AGL referencing the topographic high point within ½ mile of the flight path for the entirety of all air tour routes authorized by the ATMP. For the Park, the 90th percentile day was identified as the following:

- ARCHES – one flight, Cessna CE-172 aircraft
- COMBO – two flights, Cessna CE-207 aircraft

The noise was modeled for the acoustic indicators in the table above and 90th percentile day using the FAA's Aviation Environmental Design Tool (AEDT) version 3d. The noise was modeled at points spaced every 0.25 nautical mile throughout the potentially affected area.

The noise analysis indicates that the ATMP would not result in any noise impacts that would be "significant" or "reportable" under FAA's policy for the NEPA Guidance.[6] Under the ATMP, there are minimal changes to the routes and no changes to the number of commercial air tours per year as compared with existing conditions. The resultant DNL due to the ATMP is expected to be below DNL 45 dBA and does not cause any reportable noise as there is no expected increase or change in noise from the ATMP.

Because the number of authorized flights under the ATMP would be the same as the average number of flights from 2017 to 2019, evaluation of the NPS supplemental metrics show that impacts to Section 4(f) resources would be similar to impacts currently occurring:

- On days when commercial air tours will occur, noise levels above 35 dBA (an indicator used by NPS to assess the potential for degradation of the natural sound environment) will occur for up to 25-30 minutes in the vicinity of Delicate Arch. Section 4(f) resources in the study area fall under the 35 dBA noise contour for up to 20 minutes, with the exception of special recreation management areas outside of the Park boundary.
- On days when commercial air tours will occur, noise levels above 52 dBA (which is associated with speech interference) will occur for less than five minutes in several areas directly beneath and adjacent to the route. Sand Flats Special Recreation Management Area does not fall under the 52 dBA noise contour.

In addition, the ATMP limits the operation of commercial air tours to between one hour after sunrise until three hours before sunset, or for an additional two hours (i.e., up to one hour before sunset) for operators that have converted to quiet technology aircraft, which provides times when visitors seeking solitude may experience the Section 4(f) resources without disruptions from commercial air tours. Since the ATMP also increases the minimum altitude flown by air tours by at least 1,600 ft. AGL, there will be a decrease in the maximum noise levels at sites directly below the commercial air tour routes.

[6] Per FAA Order 1050.1F, the FAA refers to noise changes meeting the following criteria as "reportable": for DNL 65 dB and higher, ± DNL 1.5 dB; for DNL 60 dB to <65 dB, ± DNL 3 dB; for DNL 45 dB to <60 dB, ± DNL 5 dB. See also 1050.1F Desk Reference, Section 11.3.

Collectively, these changes from existing operations and their effect on the current use of Section 4(f) resources will likely result in beneficial impacts to the Section 4(f) resources.

A review of the potential for vibrational impacts on historic buildings, parklands, and forests suggests that the potential for damage resulting from fixed-wing propeller aircraft overflights is minimal, as the fundamental blade passage frequency is well above the natural frequency of these structures. Additionally, the vibration amplitude of these overflights at the altitudes prescribed in the ATMP will be well below recommended limits.

As a result, FAA concludes there would be no substantial impairment of Section 4(f) resources in the study area from noise-related and vibrational effects by the implementation of the ATMP. The ATMP would not result in significant or reportable increase in noise at the Park and the ATMP will likely provide beneficial impacts to Section 4(f) resource. Likewise, vibrational impacts from air tour overflights would be minimal. This all supports the FAA's determination that implementation of the Proposed Action would not constitute a constructive use of Section 4(f) resources in the study area.

Visual Impacts Analysis

The ATMP would not substantially impair Section 4(f) resources within the study area because there would be no measurable change in visual effects from existing conditions. The level of commercial air tour activity under the ATMP will remain the same. Recognizing that some types of Section 4(f) resources may be affected by visual effects of commercial air tours, the FAA and NPS considered the potential for the introduction of visual elements that could substantially diminish the significance or enjoyment of Section 4(f) resources in the study area. Aircraft are transitory elements in a scene and visual impacts tend to be relatively short. The short duration and low number of flights make it unlikely a historic property, forest, or parkland would experience a visual effect from the ATMP. One's perspective of or viewshed from a historic property and natural areas is often drawn to the horizon and aircraft at higher altitudes are less likely to be noticed. Aircraft at lower altitudes may attract visual attention but are also more likely to be screened by vegetation or topography. The ATMP allows the Park to establish no-fly periods for special events or planned Park management.

The ATMP limits the annual number of commercial air tours to 309 flights and maintains substantially similar routes as are currently flown under existing conditions. Based on the three-year average of reporting data (2017-2019), under current conditions, visitors are not likely to see more than 3 commercial air tours per day on a typical day during which air tours are conducted.

Visual impacts to Section 4(f) resources will be similar to impacts currently occurring because the number of authorized flights under the ATMP will be the same as or less than the average number of flights from 2017-2019, and the routes will remain substantially the same as compared to existing conditions. The ATMP would not introduce visual elements or result in visual impacts that would substantially diminish the activities, features or attributes of a Section 4(f) resource. Therefore, there would be no constructive use from visual impacts to Section 4(f) resources.

Preliminary Finding

The FAA has preliminarily determined the ATMP would not substantially diminish the protected activities, features, or attributes of the Section 4(f) resources in the study area. There is no anticipated change in visual and noise impacts over existing conditions as a result of the ATMP. Moreover, the noise analysis indicated that there would be no significant impact or reportable increase from implementation

of the ATMP. The ATMP would not result in substantial impairment of Section 4(f) resources; therefore, based on the analysis above, FAA intends to make a determination of no constructive use of Sand Flats Special Recreation Management Area. We request that you review this information and respond with any concerns or need for further consultation on the FAA's proposed no substantial impairment finding within fourteen days of receiving this letter.

Should you have any questions regarding any of the above, please contact Eric Elmore at 202-267-8335 or eric.elmore@faa.gov and copy the ATMP team at ATMPTeam@dot.gov.

Sincerely,

ERIC M ELMORE

Digitally signed by ERIC M ELMORE
Date: 2022.06.07 01:03:58 -04'00'

Eric Elmore
Senior Policy Advisor
Office of Environment and Energy
Federal Aviation Administration

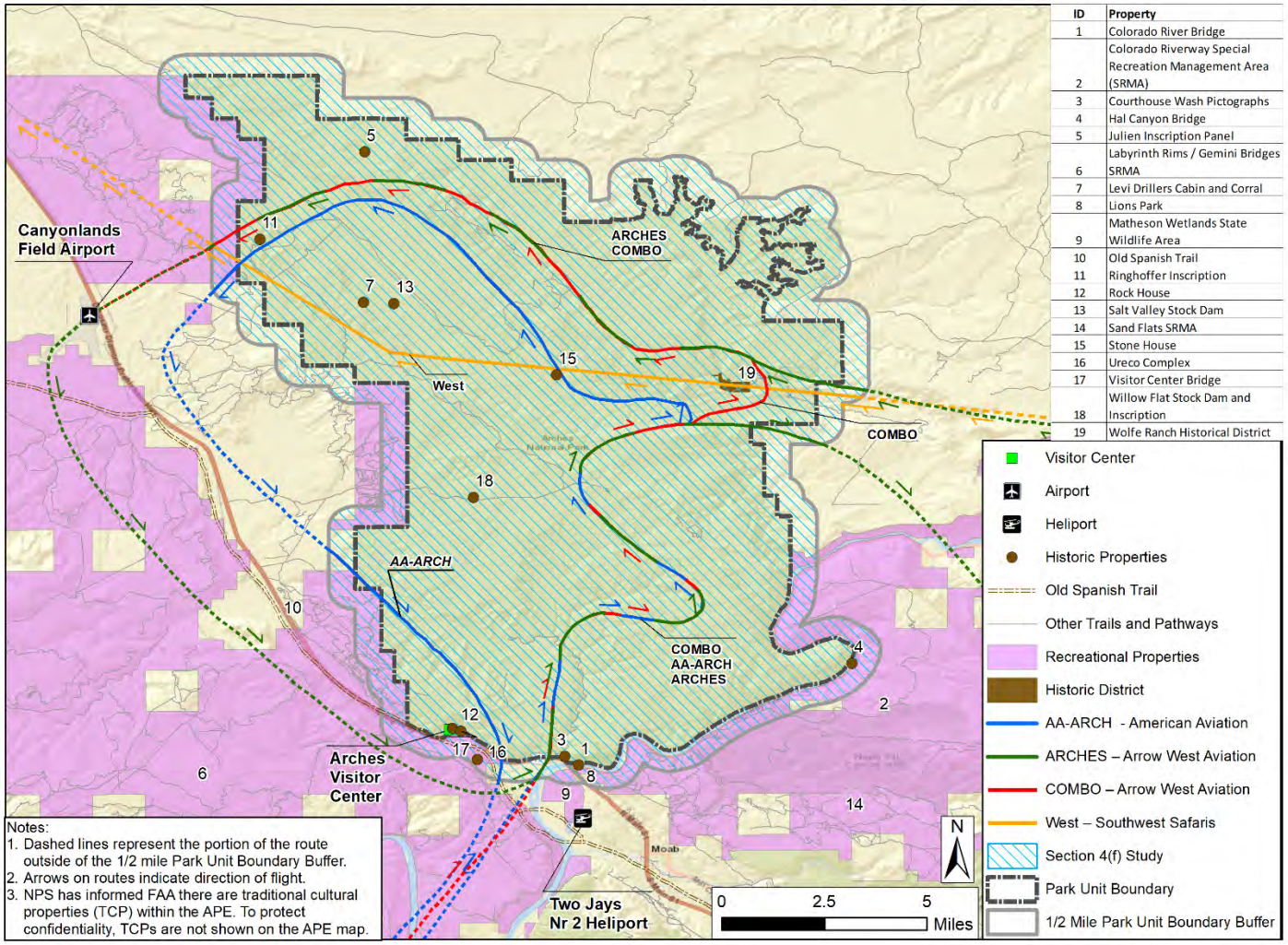
Attachments

A. Map including proposed Commercial Air Tour Routes, Section 4(f) Study Area, and Section 4(f) Resources

ATTACHMENT A

Map of Proposed Commercial Air Tour Routes, Section 4(f) Study Area, and Section 4(f) Resources

Section 4(f) Study Area and Properties for ATMP at Arches National Park



ID	Property
1	Colorado River Bridge
2	Colorado Riverway Special Recreation Management Area (SRMA)
3	Courthouse Wash Pictographs
4	Hal Canyon Bridge
5	Julien Inscription Panel
6	Labyrinth Rims / Gemini Bridges SRMA
7	Levi Drillers Cabin and Corral
8	Lions Park
9	Matheson Wetlands State Wildlife Area
10	Old Spanish Trail
11	Ringhoffer Inscription
12	Rock House
13	Salt Valley Stock Dam
14	Sand Flats SRMA
15	Stone House
16	Ureco Complex
17	Visitor Center Bridge
18	Willow Flat Stock Dam and Inscription
19	Wolfe Ranch Historical District

U.S. Department of Transportation
Federal Aviation Administration

United States Department of Transportation
FEDERAL AVIATION ADMINISTRATION
Office of Policy, International Affairs & Environment
Office of Environment and Energy

NATIONAL PARKS AIR TOUR MANAGEMENT PROGRAM

June 7, 2022

Re: Consultation under Section 4(f) of the U.S. Department of Transportation Act (49 U.S.C. § 303) for the development of an Air Tour Management Plan for Arches National Park

Annie McVay
City of Moab
111 East 100 North
Moab, UT 84532

Dear Annie McVay:

The Federal Aviation Administration (FAA), in cooperation with the National Park Service (NPS), is developing an Air Tour Management Plan (ATMP) for the Arches National Park (Park). The FAA is preparing documentation for the ATMP in accordance with the National Parks Air Tour Management Act (NPATMA) and other applicable laws, including Section 4(f) of the U.S. Department of Transportation Act (Section 4(f)). The purpose of this letter is to coordinate with you on FAA's preliminary findings related to the ATMP's potential impacts to Lions Park, which is a protected property under Section 4(f).

Project Background and Purpose of the Action

NPATMA (Public Law 106-181, codified at 49 U.S.C. § 40128) of 2000, directs the agencies to develop ATMPs for commercial air tour operations over units of the national park system. A commercial air tour operation is defined as "a flight conducted for compensation or hire in a powered aircraft where the purpose of the flight is sightseeing over a national park, within ½ mile outside the boundary of a national park or over tribal lands, during which the aircraft flies below an altitude of 5,000 feet (ft.) above ground level (AGL) or less than 1 mile laterally from any geographic feature within the park (unless more than ½ mile outside the boundary)." When NPATMA was passed in 2000, existing air tour operators were permitted to continue air tour operations in parks until an ATMP was completed. To facilitate this continued use, FAA issued Interim Operating Authority (IOA) to existing air tour operators. IOA set an annual limit of the number of flights per operator for each park. In 2012, NPATMA was amended by Congress to, among other things, require operators to report the number of flights conducted on a quarterly interval each year. On February 14, 2019, Public Employees for Environmental Responsibility and the Hawai'i Coalition Malama Pono filed a petition for writ of mandamus seeking to have the agencies complete air tour management plans or voluntary agreements at seven specified parks, In re Public Employees for Environmental Responsibility, et al., Case No. 19-1044 (D.C. Cir.). On May 1, 2020, the United States Court of Appeals for the District of Columbia Circuit Court granted the petition and ordered the agencies to file a proposed schedule for bringing twenty-three eligible parks, including

Arches National Park, into compliance with NPATMA within two years. The agencies submitted a plan to complete all ATMPs to the court on August 31, 2020.

Section 4(f) is applicable to historic sites and publicly owned parks, recreation areas, and wildlife and waterfowl refuges of national, State, or local significance that may be impacted by transportation programs or projects carried out by the U.S. Department of Transportation (USDOT) and its operating administrations, including the FAA. Section 4(f) of the Department of Transportation Act (codified at 49 U.S.C. § 303(c)), states that, subject to exceptions for *de minimis* impacts:

> "… the Secretary may approve a transportation program or project…requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if –
>
> 1. There is no prudent and feasible alternative to using that land; and
> 2. The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use."

The term "use" refers to both direct (physical) and indirect (constructive) impacts to Section 4(f) resources. A physical use involves the physical occupation or alteration of a Section 4(f) resource, while constructive use occurs when a proposed action results in substantial impairment of a resource to the degree that the activities, features, or attributes of the resource that contribute to its significance or enjoyment are substantially diminished. Under the ATMP, potential impacts to Section 4(f) resources from commercial air tours may include noise from aircraft within the acoustic environment, as well as visual impacts.

Description of the Proposed Action

The FAA and the NPS (collectively, the agencies) are developing ATMPs for 24 parks, [1] including the Arches National Park. The ATMPs are being developed in accordance with NPATMA. Each ATMP is unique and therefore, each ATMP is being assessed individually under Section 4(f).

Commercial air tours have been operating intermittently over the Park for over 20 years. Since 2005, these air tours have been conducted pursuant to IOA issued by FAA in accordance with NPATMA. IOA does not provide any operating conditions (e.g., routes, altitudes, time of day, etc.) for air tours other than a limit of 566 air tours per year. The ATMP will replace IOA.

The FAA and the NPS have documented the existing conditions for commercial air tour operations at the Park. The FAA and the NPS consider the existing operations for commercial air tours to be an average of 2017-2019 annual air tours flown, which is 309 air tours. The agencies decided to use a three-year average because it reflects the most accurate and reliable air tour conditions based on available

[1] On March 4, 2021, the NPS notified the FAA that an air tour management plan was necessary to protect Muir Woods National Monument's resources and values and withdrew the exemption for the that park. The the agencies are now proceeding with ATMPs for 24 parks instead of 23.

operator reporting, and accounts for variations across multiple years, excluding more recent years affected by the COVID 19 pandemic.[2]

The proposed action is implementing the ATMP at the Park. The following elements of the ATMP are included for the Park:

- A maximum of 309 commercial air tours are authorized per year on the routes depicted in **Attachment A**;
- The air tours will fly no lower than 2,600 ft. AGL when over the Park or within ½ mile of its boundary;
- The aircraft types authorized for the commercial air tours include: GIPPS-GA-8, CE-172-N, CE-207-207, CE-207-T207A, Kodiak-100-100, and CE-182-R. Any new or replacement aircraft must not exceed the noise level produced by the aircraft being replaced;
- The air tours may operate between one hour after sunrise until three hours before sunset any day of the year, except as provided by the quiet technology incentive. The NPS can establish temporary no-fly periods that apply to commercial air tours for special event, including tribal ceremonies or similar events, or planned Park management.
- The operator is required to install and use flight monitoring technology on all authorized commercial air tours, and to include flight monitoring data in their semi-annual reports to the agencies, along with the number of commercial air tours conducted;
- When made available by Park staff, the operator/pilot may take at least one training course per year conducted by the NPS. The training will include Park information that the operator can use to further their own understanding of Park priorities and management objectives as well as enhance the interpretive narrative for air tour clients and increase understanding of parks by air tour clients;
- At the request of either of the agencies, the Park staff, the FAA Flight Standards District Office (FSDO), and the operator may meet once per year to discuss the implementation of this ATMP and any amendments or other changes to the ATMP. This annual meeting could be conducted in conjunction with any required annual training; and
- For situational awareness when conducting tours of the Park, the operator will utilize frequency 122.9 and report when they enter and depart a route. The pilot should identify their company, aircraft, and route to make any other aircraft in the vicinity aware of their position.

The FAA and the NPS are both responsible for monitoring and oversight of the ATMP.

Section 4(f)

The study area for considering Section 4(f) resources for the ATMP consists of the Park and a ½ mile outside the boundary of the Park. The study area for Section 4(f) resources also corresponds with the Area of Potential Effects (APE) used for compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966 (Section 106) for the Park. See **Attachment A** for a depiction of the Section 4(f) study area. Historic properties were identified as part of the Section 106 consultation process. Parks, recreational areas, and wildlife and waterfowl refuges were identified using public datasets from Federal, State, and local sources, which included the Bureau of Land Management and

[2] Altitude expressed in units above ground level (AGL) is a measurement of the distance between the ground surface and the aircraft, whereas altitude expressed in median sea level (MSL) refers to the altitude of aircraft above sea level, regardless of the terrain below it. Aircraft flying at a constant MSL altitude would simultaneously fly at varying AGL altitudes, and vice versa, assuming uneven terrain is present below the aircraft.

City of Moab. Each resource that intersected the study area (i.e., some portion of the property fell within the Park or ½ mile buffer around the Park) was included in the Section 4(f) analysis.

Potential Use of Section 4(f) Resources

Evaluating potential impacts to Section 4(f) resources focuses on changes in aircraft noise exposure and visual effects resulting from implementing the ATMP. A constructive use of a Section 4(f) resource would occur if there was a substantial impairment of the resource to the degree that the activities, features, or attributes of the site that contribute to its significance or enjoyment are substantially diminished. This could occur as a result of both visual and noise impacts. The FAA evaluated the Section 4(f) resources for potential noise (including vibration) and visual impacts to determine if there was substantial impairment to Section 4(f) resources due to the ATMP that might result in a constructive use.

Noise Impacts Analysis

The FAA's noise evaluation is based on Day Night Average Sound Level Average Annual Day (Ldn or DNL), the cumulative noise energy exposure from aircraft. As part of the ATMP noise analysis, the NPS provided supplemental metrics to assess the impact of commercial air tours on visitor experience in quiet settings, including noise sensitive areas of Section 4(f) resources. The metrics and acoustical terminology considered for the Section 4(f) noise analysis are shown in the table below.

Metric	**Relevance and citation**
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As a result, FAA concludes there would be no substantial impairment of Section 4(f) resources in the study area from noise-related and vibrational effects by the implementation of the ATMP. The ATMP would not result in significant or reportable increase in noise at the Park and the ATMP will likely provide beneficial impacts to Section 4(f) resource. Likewise, vibrational impacts from air tour overflights would be minimal. This all supports the FAA's determination that implementation of the Proposed Action would not constitute a constructive use of Section 4(f) resources in the study area.

Visual Impacts Analysis

The ATMP would not substantially impair Section 4(f) resources within the study area because there would be no measurable change in visual effects from existing conditions. The level of commercial air tour activity under the ATMP will remain the same. Recognizing that some types of Section 4(f) resources may be affected by visual effects of commercial air tours, the FAA and NPS considered the potential for the introduction of visual elements that could substantially diminish the significance or enjoyment of Section 4(f) resources in the study area. Aircraft are transitory elements in a scene and visual impacts tend to be relatively short. The short duration and low number of flights make it unlikely a historic property, forest, or parkland would experience a visual effect from the ATMP. One's perspective of or viewshed from a historic property and natural areas is often drawn to the horizon and aircraft at higher altitudes are less likely to be noticed. Aircraft at lower altitudes may attract visual attention but are also more likely to be screened by vegetation or topography. The ATMP allows the Park to establish no-fly periods for special events or planned Park management.

The ATMP limits the annual number of commercial air tours to 309 flights and maintains substantially similar routes as are currently flown under existing conditions. Based on the three-year average of reporting data (2017-2019), under current conditions, visitors are not likely to see more than 3 commercial air tours per day on a typical day during which air tours are conducted.

Visual impacts to Section 4(f) resources will be similar to impacts currently occurring because the number of authorized flights under the ATMP will be the same as or less than the average number of flights from 2017-2019, and the routes will remain substantially the same as compared to existing conditions. The ATMP would not introduce visual elements or result in visual impacts that would substantially diminish the activities, features or attributes of a Section 4(f) resource. Therefore, there would be no constructive use from visual impacts to Section 4(f) resources.

Preliminary Finding

The FAA has preliminarily determined the ATMP would not substantially diminish the protected activities, features, or attributes of the Section 4(f) resources in the study area. There is no anticipated

change in visual and noise impacts over existing conditions as a result of the ATMP. Moreover, the noise analysis indicated that there would be no significant impact or reportable increase from implementation of the ATMP. The ATMP would not result in substantial impairment of Section 4(f) resources; therefore, based on the analysis above, FAA intends to make a determination of no constructive use of Lions Park. We request that you review this information and respond with any concerns or need for further consultation on the FAA's proposed no substantial impairment finding within fourteen days of receiving this letter.

Should you have any questions regarding any of the above, please contact Eric Elmore at 202-267-8335 or eric.elmore@faa.gov and copy the ATMP team at ATMPTeam@dot.gov.

Sincerely,

ERIC M ELMORE

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Date: 2022.06.07 01:03:32 -04'00'

Eric Elmore
Senior Policy Advisor
Office of Environment and Energy
Federal Aviation Administration

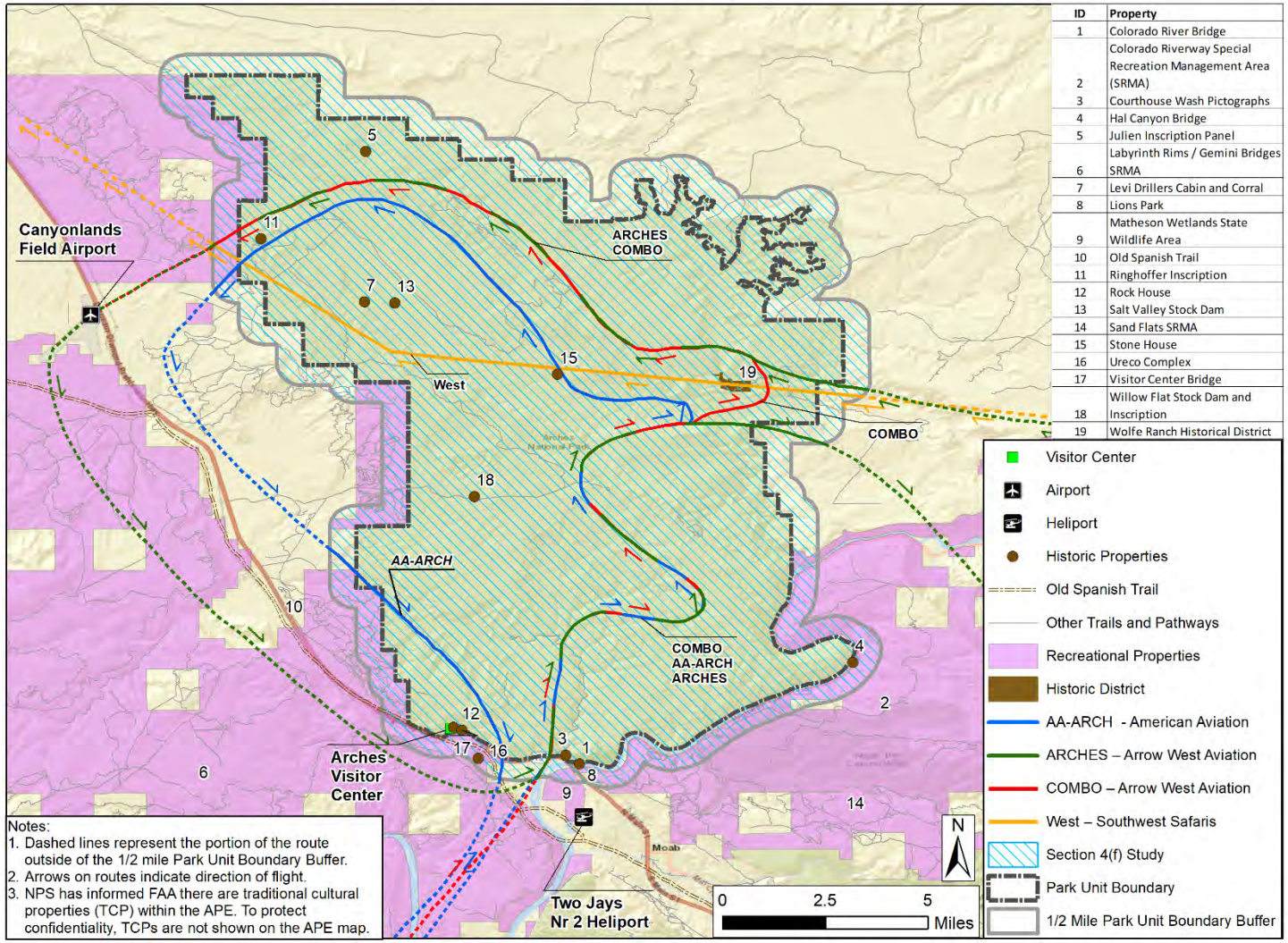
Attachments

A. Map including proposed Commercial Air Tour Routes, Section 4(f) Study Area, and Section 4(f) Resources

ATTACHMENT A

Map of Proposed Commercial Air Tour Routes, Section 4(f) Study Area, and Section 4(f) Resources

Section 4(f) Study Area and Properties for ATMP at Arches National Park



ID	Property
1	Colorado River Bridge
2	Colorado Riverway Special Recreation Management Area (SRMA)
3	Courthouse Wash Pictographs
4	Hal Canyon Bridge
5	Julien Inscription Panel
6	Labyrinth Rims / Gemini Bridges SRMA
7	Levi Drillers Cabin and Corral
8	Lions Park
9	Matheson Wetlands State Wildlife Area
10	Old Spanish Trail
11	Ringhoffer Inscription
12	Rock House
13	Salt Valley Stock Dam
14	Sand Flats SRMA
15	Stone House
16	Ureco Complex
17	Visitor Center Bridge
18	Willow Flat Stock Dam and Inscription
19	Wolfe Ranch Historical District

APPENDIX E

Endangered Species Act: Section 7 Compliance Documentation

United States Department of the Interior
NATIONAL PARK SERVICE
Natural Resource Stewardship & Science
Natural Sounds and Night Skies Division

United States Department of Transportation
FEDERAL AVIATION ADMINISTRATION
Office of Policy, International Affairs & Environment
Office of Environment and Energy

The U.S. Fish and Wildlife Service concurs with your determination that the proposed action *may affect, and is not likely to adversely affect*:
Species: Mexican spotted owl
Critical Habitat: California Condor

The proposed action is expected to be:
Insignificant: X Discountable: X Beneficial: ___

U.S. Fish and Wildlife Utah Field Supervisor

Office Code: 06E23000 Project Code: 2022- 0035454

NATIONAL PARKS AIR TOUR MANAGEMENT PROGRAM

April 6, 2022

Yvette Converse – Field Supervisor
U.S. Fish and Wildlife Service
2369 West Orton Circle, Suite 50
West Valley City, Utah 84119

Re: Informal Section 7 Consultation for Arches National Park Air Tour Management Plan

Dear Field Supervisor Converse,

The Federal Aviation Administration (FAA), in cooperation with the National Park Service (NPS) (collectively, the agencies), is developing an Air Tour Management Plan (ATMP) for Arches National Park (the Park). The agencies are preparing documentation for the ATMP in accordance with the National Parks Air Tour Management Act (NPATMA) and other applicable laws. This letter is a request for informal consultation with your office by the agencies pursuant to Section 7 of the Endangered Species Act (the Act). We are seeking your concurrence that the proposed actions in the ATMP will not adversely affect threatened and endangered species occurring within the Park. This matter is time sensitive as the agencies are under a court order to complete an ATMP at this Park and 22 other parks within two years, as explained below.

Project Background and Purpose of the Action

NPATMA (Public Law 106-181, codified at 49 U.S.C. § 40128) of 2000, directs the agencies to develop ATMPs for commercial air tour operations over units of the national park system. A commercial air tour operation is defined as "a flight conducted for compensation or hire in a powered aircraft where the purpose of the flight is sightseeing over a national park, within ½ mile outside the boundary of a national park or over tribal lands[1], during which the aircraft flies below an altitude of 5,000 feet above ground level (AGL) or less than 1 mile laterally from any geographic feature within the park (unless more than ½ mile outside the boundary)." When NPATMA was passed in 2000, existing air tour operators were permitted to continue air tour operations in parks until an ATMP was completed. To facilitate this continued use, FAA granted Interim Operating Authority (IOA) to existing air tour operators. IOA set an annual limit of the number of flights per operator for each park. In 2012, NPATMA was amended by Congress to require operators to report the number of flights conducted on a quarterly interval each year. On February 14, 2019, Public Employees for Environmental Responsibility and the Hawai'i Coalition Malama Pono filed a petition for writ of mandamus seeking to have the agencies complete air

[1] Defined by NPATMA as "...Indian country (as that term is defined in section 1151 of title 18) that is within or abutting a national park."

tour management plans or voluntary agreements at seven specified parks, In re Public Employees for Environmental Responsibility, et al., Case No. 19-1044 (D.C. Cir.). On May 1, 2020, the United States Court of Appeals for the District of Columbia Circuit Court granted the petition and ordered the agencies to file a proposed schedule for bringing twenty-three eligible parks, including Arches National Park, into compliance with NPATMA within two years. The agencies submitted a plan to complete all ATMPs to the court on August 31, 2020.

Past and Current Commercial Air Tour Activity

Table 1 lists the current commercial air tour activity at the Park along with the average number of flights typically flown over the Park, based on data reported to the NPS and FAA.

Table 1 Current Commercial Air Tour Activity

Park Unit	IOA	Current AGL	Average Total Annual Flights (2017-2019)
Arches National Park	566	1,000 ft. – 2,900 ft.	309

No impacts to listed species have been noted or observed by the agencies under current operating conditions which allow existing flights and potential flights up to IOA (noted in Table 1) in the absence of an ATMP.

Action Area and Description of Proposed Action

The action area includes the Park and the land within a ½-mile boundary from the Park depicted in Figure 1. This area encompasses all of the effects of the proposed action. The ATMP applies to all commercial air tours over the Park and commercial air tours within ½ mile outside the boundary of the Park. A commercial air tour subject to the ATMP is any flight, conducted for compensation or hire in a powered aircraft where a purpose of the flight is sightseeing over the Park, during which the aircraft flies:

> (1) Below 5,000 feet above ground level (except solely for the purposes of takeoff or landing, or necessary for safe operation of an aircraft as determined under the rules and regulations of the FAA requiring the pilot-in-command to take action to ensure the safe operation of the aircraft); or
>
> (2) Less than one mile laterally from any geographic feature within the Park (unless more than ½-mile outside the Park boundary).

The proposed action is implementation of an ATMP for the Park which establishes the following conditions for the management of commercial air tour operations.

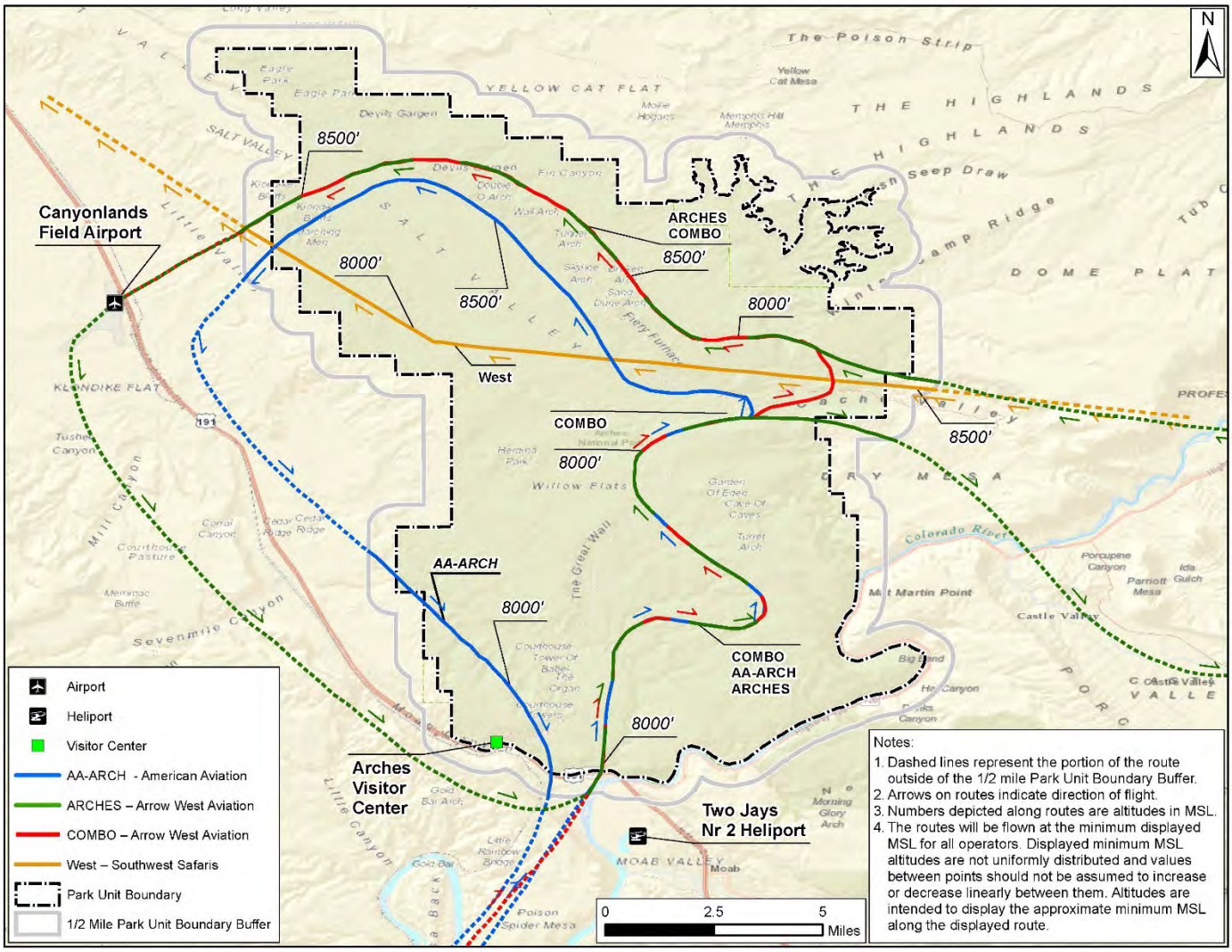


Figure 1 Commercial Air Tour Routes at Arches National Park

Annual Commercial Air Tours Authorized

The ATMP authorizes 309 annual commercial air tours over the Park. The ATMP will remain in effect until amended, at which time the agencies would reinitiate consultation pursuant to 50 CFR § 402.16. While the proposed action does not cap daily flights, based on recent trends, many days would not have any commercial air tours, and it is likely that only one flight would occur on those days when flights occur.

Commercial Air Tour Routes and Altitudes

Commercial air tours authorized under this ATMP shall be conducted on the designated air tour routes and altitudes specific to each operator (in Figure 1). Altitude expressed in units above ground level (AGL) is a measurement of the distance between the ground surface and the aircraft, whereas altitude expressed in mean sea level (MSL) refers to the altitude of an aircraft above sea level, regardless of the

terrain below it. Aircraft flying at a constant MSL altitude would simultaneously fly at varying AGL altitudes, and vice versa, assuming uneven terrain is present below the aircraft. Except in an emergency or to avoid unsafe conditions, or unless otherwise authorized for a specified purpose, operators may not deviate from these routes and altitudes.

The agencies analyzed the MSL along the route and converted this into the corresponding altitude AGL. The agencies determined the MSL altitude identified in Figure 1 would result in flights no lower than 2,600 ft. AGL referencing the topographic high-point within ½ mile laterally on either side of the flight path. These altitudes maintain a ½ mile spatial buffer in accordance with the USFWS Guidelines for Raptor Protection from Human and Land Use Disturbances (USFWS 2002). This guidance recommends a seasonal buffer zone to protect individual nest sites and territories to ensure successful breeding and to maintain high use areas by raptors, including Mexican spotted owl (MSO) (*Strix occidentalis lucida)*. Buffer zones are defined as seasonal or spatial areas of inactivity in association with individual nests or nesting territories. The USFWS buffer recommendation for MSO is ½-mile from March 1 through August 31 to reduce impacts to MSO from disturbance including, but not limited to fixed-wing overflights.

The proposed action would implement this recommended buffer throughout the year requiring commercial air tours fly no lower than 2,600 ft. AGL. No take off or landings would occur within the Park. All flights will begin outside of the Park boundaries.

Day/Time

Under the proposed action, unless an operator implements quiet technology aircraft, flights would be required to begin one hour after sunrise and continue until three hours before sunset, as defined by the National Oceanic and Atmospheric Administration (NOAA).[2] This proposed window of operation would provide additional protection to wildlife during critical dusk/dawn periods that are prime times of day for foraging, mating, and communication.

Required Reporting

As part of the ATMPs, commercial air tour operators are required to equip all aircraft used for commercial air tours with flight monitoring technology and to submit these tracking data to the agencies. Operators are also required to submit semi-annual reports confirming the number of commercial air tours conducted over the Park and implementation of the ATMP flight parameters.

The requirements to equip aircraft with flight monitoring technology, use flight monitoring technology during all air tours under this ATMP, and to report flight monitoring data as an attachment to the operator's semi-annual reports are necessary to enable the agencies to appropriately monitor operations and ensure compliance with this ATMP.

Quiet Technology Incentives

The ATMPs incentivizes the adoption of quiet technology aircraft by commercial air tour operators conducting commercial air tours over the Park. Operators that have converted to quiet technology

[2] Sunrise and sunset data are available from the NOAA Solar Calculator, https://www.esrl.noaa.gov/gmd/grad/solcalc/

aircraft, or are considering converting to quiet technology aircraft, may request to be allowed to conduct air tours beginning one hour after sunrise until one hour before sunset on all days that flights are authorized.

Additional Conservation Measures

California condors (*Gymnogyps californianus)* have not been found to be present in the Park and their presence is thus not a current resource condition requiring active mitigation. However, California condor habitat does exists in the Park, and protective measures are necessary should a condor be identified in the Park. This ATMP includes the following protective measures for California condors:

- Air tour operators are required to report visual identification of California condors to the NPS, with an optional notification to the USFWS, within 24 hours of initial sighting.
- Once NPS becomes aware of the presence of California condor nests, notification and coordination will be conducted between the Park staff, the NPS Intermountain Region Wildlife Biologist and Threatened and Endangered Species Coordinator, the local USFWS field office, the air tour operators, and the FSDO, as necessary, to determine the best avoidance measures for operators to take. Generally, operators will be required to avoid identified nesting areas, feeding areas, or other known areas of congregation by 1 mile vertically or laterally as long as the NPS determines that other natural or cultural resources are not impacted or affected and such avoidance measures would not result in operating conditions deemed unsafe by the FAA.
- The agencies may temporarily restrict use of air tour routes over nesting areas, feeding areas, or other known areas of congregation while: 1) working with operators to modify air tour routes (i.e., 1 mile shifts away from sensitive condor areas); and 2) assessing the natural, cultural, and safety impacts of any changes.
- Avoidance measures will remain in effect until the NPS determines that condors are no longer present and the NPS notifies the operators in writing that avoidance measures are no longer necessary.

Listed Species Evaluated for Effects

The U.S. Fish and Wildlife Service's (USFWS) Information Planning and Consultation (IPaC) tool was used to assess the potential for any federally listed species or designated critical habitat that may occur within the action area. Based on this review, the agencies identified the following species and/or critical habitat.

No Effect Determination

The following section describes listed species that may occur within the Park based on an IPaC review that the agencies determined would not be effected by the proposed action. The proposed action does not involve ground-disturbing activities or other activities with the potential to impact aquatic or terrestrial habitat. While the proposed action overlaps critical habitat for several fish species listed in Table 4, no impacts to the physical or biological features that are essential to the conservation of these species would occur. Therefore, flowering plants and fish species along with their critical habitat will not be impacted by commercial air tours.

Unlike condors and MSO, southwestern willow flycatcher (*Empidonax traillii extimus*) and yellow-billed cuckoo (*Coccyzus americanus*) generally do not fly at altitudes where bird strikes could occur. The 2,600 ft. altitude AGL for commercial air tours eliminates the potential for collisions to occur. Commercial air tours do have the potential to generate noise that could be audible to these birds. However, these noise events are not expected to be stressors on these species. Commercial air tours will not inhibit foraging, feeding, breeding or nesting of these species because they are infrequent and of short duration (likely limited to no more than a few minutes of exposure). In addition, conservation measures included in the proposed action such as the requirement to fly on a designated route and the establishment of required minimum altitudes reduce noise impacts, will ensure that the intensity of the noise associated with commercial air tours is limited. Therefore, the agencies have determined the proposed action would have ***No Effect*** on the species and critical habitat listed in Table 2.

Table 2 Listed Species in the Action Area with No Effect Determination

Group	Common name	Scientific Name	Status (Federal)	Critical Habitat (Y/N)	Occurrence in the Park[3]
Bird	Southwestern Willow Flycatcher	*Empidonax traillii extimus*	Endangered	N	Present
	Yellow-billed Cuckoo	*Coccyzus americanus*	Threatened	N	Present
Fishes	Bonytail	*Gila elegans*	Endangered	N	Unknown
	Colorado Pikeminnow	*Ptychocheilus lucius*	Endangered	Y	Unknown
	Humpback Chub	*Gila cypha*	Endangered	N	Unknown
	Razorback Sucker	*Xyrauchen texanus*	Endangered	Y	Unknown
Flowering Plants	Jones Cycladenia	*Cycladenia humilis var. jonesii*	Threatened	N	Unconfirmed
	Navajo Sedge	*Carex specuicola*	Threatened	N	Unknown

California Condor *(Gymnogyps californianus)*

California condor (condor) are federally listed as endangered under the Act. The USFWS began reintroducing condors to the wild in 1992 (USFWS 1996). In 1996, a non-essential experimental population was established in Northern Arizona (61 *Federal Register* (FR) 54043-54060) with no specific management requirements (Rodriguez 2012). The Condor Recovery Plan was revised for the third time in 1996 (USFWS 1996). An experimental nonessential population of condors was designated on October 16, 2006 that included parts of northern Arizona and Southern Utah (61 FR 54044). Currently (2019 Annual Population Status), there are approximately 337 condors living in the wild in California, Arizona, and Baja Mexico, with 98 of those in the Vermillion Cliffs of Arizona and southern Utah (USDI 2019).

Condors require large areas of remote country for foraging, roosting, and nesting. Condors roost on large trees or snags, or on isolated rocky outcrops and cliffs. Nests are located in shallow caves and rock crevices on cliffs where there is minimal disturbance. Foraging habitat includes open grasslands and oak savanna foothills that support populations of large mammals such as deer and cattle. Condors are known to fly 150 miles a day in search of food (USFWS 1996). While potentially suitable foraging habitat exists along large open areas in the Park, NPS has not documented condor nesting or roosting in the Park.

Mexican Spotted Owl *(Strix occidentalis lucida)*

Mexican spotted owl (MSO) are listed as a federally threatened species under the Act. The 2012 recovery plan notes MSO commonly nest, roost, forage, and disperse in a diverse array of biotic communities throughout most of the range. These include: pine-oak, canyons, and mixed-conifer forests. In general, the mixed-conifer forests are dominated by Douglas-fir (*Pseudotsuga menziesii*)

[3] Based on NPS species list and Landbird Survey.

and/or white fir, (*Abies concolor*) with co-dominant species including southwestern white pine (*Pinus strobiformis*), limber pine (*P. flexilis*), and ponderosa pine (*P. ponderosa*). The recovery plan also notes that species distribution of the MSO historically is unknown. However, present population size and distribution are thought to be similar to historical ranges. Most owls occur within the 11 National Forests of Arizona and New Mexico. It is unknown why Colorado and Utah support fewer owls. There are currently no known populations of MSO at Arches National Park.

There is designated critical habitat for MSO on approximately 3.5 million hectares (ha) (8.6 million acres (ac)) in Arizona, Colorado, New Mexico, and Utah on Federal Lands. Within the critical habitat boundaries, critical habitat includes only protected and restricted habitats as defined in the original Recovery Plan (USDI FWS 1995). Similarly, the primary constituent elements of critical habitat were listed as those habitat features recognized in the 1995 Recovery Plan as associated with Mexican spotted owl occupancy as follows:

- Forest structure
- Maintenance of Adequate Prey Species
- Canyon Habitat

NPS lands that contain critical habitat for MSO include 751,261 ac (304,015 ha) in Arizona at Grand Canyon National Park, 30,817 ac (12,471 ha) in New Mexico, and 720,727 ac (696,331 ha) in Utah (for a total of 2,502,805 ac (1,012,816 ha)).

Determination of Effects to Evaluated Species

Impacts to condor and MSO were analyzed using the best site-specific data available for species locations and distributions within, or near the boundaries of the Park. The following section describes potential effects to both species and the agencies determination.

California Condor *(Gymnogyps californianus)*

Noise impacts and direct strikes are potential impacts to the condor from commercial air tours. Although direct collisions with aircraft are possible, the probability is low. Bird strikes most often occur during the approach and landing of airplanes (FAA Frequently Asked Questions, Airport Wildlife Hazard Mitigation program, http://wildlife-mitigation.tc.faa.gov/wildlife /FAQ.aspx#q1). There are several airfields located within 5 miles of Arches National Park where commercial air tours depart and land. However, no take off or landings will occur within the Park. There is no reference of condor strikes in the FAA Wildlife Strike Database since reintroduction in 1996. While the potential for collisions exists, pilots should be able to avoid most interactions with condors, since the birds are large and highly visible.

The USFWS guidelines for Raptor protection from human and land use disturbance, including noise impacts, recommends a seasonal buffer zone to protect individual nest sites and territories to ensure successful breeding and to maintain high use areas by raptors, including California condor (USFWS 2002). The guidance defines buffer zones as seasonal or spatial areas of inactivity in association with individual nests or nesting territories. The buffer recommendation for condors is 1-mile from February 1 through November 30 to reduce impacts.

The presence of condors has not been found in the Park and is not a current resource condition requiring active mitigation. However, condor habitat exists in the Park, and protective measures are necessary should a condor be identified in the Park. The ATMP includes the following protective measures for condors:

- Air tour operators are required to report visual identification of condors to the NPS, with an optional notification to USFWS, within 24 hours of initial sighting.
- Once NPS becomes aware of the presence of condor nests, notification and coordination will be conducted between the Park staff, the NPS Intermountain Region Wildlife Biologist and T&E Coordinator, the local USFWS field office, the air tour operator(s), and the flight standards district office (FSDO), as necessary, to determine the best avoidance measures for operators to take. Generally, operators will be required to avoid identified nesting areas, feeding areas, or other known areas of congregation by 1 mile vertically or laterally as long as other natural or cultural resources are not impacted or affected (as determined by the NPS) or such avoidance measures would not result in operating conditions deemed unsafe by the FAA.
- The agencies may temporarily restrict use of air tour routes over these sensitive areas while: 1) working with operators to modify air tour routes (i.e., 1 mile shifts away from sensitive condor areas); and 2) assessing the natural, cultural, and safety impacts of any changes.

Avoidance measures will remain in effect for as long as the condors are observed by park staff to be present. Cumulative effects include the effects of future State, Tribal, local, or private actions that are reasonably certain to occur in the action area. Currently there are no known planned Federal or Tribal actions that would affect condors. Similarly, the agencies are not aware of any proposed non-Federal action that may affect species or critical habitats considered in this consultation. The impacts ongoing Federal actions unrelated to the proposed action are considered part of the baseline condition since they are covered under separate consultation pursuant to Section 7 of the Act. Therefore, there are no cumulative effects associated with the proposed action.

Based on implementation of the measures described above, any potential impact resulting from direct strikes would be discountable[4] and impacts from noise would be insignificant[5]. Therefore, the agencies determined the proposed action ***may affect, but is not likely to adversely affect*** California condor.

Mexican Spotted Owl *(Strix occidentalis lucida)*

Noise impacts and direct strikes are potential impacts to MSO. The possibility of direct strikes is low and not expected because owls are nocturnal and all commercial air tours will occur during daylight hours only. MSOs are not soaring birds and remain within forested locations with steep-walled canyons, further reducing the likelihood of aircraft strikes (USFWS 2012a). Noise from air tours may impact wildlife in a number of ways: altered vocal behavior, breeding relocation, changes in vigilance and foraging behavior, and impacts on individual fitness and the structure of ecological communities (Shannon et al., 2015; Kunc et al., 2016; Kunc & Schmidt, 2019).

[4] Discountable effects are those extremely unlikely to occur.

[5] Insignificant effects relate to the size of the impact and include those effects that are undetectable, not measurable, or cannot be evaluated.

Infrequent, noise-producing activities are generally assumed to have relatively little long-term impact on MSO. However, owls will react to noise disturbances by changing behavior and/or flushing from their perches (Delaney et al. 1999a; Swarthout and Steidl 2001, 2003). These behavioral responses may alter nesting and roosting activities, thus increasing vulnerability to predators and heat-related stress (USFWS 2012a). The MSO recovery plan notes that MSOs were more sensitive to disturbance by chainsaws than by helicopter overflights at comparable distances, and chainsaw operation caused most owls to flush from their perches when chainsaws were operated <60 m (197 ft.) from a roosting MSO. Owl response decreased with increasing distance to noise source for both chainsaw operation and helicopter overflights, and Delaney et al. (1999b) suggested that a buffer zone of 105 m (344 ft.) would minimize impacts of helicopter overflights on MSO. The MSO recovery plan recommends these breeding-season restrictions should be considered if noise levels are estimated to exceed 69 dBA (A-weighted noise level) (~80 dBO [owl-weighted noise level, Delaney et al. 1999b]) consistently (i.e., >twice/hour) or for an extended period of time (>1 hr.) within 50 m (165 ft.) of nesting sites (if known) or within entire protective activity centers (PAC) if nesting sites are not known. The recommendation is based in part on Delaney et al. (1999a,b), Delaney and Grubb (2003), and Pater et al. (2009). As indicated in the Noise Technical Analysis (See Appendix 1), while noise levels would vary along the route depending on terrain and other environmental factors, the proposed action would not exceed the noise levels, frequency or duration thresholds recommended in the MSO recovery plan.

The USFWS Guidelines for Raptor Protection from Human and Land Use Disturbances (USFWS 2012) recommends a seasonal buffer zone to protect individual nest sites and territories to ensure successful breeding and to maintain high use areas by raptors, including MSO. Buffer zones are defined as seasonal or spatial areas of inactivity in association with individual nests or nesting territories. The USFWS buffer recommendation for MSO is ½-mile from March 1 through August 31 to reduce impacts to MSO from disturbance including, but not limited to fixed-wing and helicopter overflights. The proposed action would implement this recommended buffer throughout the year.

While critical habitat for MSO overlaps the action area, no impacts to the primary constituent elements listed in the MSO recovery plan will occur. Therefore the agencies have determined the proposed action would have ***no effect*** on MSO critical habitat.

Currently there are no known planned Federal or Tribal actions that would affect MSO. Similarly, the agencies are not aware of any proposed non-Federal action that may affect species or critical habitats considered in this consultation. The impacts ongoing Federal actions unrelated to the proposed action are considered part of the baseline condition since they are covered under separate consultation pursuant to Section 7 of the Act. Therefore, there are no cumulative effects associated with the proposed action.

Implementation of the ½-mile buffer zone throughout the year would provide further protection for sensitive species, including MSO, limiting disturbance. Based on implementation of the measures described above, any potential impact resulting from direct strikes would be discountable and impacts from noise would be insignificant. Therefore, the agencies have determined the proposed action ***may affect, but is not likely to adversely affect*** MSO.

Conclusion

As indicated above, the proposed action implements designated routes, required minimum altitudes, and limits annual air tours. In addition, the proposed action implements the avoidance measures recommended for condor and MSO in accordance with the USFWS Raptor Guidelines. The measures enumerated above incorporated into the ATMP will serve to avoid and minimize possible effects to listed species and their critical habitat. Therefore, based on the analysis that all effects of the proposed action will be insignificant and/or discountable, the agencies have determined that the proposed project ***may affect, but is not likely to adversely affect*** California condor and Mexican spotted owl and have ***no effect*** on Mexican spotted owl critical habitat.

Thank you very much for your help and support. If you have questions or need more information, please contact Matthew Van Scoyoc, Matthew_VanScoyoc@nps.gov Ecologist for Southeastern Utah Group Parks or Michelle Carter, Michelle_Carter@nps.gov at the NPS who is helping coordinate overall Section 7 consultations for ATMPs on behalf of the agencies.

Sincerely,

PATRICIA TRAP Digitally signed by PATRICIA TRAP
Date: 2022.04.14 10:38:38 -06'00'

Patricia Trap, Superintendent for Arches National Park

KEVIN W. WELSH Digitally signed by KEVIN W. WELSH
Date: 2022.04.06 18:40:54 -04'00'

Kevin Welsh, Executive Director, Office of Environment and Energy, Federal Aviation Administration

Attachments

- Appendix 1 Noise Technical Analysis
- Literature cited

Appendix 1 Noise Technical Analysis

This section describes the agencies noise technical analysis associated with the proposed action. Specific impacts to species evaluated for effects are described in the following section. Overall, noise impacts associated with commercial air tours over the Park are not expected to measurably change, but should show a slight improvement, since the ATMP authorizes the same number of annual flights as the existing three-year average and will require commercial air tours maintain an altitude of 2,600 ft. AGL. The increase in altitude (from the minimum altitudes listed in Table 1 under current conditions) will reduce the maximum noise levels at sites directly below the commercial air tour routes. It should be noted that when the altitude of an aircraft is increased, the total area exposed to the noise from that aircraft may also increase depending on the surrounding terrain. However, because increases in altitude also reduce aircraft noise in areas nearby the flight track, the beneficial effects of increasing the altitude of commercial air tours will outweigh any potential increase in the area exposed to the noise.

For the FAA's indicators of significant impacts using the day-night average sound level (DNL), the resultant DNL due to the ATMP is well below 65 decibels dBA within the Park boundary and ½-mile buffer. As noted below, contours are not presented for $L_{Aeq,\ 12\ hr}$ (Equivalent Sound Level over 12 hours) as the average sound levels were below 35 dBA for the ATMP modeled at the Park; and DNL will be arithmetically three dBA lower than $L_{Aeq,\ 12hr}$ as there are no nighttime events at the Park.

There are numerous ways to measure the potential impacts of noise from commercial air tours on the acoustic environment of a park, including intensity, duration, and spatial footprint of the noise. The primary metrics for the ATMP are shown in Table 3.

Table 3 Primary metrics used for the noise analysis.

Metric	Relevance and Citation
Time Above 35 dBA[6]	The amount of time (in minutes) that aircraft sound levels are above a given threshold (i.e., 35 dBA) In quiet settings, outdoor sound levels exceeding 35 dB degrade experience in outdoor performance venues (ANSI 12.9-2007, Quantities And Procedures For Description And Measurement Of Environmental Sound – Part 5: Sound Level Descriptors For Determination Of Compatible Land Use); Blood pressure increases in sleeping humans (Haralabidis et al., 2008); maximum background noise level inside classrooms (ANSI/ASA S12.60/Part 1-2010, Acoustical Performance Criteria, Design Requirements, And Guidelines For Schools, Part 1: Permanent Schools).

[6] dBA (A-weighted decibels): Sound is measured on a logarithmic scale relative to the reference sound pressure for atmospheric sources, 20 µPa. The logarithmic scale is a useful way to express the wide range of sound pressures perceived by the human ear. Sound levels are reported in units of decibels (dB) (ANSI S1.1-1994, American National Standard Acoustical Terminology). A-weighting is applied to sound levels in order to account for the sensitivity of the human ear (ANSI S1.42-2001, Design Response of Weighting Networks for Acoustical Measurements). To approximate human hearing sensitivity, A-weighting discounts sounds below 1 kHz and above 6 kHz.

Metric	Relevance and Citation
Time Above 52 dBA[6]	The amount of time (in minutes) that aircraft sound levels are above a given threshold (i.e., 52 dBA) This metric represents the level at which one may reasonably expect interference with Park interpretive programs. At this background sound level (52 dB), normal voice communication at five meters (two people five meters apart), or a raised voice to an audience at ten meters would result in 95% sentence intelligibility.[7]
Equivalent sound level, $L_{Aeq, 12\ hr}$	The logarithmic average of commercial air tour sound levels, in dBA, over a 12-hour day. The selected 12-hour period is 7 am – 7 pm to represent typical daytime commercial air tour operating hours.
Day-night average sound level, L_{dn} (or DNL)	The 24-hour average sound level, in dBA, after addition of ten decibels to sounds occurring from 10 p.m. to 7 a.m. For aviation noise analyses, the FAA has determined that the cumulative noise energy exposure of individuals to noise resulting from aviation activities must be established in terms of Day-night average sound level (DNL).[8] Note: Both $L_{Aeq, 12hr}$ and L_{dn} characterize: Increases in both the loudness and duration of noise events The number of noise events during specific time period (12 hours for $L_{Aeq, 12hr}$ and 24-hours for L_{dn}) L_{dn} takes into account the increased sensitivity to noise at night by including a ten dB penalty between 10 p.m. and 7 a.m. local time. ***If there are no nighttime events, then $L_{Aeq, 12hr}$ is arithmetically three dBA higher than L_{dn}.*** The FAA's indicators of significant impacts are for an action that would increase noise by DNL 1.5 dB or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe.[9]
Maximum sound level, L_{max}	The loudest sound level, in dBA, generated by the loudest event; it is event-based and is independent of the number of operations. L_{max} does not provide any context of frequency, duration, or timing of exposure.

In order to provide a conservative evaluation of potential noise effects produced by commercial air tours under the proposed action, the analysis is based on a characterization of a busy day of commercial air tour activity. For the busiest year of commercial air tour activity from 2017-2019 based on the total number of commercial air tour operations and total flight miles over the Park, the 90th percentile day was identified for representation of the busy day in terms of number of operations, and then further

[7] Environmental Protection Agency. Information on Levels of Noise Requisite to Protect the Public Health and Welfare with an Adequate Margin of Safety, March 1974.
[8] FAA Order 1050.1F, Appx. B, sec B-1
[9] FAA Order 1050.1F, Exhibit 4-1

assessed for the type of aircraft and route flown to determine if it is a reasonable representation of the commercial air tour activity at the Park.

Noise contours for the following acoustic indicators were developed using the FAA's Aviation Environmental Design Tool (AEDT) version 3d and are provided below. A noise contour presents a graphical illustration or "footprint" of the area potentially affected by the noise. Noise from commercial air tours that may occur due to portions of the flight path outside the study area, but within proximity to the Park and ½-mile boundary, are captured during noise modeling; however, these areas are not a part of the ATMP and outside of the agencies' jurisdiction. The impact analysis for this assessment focused on the federal action of the ATMP and is therefore limited to the study area consisting of the Park and ½-mile boundary surrounding the Park, in accordance with NPATMA.

On days when commercial air tours may occur at the Park, time above 35 dBA would occur for less than 30 minutes (See Figure 2). The highest noise levels (greater than 52 dBA) would occur directly under the route and would occur for no more than 5 minutes in duration (See Figure 3). L_{max} would not exceed 65 dBA (See Figure 4). Contours are not presented for LAeq, 12hr as the average sound levels were below 35 dBA for the ATMP modeled at the Park. Contours are not presented for Ldn (or DNL) as it is arithmetically three dBA lower than LAeq, 12hr if there are no nighttime events, which is the case for the ATMP modeled at the Park.

Following public review of the ATMP, the agencies consolidated the routes and adjusted altitudes in response to public comments and feedback received. Previous noise modeling of routes at 8,000-8,500 ft. MSL reflected an aircraft altitude of 2,900 ft. AGL directly under the flight path (equivalent to 2,600 ft. AGL, referencing the topographic high-point within ½ mile laterally on either side of the flight path), and is thus consistent with the consolidated route altitude. Lateral consolidation of routes alone would not affect noise modeling results.

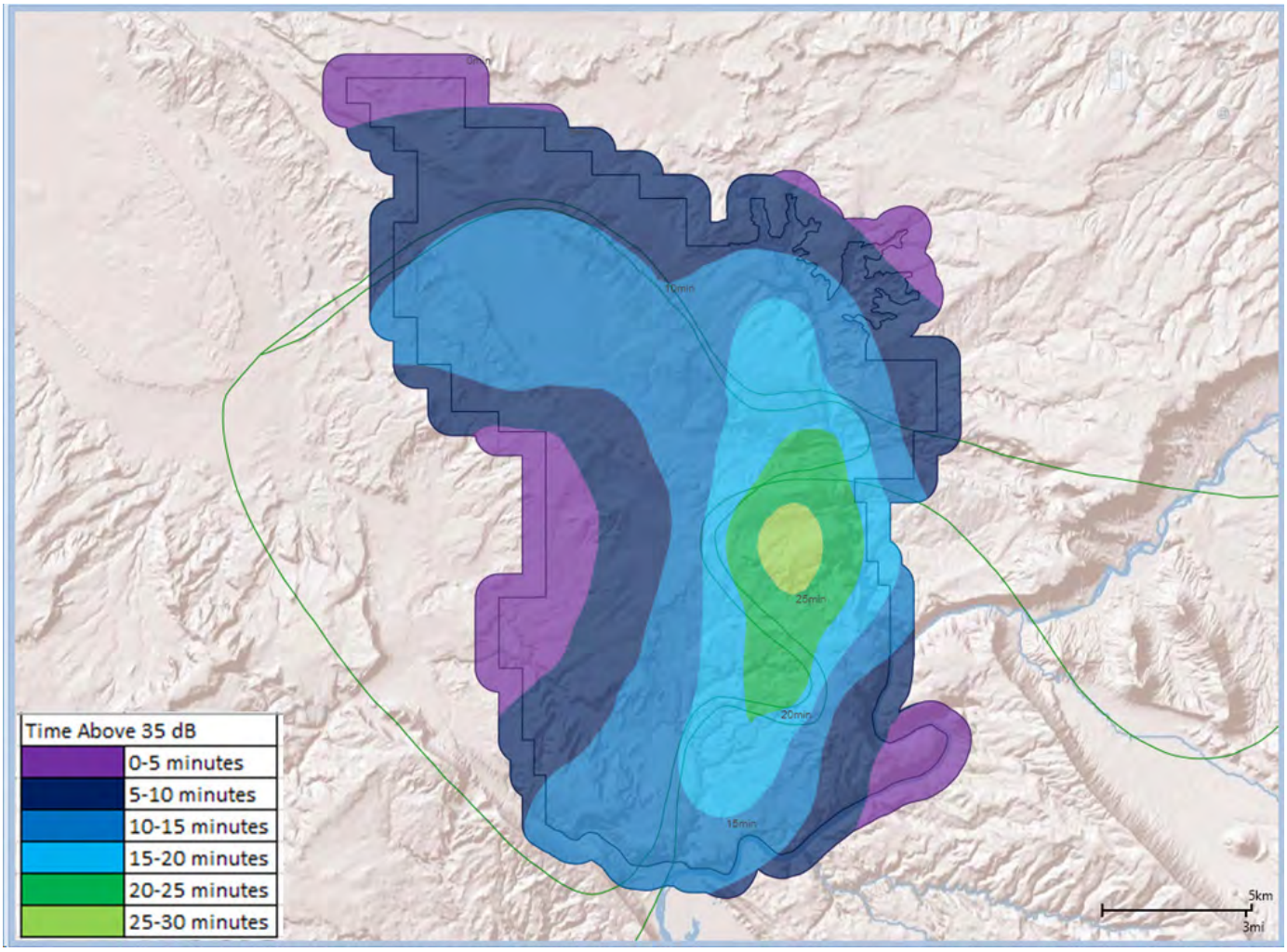


Figure 2 Noise contour results for time above 35 dBA at Arches National Park

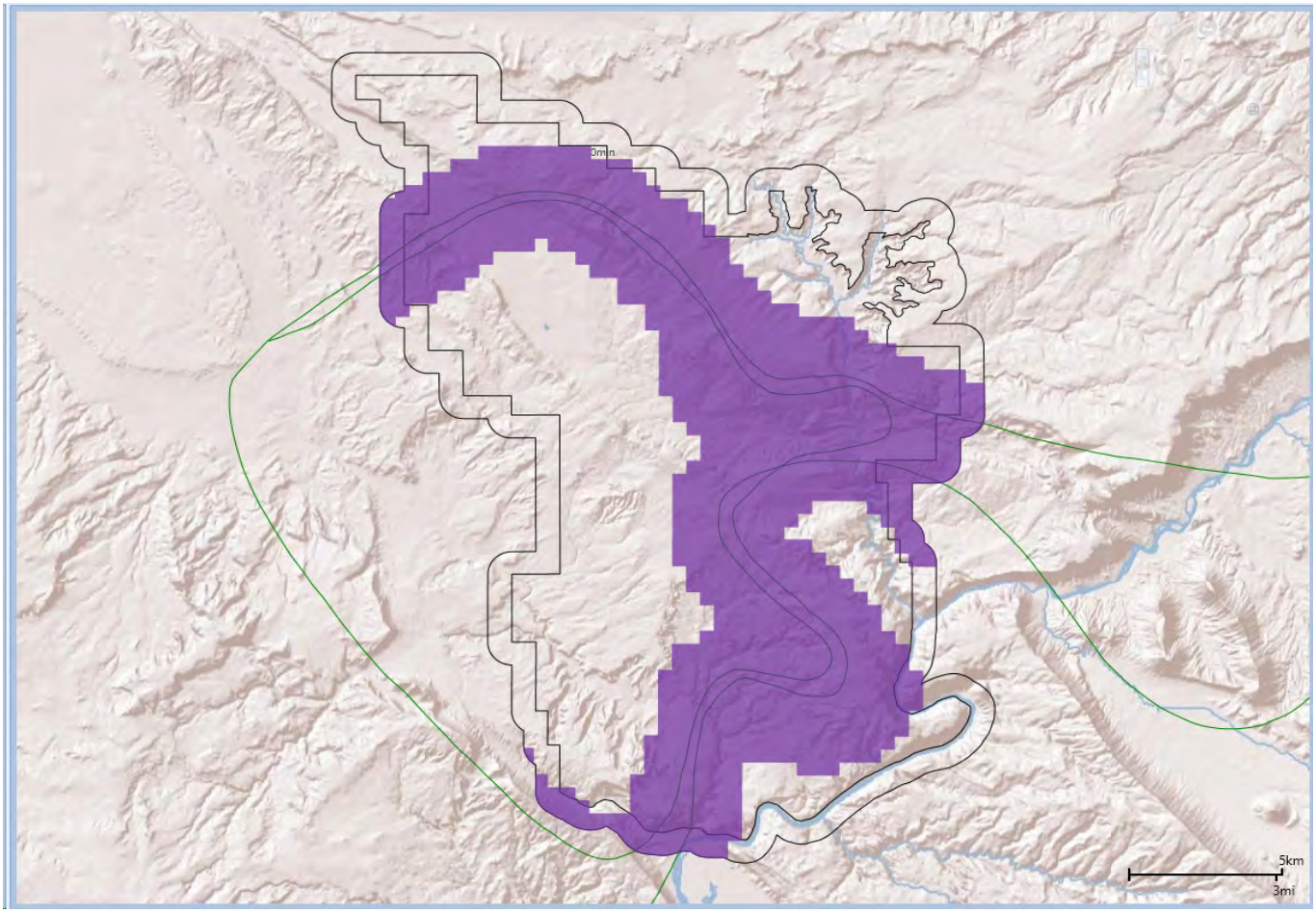


Figure 3 Noise contour results for time above 52 dBA at Arches National Park

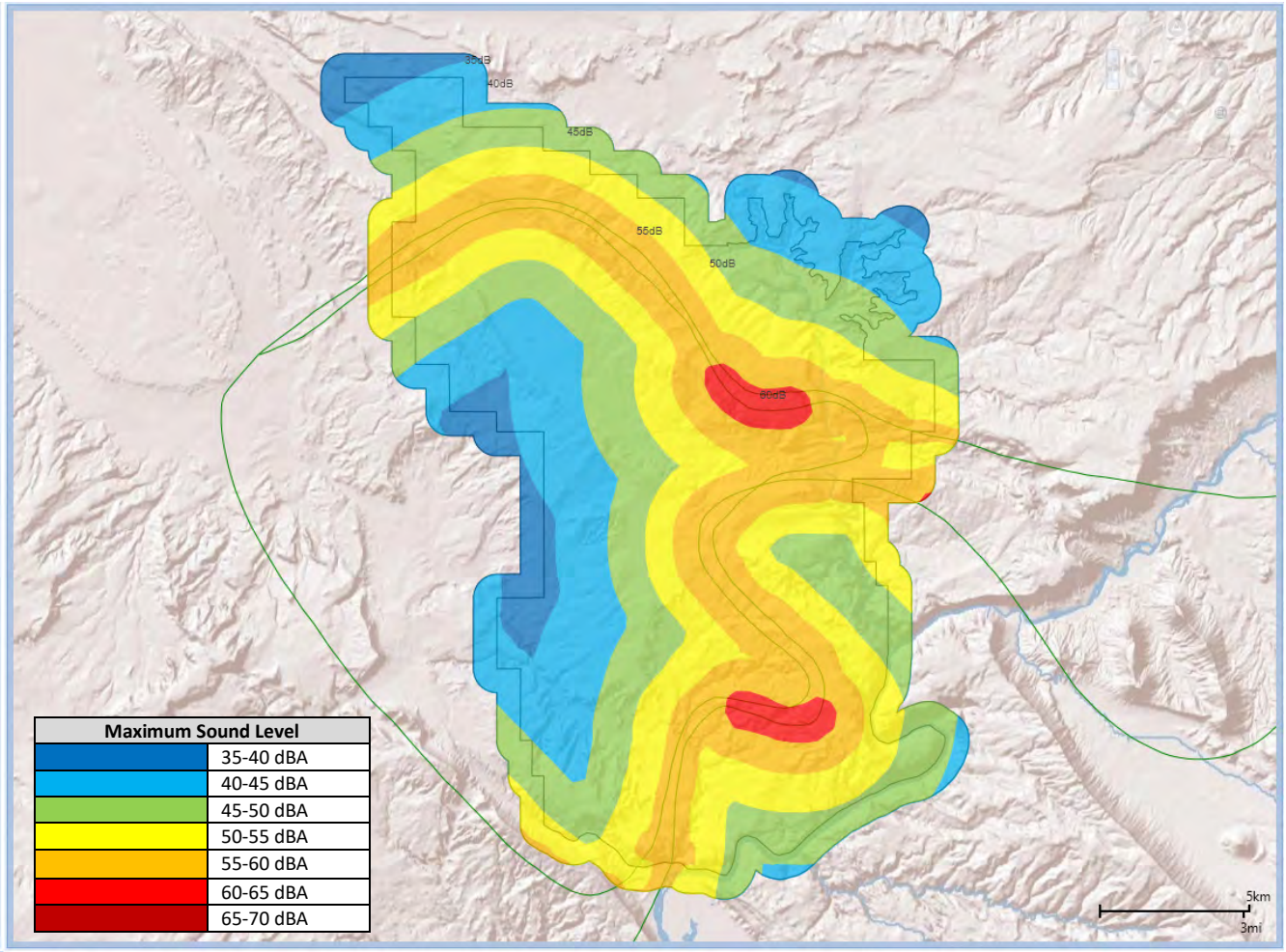


Figure 4 Noise contour results for maximum sound level (L_{max}) at Arches National Park

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APPENDIX F

National Historic Preservation Act: Section 106 Compliance Documentation

U.S. Department of Transportation
Federal Aviation Administration

United States Department of Transportation
FEDERAL AVIATION ADMINISTRATION
Office of Policy, International Affairs & Environment
Office of Environment and Energy

NATIONAL PARKS AIR TOUR MANAGEMENT PROGRAM

June 24, 2022

Re: Section 106 Consultation and Finding of No Adverse Effect under Section 106 of the National Historic Preservation Act for the development of an Air Tour Management Plan for Arches National Park (Project #: 21-0762)

Savanna Agardy
Compliance Archaeologist
Utah Division of State History
300 Rio Grande Street
Salt Lake City, UT 84101

Dear Savanna Agardy:

Introduction

The Federal Aviation Administration (FAA), in coordination with the National Park Service (NPS), seeks to continue consultation with your office under Section 106 of the National Historic Preservation Act (NHPA) for the development of an Air Tour Management Plan (ATMP) for Arches National Park (Park). At this time, the FAA requests your concurrence with its proposed finding that the undertaking would have no adverse effect on historic properties, in accordance with 36 CFR 800.5(c). On this date, we are also notifying all consulting parties of this proposed finding and providing the documentation below for their review.

In accordance with the requirements of 36 CFR 800.11(e), this letter describes the undertaking, including: changes that have occurred since the draft ATMP was issued to the public; the Area of Potential Effects (APE); a description of steps taken to identify historic properties; a description of affected historic properties in the APE and the characteristics that qualify them for the National Register of Historic Places (NRHP); and an explanation of why the criteria of adverse effect are inapplicable. This letter also describes the Section 106 consultation process and public involvement for this undertaking.

The FAA initiated Section 106 consultation with your office by letter dated March 29, 2021. In a follow-up letter dated August 27, 2021, we described the proposed undertaking in more detail, proposed a preliminary APE, and provided our initial list of historic properties identified within the APE. FAA conducted additional identification efforts and provided a revised list of historic properties in our most recent correspondence dated January 28, 2022. Similar letters were sent to all consulting parties; Section 106 consultation with tribes is described below. Public involvement for this undertaking was integrated with the National Parks Air Tour Management Act (NPATMA) process. We published a notice

of availability of the draft ATMP in the Federal Register on September 3, 2021. The public comment period on the draft ATMP was September 3, 2021, through October 3, 2021. A public meeting was held September 20, 2021.

The FAA and the NPS received a few public comments about potential visual effects from commercial air tours. However, none of those commenters expressed specific concerns regarding such effects to historic properties. Many comments were submitted about potential noise effects from commercial air tours. Two of those comments referenced potential impacts to cultural resources in general. One commenter referenced the mission of the NPS, which includes the preservation of the natural soundscapes that are inherent components of the scenery and the natural and historic objects and the wildlife protected by the NPS Organic Act (Director's Order #47). A second commenter referenced the adverse impacts of aircraft overflight noise on park resources and values contained in the 1994 Report to Congress on Effects of Aircraft Overflights on the National Park System.[1] Chapter 4 of that report is dedicated to "Effects on Cultural and Historic Resources, Sacred Sites, and Ceremonies."

The FAA and the NPS received eight comments from the public related to tribal concerns. Commenters stated that the ATMP needs to incorporate Native American information on cultural landscapes and make route and flight changes to protect these values and that air tours need to be designed to always protect cultural resources and related cultural landscapes and ethnographic resources, such as views that are important to Native American Tribes.

One commenter expressed concern with the lack of tribal consultation and the lack of avoidance of flight paths over sacred land, including any of the 2,000 sandstone arches that the NPS acknowledges in the draft ATMP are considered sacred by tribes. As a result of this and other comments, the FAA and NPS identified the arches within the APE as Traditional Cultural Properties (TCP). The FAA and the NPS have been consulting with tribes, as described within this letter.

Another commenter noted that a tribal member described the La Sal Mountains as a dwelling place for spirits and sacred beings, and identified that having unobstructed views of the mountains from places where rituals were performed, such as arches, was extremely important. The commenter stated that this is a primary reason why Arches National Park is so highly valued by indigenous people as a powerful and sacred place. Based on this comment, the La Sal Mountains would also likely qualify as a TCP for the purposes of Section 106. However, the mountain range is outside the APE for the undertaking.

The FAA and the NPS received a few public comments about potential effects on historic properties from commercial air tours. One comment generally encouraged the agencies to comply with Section 106 of the NHPA. A second commenter noted that the commercial air tour routes proposed as part of the draft ATMP did not avoid land sacred to the tribes.

Description of the Undertaking

The FAA and the NPS are developing ATMPs for multiple parks, including Arches National Park. The ATMPs are being developed in accordance with NPATMA. Each ATMP is unique and therefore, each ATMP is being assessed individually under Section 106.

Commercial air tours have been operating over Arches National Park for over 20 years. Since 2005, these air tours have been conducted pursuant to interim operating authority (IOA) issued by FAA in

[1] https://www.nonoise.org/library/npreport/intro.htm

accordance with NPATMA. IOA does not provide any operating conditions (e.g., routes, altitudes, time of day, etc.) for air tours other than an annual limit of 566 air tours per year. The ATMP will replace IOA.

The FAA and the NPS have documented the existing conditions for commercial air tour operations at the Park. The FAA and the NPS consider the existing operations for commercial air tours to be an average of 2017-2019 annual air tours flown, which is 309 air tours. The agencies decided to use a three-year average because it reflects the most accurate and reliable air tour conditions based on available operator reporting, and accounts for variations across multiple years, excluding more recent years affected by the COVID 19 pandemic. Commercial air tours currently are conducted using Cessna models 172-N, 182-R, 207-207, and 207-T207A and GIPPS-GA-8 and Kodiak-1000, which are all fixed-wing aircraft. Under existing conditions, commercial air tours are conducted on the routes shown in **Attachment A**. Commercial air tour operations presently fly between 1,000 ft. and 2,900 ft. above ground level (AGL) depending on the location over the Park.[2]

Under existing conditions, commercial air tours over the Park are generally flown on four different routes shown in **Attachment A**, though they are not required to fly on any particular route. Two operators fly three variations of a similar route that enters the Park from the southern end, travels in a northeasterly direction to the vicinity of Delicate Arch then travels northwest toward Devil's Garden before exiting the Park near Tower Arch in the northwest corner. These routes fly over the Park and ½ mile buffer for between 29 and 32 miles. A third operator flies a route that passes east to west entering the Park near Delicate Arch and exiting near Tower Arch. This route flies over the Park and ½ mile buffer for approximately 13 miles, allowing air tours to avoid flying over the majority of the Park's area.

In response to public comment and feedback, including comments received from tribes, the FAA and NPS consolidated air tour routes and adjusted how the altitude of the routes was defined. The undertaking would result in commercial air tours being conducted along the routes shown in **Attachment B**. The new routes are based on the existing conditions but have been consolidated along areas of parallel flight paths in order to deconflict the airspace. The ATMP will require operators to fly the designated routes. Under existing conditions, operators adhere to the routes but are not obligated to do so.

The undertaking for purposes of Section 106 is implementing the ATMP that applies to all commercial air tours over the Park and within ½ mile outside the boundary of the Park. A commercial air tour subject to the ATMP is any flight conducted for compensation or hire in a powered aircraft where a purpose of the flight is sightseeing over the Park, or within ½ mile of its boundary, during which the aircraft flies:

(1) Below 5,000 feet above ground level (except solely for the purposes of takeoff or landing, or necessary for safe operation of an aircraft as determined under the rules and regulations of the FAA requiring the pilot-in-command to take action to ensure the safe operation of the aircraft); or
(2) Less than one mile laterally from any geographic feature within the Park (unless more than ½ mile outside the Park boundary.

[2] Altitude expressed in units above ground level (AGL) is a measurement of the distance between the ground surface and the aircraft, whereas altitude expressed in median sea level (MSL) refers to the altitude of aircraft above sea level, regardless of the terrain below it. Aircraft flying at a constant MSL altitude would simultaneously fly at varying AGL altitudes, and vice versa, assuming uneven terrain is present below the aircraft.

Overflights that do not meet the definition of a commercial air tour above are not subject to NPATMA and are thus outside the scope of the ATMP.

The undertaking was previously described in detail in our Section 106 consultation letter dated August 27, 2021. The following elements of the ATMP have remained unchanged since the issuance of the draft ATMP to the public, a copy of which is available at: https://parkplanning.nps.gov/document.cfm?parkID=25&projectID=102782&documentID=114693.

- A maximum of 309 commercial air tours are authorized per year on the routes depicted in **Attachment B**;
- Air tours will not fly lower than 2,600 ft. AGL referencing the topographic high point within ½ mile of the flight path for the entirety of all air tour routes authorized by this ATMP;
- The aircraft type authorized for commercial air tours include Cessna models 172-N, 182-R, 207-207, and 207-T207A and GIPPS-GA-8 and Kodiak-1000. Any new or replacement aircraft must not exceed the noise level produced by the aircraft being replaced;
- Air tours may operate any day of the year except under circumstances provided in the bullet below;
- The NPS can establish temporary no-fly periods that apply to commercial air tours for special events or planned Park management. Absent exigent circumstances or emergency operations, the NPS will provide a minimum of 15 days written notice to the operator for any restrictions that temporarily restrict certain areas or certain times of day, or 60 days written notice to the operator in advance of the no-fly period. Events may include tribal ceremonies or other similar events;
- Operators are required to equip all aircraft used for air tours with flight monitoring technology, and to report flight monitoring data as an attachment to the operator's semi-annual reports;
- When made available by Park staff, operators/pilots will take at least one training course per year conducted by the NPS. The training will include Park information that the operator can use to further their own understanding of Park priorities and management objectives as well as enhance the interpretive narrative for air tour clients and increase understanding of parks by air tour clients;
- At the request of either of the agencies, the Park staff, the local FAA Flight Standards District Office (FSDO), and the operator will meet once per year to discuss the implementation of the ATMP and any amendments or other changes to the ATMP. This annual meeting could be conducted in conjunction with any required annual training;
- For situational awareness when conducting tours of the Park, the operator will utilize frequency 122.9 and report when they enter and depart a route. The pilot should identify their company, aircraft, and route to make any other aircraft in the vicinity aware of their position;
- The FAA and the NPS are both responsible for monitoring and oversight of the ATMP.

In order to address comments received from participating tribes and other consulting parties through the Section 106 process and from members of the public submitted through the draft ATMP public review specific to potential noise and visual effects to cultural, as well as biological, resources, the following changes to the undertaking at the Park have been made:

- The provision identifying the time of day during which commercial air tours may operate was revised. The draft ATMP authorized commercial air tours to operate from two hours after sunrise and two hours before sunset. The revised language states commercial air tours may

operate from one hour after sunrise until three hours before sunset, as defined by the National Oceanic and Atmospheric Administration (NOAA).[3]

- A new subsection was added in response to questions and comments regarding the transferability of air tour allocations, or the assumption of allocations of commercial air tours by a successor corporation. The added language makes clear that annual allocations of air tours are not transferrable between operators, though they may be assumed by a successor purchaser. Conditions are included to ensure that the agencies have sufficient time to review the transaction to avoid an interruption of service and the successor operator must acknowledge and agree to the comply with the ATMP. This language is excerpted below:

  > Annual operations under the ATMP are non-transferable. An allocation of annual operations may be assumed by a successor purchaser that acquires an entity holding allocations under the ATMP in its entirety. In such case the prospective purchaser shall notify the FAA and the NPS of its intention to purchase the operator at the earliest possible opportunity to avoid any potential interruption in the authority to conduct commercial air tours under the ATMP. This notification must include a certification that the prospective purchase has read and will comply with the terms and conditions in the ATMP. The FAA will consult with the NPS before issuing new or modified operations specifications or taking other formal steps to memorialize the change in ownership.

- The agencies revised some of the language related to the quiet technology incentive, but not the incentive itself, in order to clarify that applications for the incentive will be analyzed on a case-by-case basis. The revised language is below:

  > The ATMP incentivizes the use of quiet technology aircraft by commercial air tour operators. Operators that have converted to quiet technology aircraft, or are considering converting to quiet technology aircraft may request to be allowed to extend air tours an additional two hours (i.e., up to one hour before sunset on all days that flights are authorized. Because aviation technology continues to evolve and advance and FAA updates its noise certification standards periodically, the aircraft eligible for this incentive will be analyzed on a case-by-case basis at the time of the operator's request to be considered for this incentive. The NPS will periodically monitor Park conditions and coordinate with FAA to assess the effectiveness of this incentive. If implementation of this incentive results in unanticipated effects on Park resources or visitor experience, further agency action may be required to ensure the protection of Park resources and visitor experience;

- Minor edits were made to clearly state in various subsections that the ATMP applies not only to the area within the Park boundary, but also to areas ½ mile outside the Park boundary.
- In Section 5.0 Compliance, edits were made to make clear that the public may report suspected instances of noncompliance with the ATMP's terms, and that the applicable Flight Standards District Office would respond to written reports of noncompliance, consistent with FAA guidance.
- Clarifying edits were made to Section 8.0 Adaptive Management to make clear that adaptive management actions may occur in response to input received from tribes.

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[3]Sunrise and sunset data is available from the NOAA Solar Calculator, https://www.esrl.noaa.gov/gmd/grad/solcalc/

- The agencies also clarified that a plan amendment, and additional environmental review, would be required in order to increase the number of authorized commercial air tours per year above the 309 authorized in the ATMP. The revised language is below:

  Increases to the total number of air tours authorized under the ATMP resulting from accommodation of a new entrant application or a request by an existing operator will require an amendment to the ATMP and additional environmental review. Notice of all amendments to this ATMP will be published in the Federal Register for notice and comment.

Area of Potential Effects

The APE for the undertaking was proposed in the Section 106 consultation letter dated August 27, 2021. The undertaking does not require land acquisition, construction, or ground disturbance. In establishing the APE, the FAA sought to include areas where any historic property present could be affected by noise from or sight of commercial air tours over the Park or adjacent tribal lands. The FAA considered the number and altitude of commercial air tours over historic properties in these areas to further assess the potential for visual effects and any incremental change in noise levels that may result in alteration of the characteristics of historic properties qualifying them as eligible for listing in the NRHP.

The APE for the undertaking comprises the area of the Park and a ½ mile outside the boundary of the Park, as depicted in **Attachment B** below. The FAA requested comments from all consulting parties including federally recognized tribes. Your office concurred with the APE in your January 31, 2022 letter to the FAA. We received no further comments from consulting parties regarding the APE. The changes to the undertaking described above do not have the potential to cause any additional effects to historic properties. The FAA has determined the delineated APE as initially proposed adequately captures potential effects from the undertaking on historic properties and remains unchanged.

Identification of Historic Properties

Preliminary identification of historic properties relied upon data submitted by NPS Park staff about known historic properties within the Park. Section 106 consultation efforts involved outreach to tribes, the Utah State Historic Preservation Office, operators, and other consulting parties including local governments and neighboring federal land managers. Public comments submitted as part of the draft ATMP public review process also informed identification efforts.

The FAA, in cooperation with the NPS, coordinated with Park staff to identify known historic properties located within the APE. The FAA also accessed the Utah State Division of History database "The Hub," as well as the University of Utah's "Exploring Utah's National Historic Landmarks and Register of Historic Places" GIS application to collect GIS data for previously identified properties both inside and outside the Park, and consulted with the tribes listed in **Attachment C** regarding the identification of any other previously unidentified historic properties that may also be located within the APE. In addition to the historic properties previously identified, Park staff have informed FAA there are TCPs located within the APE. The Hopi Tribe have identified prehistoric archaeological sites as TCPs and the entire landscape within the APE as a cultural landscape of significance to the Tribe. The TCPs within the APE are not identified on the maps in the attachments to protect the resources. The Pueblo of Acoma informed FAA that the Acoma Tribal Historic Preservation Office recognizes that Arches National Park contains the cultural and archeological "footprints" of their ancestors, along with cultural landscape, shrines, and gathering places, and because they are tied to the Tribe's present-day village of Haak'u they are also considered TCPs.

As the undertaking would not result in physical effects, the identification effort focused on identifying properties where setting and feeling are characteristics contributing to a property's NRHP eligibility, as they are the type of historic properties most sensitive to the effects of aircraft overflights. These may include isolated properties where a cultural landscape is part of the property's significance, rural historic districts, outdoor spaces designed for meditation or contemplation, and certain TCPs. In so doing, the FAA has taken into consideration the views of consulting parties, past planning, research and studies, the magnitude and nature of the undertaking, the degree of Federal involvement, the nature and extent of potential effects on historic properties, and the likely nature of historic properties within the APE in accordance with 36 CFR 800.4(b)(1).

In accordance with 36 CFR 800.4, the FAA has made a reasonable and good faith effort to identify historic properties within the APE. Those efforts resulted in identification of 17 historic properties, including the Wolfe Ranch Historical District, which has two contributing properties: Wolfe Ranch Cabin and Wolfe Ranch Corral. In previous Section 106 consultation, the contributing properties were identified as separate resources within the APE. All historic properties identified within the APE are listed in **Attachment D** and shown in the APE map provided in **Attachment B**.

Summary of Section 106 Consultation with Tribes

The FAA contacted 31 federally recognized tribes via letter on March 26, 2021, inviting them to participate in Section 106 consultations and requesting their expertise regarding historic properties, including TCPs that may be located within the APE. The tribes whom the FAA has contacted as part of this undertaking are included in the list of consulting parties is enclosed as **Attachment C**. In response to the March 26, 2021, letter, the Pueblo of Acoma sent a letter dated December 9, 2021, in which they noted that the Pueblo claims cultural affiliation to areas within the boundaries of Arches National Park. On August 27, 2021, the FAA sent the identified federally recognized tribes a Section 106 consultation letter describing the proposed undertaking in greater detail in which we proposed an APE and provided the results of our preliminary identification of historic properties.

On December 3, 2021 and December 9, 2021, the FAA sent follow-up emails to tribes that did not respond to our prior Section 106 consultation, once again inviting them to participate in Section 106 consultations. On December 15, 2021, the FAA followed up with phone calls to those tribes that did not respond to our prior Section 106 consultation requests. The FAA received responses from three tribes expressing interest in participating in the Section 106 consultation process: Pueblo of Isleta, New Mexico; Pueblo of Picuris, New Mexico; and Pueblo of Tesuque. Five tribes asked to opt out of additional Section 106 consultation for the undertaking: Kaibab Band of Paiute Indians of the Kaibab Indian Reservation; Moapa Band of Paiute Indians of the Moapa River Indian Reservation, Nevada; Pueblo of Sandia; Santa Ana Pueblo; and Pueblo of San Ildefonso. The Bears Ears Inter-Tribal Coalition have also asked to opt out of additional Section 106 consultation. The Paiute Indian Tribe of Utah asked the FAA to resend Section 106 consultation materials.

The FAA received comments from THPO Stewart B. Koyiyumptewa of the Hopi Cultural Preservation Office in a letter dated February 14, 2022. In those comments, the Hopi Tribe expressed support for the identification and avoidance of ancestral sites, indicating the tribe considers prehistoric archaeological sites to be "footprints" and TCPs. The Hopi Tribe requested consultation on any proposal with the potential to affect prehistoric sites and indicated they do not support marketing of ancestral cultural sites or attracting visitors through interpretation and access. Archaic people are known to Hopi People, Hopisenom, as Motisenom, First People, and the Ancestral Pueblo and Fremont people are known as Hisatsenom, People of Long Ago. Motisenom and Hisatsenom buried in the area continue to inhabit the land, and they are intimately associated with the clouds that travel out across the countryside to release

the moisture that sustains all life. The Hopi Tribe determined that air tours will adversely affect cultural resources and TCPs significant to the Hopi Tribe. The FAA determined many of the comments from the Hopi Tribe were outside the scope of the undertaking, including comments regarding NPS promotion of national parks and overcrowding of visitors on the ground. The FAA responded in a letter dated April 26, 2022, thanking the Hopi Tribe for their comments pertaining to the undertaking and indicating their additional concerns had been referred to the Superintendents of Arches National Park, Canyonlands National Park, and Natural Bridges National Monument for further consideration.

Assessment of Effects

The undertaking could have an effect on a historic property if it alters the characteristics that qualify the property for eligibility for listing or inclusion in the NRHP. The characteristics of the historic properties within the APE that qualify them for inclusion in the NRHP are described in **Attachment D**. Effects are considered adverse if they diminish the integrity of a property's elements that contribute to its significance. The undertaking does not include land acquisition, construction, or ground disturbance and will not result in physical effects to historic properties. The FAA, in coordination with the NPS, focused the assessment of effects on the potential for adverse effects from the introduction of audible or visual elements that could diminish the integrity of the property's significant historic features.

Assessment of Noise Effects

The undertaking would not alter the characteristics of historic properties within the APE because there would be no measurable change in audible effects from existing conditions. To assess the potential for the introduction of audible elements, including changes in the character of aircraft noise, the FAA and NPS considered whether there would be a change in the annual number, daily frequency, routes or altitudes of commercial air tours, as well as the type of aircraft used to conduct those tours.

Following public review of the ATMP, the FAA and the NPS consolidated the routes and adjusted how the altitude of the routes was defined in response to public comments and feedback received. The proposed routes are consolidated along an existing air tour route and would not move air tours closer to any historic properties. The consolidated route is slightly further from two historic properties: Courthouse Wash Pictographs and the Ringhoffer Inscription. See **Attachments A and B**. Lateral consolidation of the routes would not likely affect noise modeling results, except for a potential negligible decrease in the size of the noise footprint.

The ATMP authorizes the same number of annual flights as the average number of flights from 2017-2019 and maintains routes similar to what is currently flown under existing conditions, any changes to overall noise impacts associated with commercial air tours over the Park are expected to be minimal in both character and decibel level. Likewise, the ATMP authorizes the use of the Cessna models Cessna models 172-N, 182-R, 207-207, and 207-T207A and GIPPS-GA-8 and Kodiak-1000 fixed-wing aircraft. Any new or replacement aircraft must not exceed the noise level produced by the aircraft being replaced.

The ATMP alters aircraft altitude; it requires commercial air tours to fly at a higher minimum altitude (2,600 ft. AGL referencing the topographic high point within ½ mile of the flight path) as compared to those flown under existing conditions (minimum 1,000 ft. AGL). The resulting increase in the minimum altitude ranges from an increase of 0 to 1600 ft.; the change will reduce maximum noise levels at sites directly below the commercial air tour routes. It should be noted that when the altitude of an aircraft is increased, the total area exposed to the noise from that aircraft may also increase depending on the surrounding terrain. Although the area exposed to noise might increase, this would not meaningfully

affect the acoustic environment because attenuation of noise from the higher altitude would most likely reduce noise levels depending on terrain and the transient nature of the impacts.

For purposes of assessing noise impacts from commercial air tours on the acoustic environment of the Park under the National Environmental Policy Act (NEPA), the FAA noise evaluation is based on Yearly[4] Day Night Average Sound Level (Ldn or DNL); the cumulative noise energy exposure from aircraft over 24 hours. The DNL analysis indicates that the undertaking would not result in any noise impacts that would be "significant" or "reportable" under FAA's policy for NEPA.[5]

As part of the ATMP noise analysis, the NPS provided supplemental metrics to further assess the impact of commercial air tours in quiet settings. **Attachment E** provides further information about the supplemental noise metrics and presents the noise contours (i.e., graphical illustration depicting noise exposure) from the modeling.

Attachment E presents noise contours for the Time Above 35 dBA (the amount of time in minutes that aircraft sound levels are above 35 dBA) and time above 52 dBA. Noise related to commercial air tours is modeled to be greater than 35 dBA for less than 30 minutes a day within the APE and greater than 52 dBA for less than 5 minutes a day within the APE. The arches are the only historic property where the duration above 35 dBA is between 25 and 30 minutes on days when commercial air tours would occur. Because noise is modeled using conservative assumptions (see **Attachment E**) and implementing the ATMP would result in limiting the number of flights to be consistent with the three-year average of flights flown from 2017-2019 using the similar routes and the same aircraft to fly at higher altitudes, noise impacts are not expected to measurably change under the ATMP. Because the ATMP would result in minimal changes to noise levels on historic properties compared to existing conditions, the undertaking would not diminish the integrity of any historic property's significant historic features.

Assessment of Visual Effects

The undertaking would not alter the characteristics of historic properties within the APE because there would be no measurable change in visual effects from existing conditions. The level of commercial air tour activity under the ATMP is expected to improve or remain the same. The ATMP sets the number of commercial air tours consistent with the three-year average from 2017-2019 and implements limits on the number of flights and times of day during which commercial air tours are able to operate. These limits do not currently exist.

Recognizing that some types of historic properties may be affected by visual effects of commercial air tours, the FAA and NPS considered the potential for the introduction of visual elements that could alter the characteristics of a historic property that qualifies it for inclusion in the NRHP. Aircraft are transitory elements in a scene and visual impacts tend to be relatively short. The short duration and low number of flights make it unlikely a historic property would experience a visual effect from the undertaking.

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[4] Yearly conditions are represented as the Average Annual Day (AAD)

[5] Under FAA policy, an increase in the Day-Night Average Sound Level (DNL) of 1.5 dBA or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dBA noise exposure level, or that will be exposed at or above the DNL 65 dBA level due to a DNL 1.5 dBA or greater increase, is significant. FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, Exhibit 4-1. Noise increases are "reportable" if the DNL increases by 5 dB or more within areas exposed to DNL 45-60 dB, or by 3 dB or more within areas exposed to DNL 60-65 dB. FAA Order 1050.1F, Appendix B, section B-1.4.

The FAA and NPS also considered the experience of tribal members who may be conducting ceremonies or practices that could involve looking toward the sky. The ATMP includes a provision for the NPS to establish temporary no-fly periods for special events, such as tribal ceremonies or other similar events, with a minimum of 15 days' notice to the operator. This represents an improvement over existing conditions where no such provision exists.

The ATMP limits the annual number of commercial air tours to 309 tours and maintains routes similar to those currently flown under existing conditions. Reporting data indicate that in 2017, the busiest year within the 2017-2019 reporting period comprising the three-year average, commercial air tours occurred on 220 days. On most days with air tours, two flights occurred, leaving the Park free of commercial air tours a majority of the time.

The ATMP limits the annual number of commercial air tours to 309 tours and designates and consolidates parallel routes onto a single alignment similar to what is flown under existing conditions. The consolidated route moves commercial air tours slightly further from two historic properties: Courthouse Wash Pictographs and the Ringhoffer Inscription. Therefore, visual effects to historic properties are expected to slightly decrease compared to impacts currently occurring because the number of authorized flights under the ATMP will be the same or less than the average number of flights from 2017-2019, and portions of the routes have been consolidated in order to limit audible and visual effects to historic properties. As a result of provisions in the ATMP such as the increase in the minimum altitude of flights, consolidation of route alignments, and limits to the time-of-day flights can operate, the undertaking would not introduce visual elements that would alter the characteristics of any historic property that qualifies it for inclusion in the NRHP.

Finding of No Adverse Effect Criteria

To support a Finding of No Adverse Effect, an undertaking must not meet any of the criteria set forth in the Advisory Council on Historic Preservation's Section 106 regulations at 36 CFR 800.5(a). This section demonstrates the undertaking does not meet those criteria. The undertaking would not have any physical impact on any property. The undertaking is located in the airspace above historic properties and would not result in any alteration or physical modifications to these resources. The undertaking would not remove any property from its location. The undertaking would not change the character of any property's use or any physical features in any historic property's setting. As discussed above, the undertaking would not introduce any auditory or visual elements that would diminish the integrity of the significant historical features of any historic properties in the APE. The undertaking would not cause any property to be neglected, sold, or transferred.

Proposed Finding and Request for Review and Concurrence

FAA and NPS approval of the undertaking would not alter the characteristics of any historic properties located within the APE as there would be minimal change in audible or visual effects from existing conditions. Based on the above analysis, the FAA and NPS propose a finding of no adverse effect on historic properties. We request that you review the information and respond whether you concur with the proposed finding within thirty days of receiving this letter.

Should you have any questions regarding any of the above, please contact Judith Walker at 202-267-4185 or Judith.Walker@faa.gov and copy the ATMP team at ATMPTeam@dot.gov.

Sincerely,

Judith Walker
Federal Preservation Officer
Senior Environmental Policy Analyst
Environmental Policy Division (AEE-400)
Federal Aviation Administration

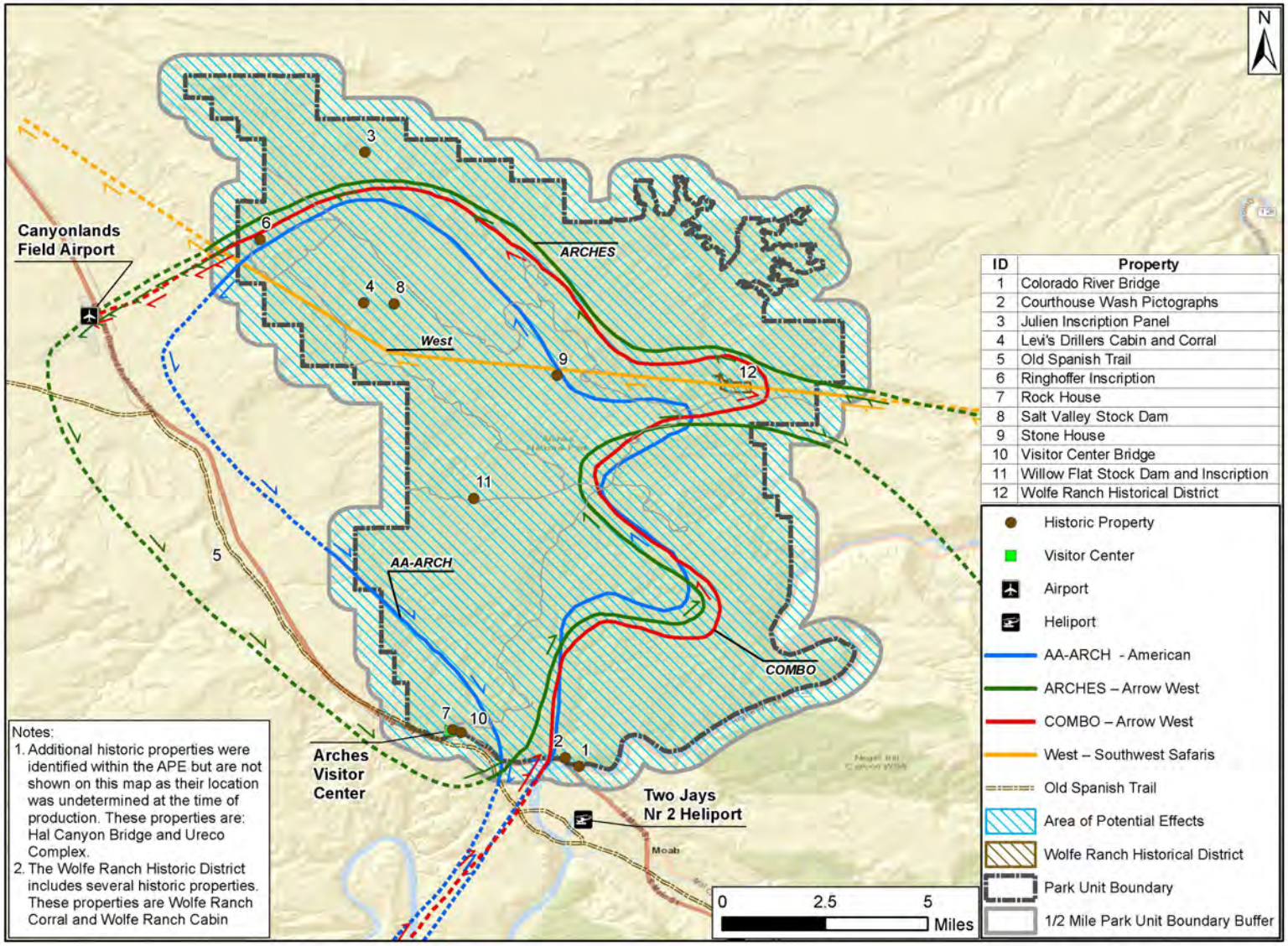
Attachments

A. Map of Existing Commercial Air Tour Routes
B. APE Map including proposed Commercial Air Tour Routes
C. List of Consulting Parties
D. List of Historic Properties in the APE and Description of Historic Characteristics
E. Methodology of NEPA Technical Noise Analysis

ATTACHMENT A

Map of Existing Commercial Air Tour Routes
Including
Historic Properties within the APE

Area of Potential Effects Map for ATMP at Arches National Park

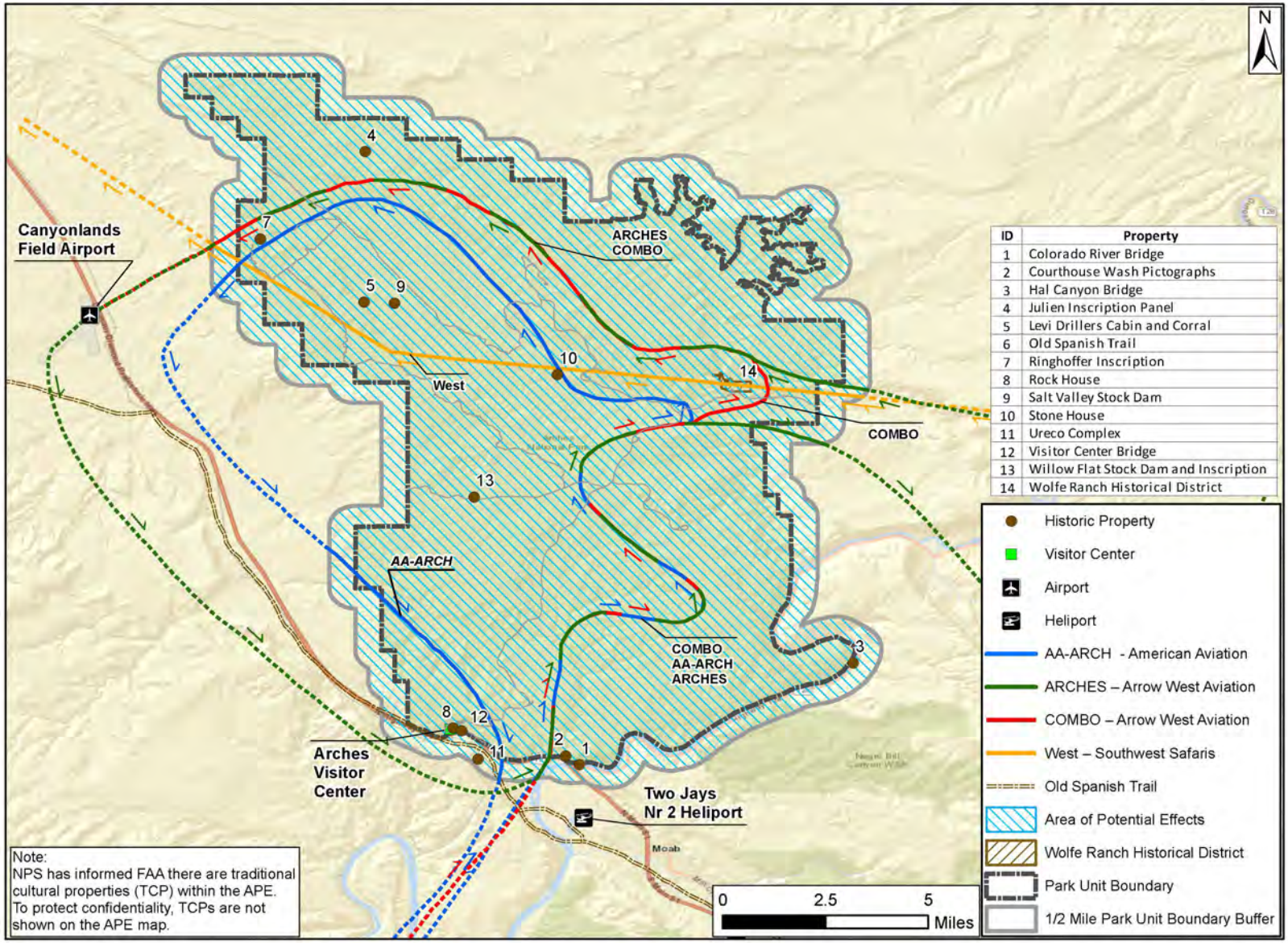


ID	Property
1	Colorado River Bridge
2	Courthouse Wash Pictographs
3	Julien Inscription Panel
4	Levi's Drillers Cabin and Corral
5	Old Spanish Trail
6	Ringhoffer Inscription
7	Rock House
8	Salt Valley Stock Dam
9	Stone House
10	Visitor Center Bridge
11	Willow Flat Stock Dam and Inscription
12	Wolfe Ranch Historical District

ATTACHMENT B

Area of Potential Effects Map
Including
Proposed Commercial Air Tour Routes

Area of Potential Effects Map for ATMP at Arches National Park (Proposed Air Tour Routes)



ID	Property
1	Colorado River Bridge
2	Courthouse Wash Pictographs
3	Hal Canyon Bridge
4	Julien Inscription Panel
5	Levi Drillers Cabin and Corral
6	Old Spanish Trail
7	Ringhoffer Inscription
8	Rock House
9	Salt Valley Stock Dam
10	Stone House
11	Ureco Complex
12	Visitor Center Bridge
13	Willow Flat Stock Dam and Inscription
14	Wolfe Ranch Historical District

Note:
NPS has informed FAA there are traditional cultural properties (TCP) within the APE. To protect confidentiality, TCPs are not shown on the APE map.

ATTACHMENT C

List of Additional Consulting Parties Invited to Participate in Section 106 Consultation

American Aviation
Bears Ears Inter-Tribal Coalition[1]
City of Moab
Friends of Cedar Mesa
Grand County, Utah
Hopi Tribe of Arizona
Jicarilla Apache Nation, New Mexico
Kaibab Band of Paiute Indians of the Kaibab Indian Reservations[1]
Las Vegas Tribe of Paiute Indians of the Las Vegas Indian Colony, Nevada
Moapa Band of Paiute Indians of the Moapa River Indian Reservation, Nevada[1]
National Trust for Historic Preservation
Navajo Nation
Old Spanish Trail Association
Paiute Indian Tribe of Utah
Public Lands Policy Coordinating Office
Pueblo of Acoma, New Mexico
Pueblo de Cochiti
Pueblo of Isleta, New Mexico
Pueblo of Jemez, New Mexico
Pueblo of Laguna, New Mexico
Pueblo of Nambe, New Mexico
Pueblo of Picuris, New Mexico
Pueblo of Pojoaque
Pueblo of Sandia, New Mexico[1]
Pueblo of Santa Ana, New Mexico[1]
Pueblo of San Felipe, New Mexico
Pueblo of San Ildefonso[1]
Pueblo of Santa Clara
Pueblo of Taos, New Mexico
Pueblo of Tesuque
Pueblo of Zia, New Mexico
Redtail Aviation
Rosebud Sioux Tribe of the Rosebud Indian Reservation
San Juan Southern Paiute Tribe of Arizona
Southern Ute Indian Tribe of the Southern Ute Reservation Colorado
Southwest Safaris

Utah Professional Archaeological Council
Ute Indian Tribe of the Uintah & Ouray Reservation, Utah
Ute Mountain Tribe of the Ute Mountain Reservation, Colorado, New Mexico & Utah
White Mesa Ute Community
Ysleta Del Sur Pueblo
Zuni Tribe of the Zuni Reservation, New Mexico

[1]Consulting party has opted out of further Section 106 consultation for the undertaking.

ATTACHMENT D

List of Historic Properties in the APE and Description of Historic Characteristics

Property Name	Property Type	Eligibility Status	Significant Characteristics
Colorado River Bridge	Structure	Eligible	The Colorado River Bridge is significant as a representative example of a cast concrete structure and for its association with transportation in Utah. Erected in 1955, the bridge carries Highway 191 across the Colorado River.
Courthouse Wash Pictographs	Archaeology Site, TCP	Listed	Situated at the confluence of Courthouse Wash and the Colorado River, the pictograph panel extends along the base of a sandstone cliff for approximately 100 yards. The pictographs are significant for their association with the pre-history of Arches National Park. The pictographs bear strong resemblance to other panels in Horseshoe Canyon and other areas north and west of the Colorado River.
Hal Canyon Bridge	Bridge	Eligible	The Hal Canyon Bridge is a small structure significant for its association with transportation in Utah. Erected in 1950, the small structure carries Highway 128 across a dry gulch.
Julien Inscription Panel	Archaeology Site	Listed	The inscription panel is situated on a rock fin that forms a barrier in a natural campsite near a prominent landmark within the park. The inscription is incised into the stone. The inscription is significant as an example of the presence of cowboys, sheep herders, and fur traders within the park during the first half of the nineteenth century.
Levi Drillers Cabin and Corral	Historic Building	Eligible	The Levi Drillers Cabin and Corral are locally significant for their associated with early extraction/mining and ranching.
Old Spanish Trail	Linear Feature	Listed	This site is a natural access along the trail to crossing the Colorado River. Significant characteristics include the earthwork and removal of stone to allow the passage of wheeled carts over the trail.
Prehistoric Archeological Sites	TCP	Eligible	The Hopi Tribe identified prehistoric archaeological sites within the APE as TCPs in correspondence dated February 18, 2022.

Property Name	Property Type	Eligibility Status	Significant Characteristics
Ringhoffer Inscription	Archaeology Site	Listed	Measuring less than 5 feet by 4 feet, the inscription is incised into the buttress of Tower Arch. The inscription is significant as an example of the early period in the development of Arches National Park. Alex Ringhoffer campaigned the National Park Service to create Arches National Monument, ultimately established in 1929.
Rock House	Building	Listed	The Rock House is significant as an unusual example of Greco-federalist style architecture. Constructed of coursed rubble with decorative milled wood facia, the Rock House features a cedar shingle roof with multiple gables adorned with box cornices and an ashlar masonry foundation.
Salt Valley Stock Dam	Structure and Archaeological Site	Listed	The earthen dam was built by the Bureau of Land Management and/or local stockmen to provide water for animals grazing in Salt Valley. The site is significant as a representative example of the historic development and land use within Arches National Park. The site was determined eligible as part of the landscape that includes the Levi Drillers Cabin and Corral.
Stone House	Building and Archaeological Site	Eligible	The Stone House is eligible under Criterion A for its association with historic mining and extraction activities that took place prior to the creation of Arches National Park. The Stone House is additionally eligible under Criterion D for its potential to yield information about the history of the park.
Landscape within APE	TCL	Eligible	The Hopi Tribe identified the entire landscape within the APE and beyond as a TCL in correspondence dated February 18, 2022.
Ureco Complex	Building(s)	Eligible	The Ureco Complex is an example of a post-World War II industrial complex in Utah. The buildings comprising the uranium mill were erected to capitalize on the uranium extraction boom in the southwestern US during the 1950s. When constructed, the mill was one of ten in the area used to process uranium oxide for the production of nuclear warheads.

Property Name	Property Type	Eligibility Status	Significant Characteristics
Visitor Center Bridge	Structure	Eligible	The visitor center bridge is significant under Criterion D for its potential to yield information related to the history of Arches National Park. It is additionally representative of the development and growth of infrastructure within the park and growth and development of the tourist industry. The stone arch bridge was erected in the 1930s by the Civilian Conservation Corps. During Mission 66 improvements at Arches National Park, fill was added on top of the original structure to raise the elevation of the roadway.
Willow Flat Stock Dam and Inscription	Archaeological Site	Eligible	The stone dam was built by local stockmen to provide water for animals grazing on Willow Flat. The site is significant as a representative example of the historic development and land use within Arches National Park. The dam was abandoned after the NPS began to phase out grazing during the 1960. The dam is uniquely constructed with two separate walls built with sandstone blocks laid in cement.
Wolfe Ranch Historical District	Historic District	Listed	In 1888, John Wesley Wolfe, a disabled Civil War veteran from Ohio bought or built a cabin in the isolated valley. Wolfe and his son damned the wash and irrigated a garden. Drinking water came from a spring ¾ mile distant. The Wolfe's fledgling ranch is an example of early subsistence farming and grazing in a marginal environment. Of particular note is the crude nature of the buildings due to the scarcity of building materials.
Arches	TCP	Eligible	The FAA was informed by NPS that TCPs are present within the park. A member of the public provided a comment indicating the arches are significant to the local tribes.

ATTACHMENT E

Summary of Noise Technical Analysis from NEPA Review

There are numerous ways to measure the potential impacts from commercial air tours on the acoustic environment of a park, including intensity, duration, and spatial footprint of the noise. The metrics and acoustical terminology used for the ATMPs are shown in the table below.

Metric	**Relevance and citation**
Day-night average sound level, L_{dn} (or DNL)	The logarithmic average of sound levels, in dBA, over a 24-hour day, DNL takes into account the increased sensitivity to noise at night by including a ten dB penalty between 10 p.m. and 7 a.m. local time. The FAA's indicators of significant impacts are for an action that would increase noise by DNL 1.5 dB or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe[6].
Equivalent sound level, $L_{Aeq,\ 12\ hr}$	The logarithmic average of commercial air tour sound levels, in dBA, over a 12-hour day. The selected 12-hour period is 7 a.m. to 7 p.m. to represent typical daytime commercial air tour operating hours. Note: Both LAeq, 12hr and Ldn characterize: • Increases in both the loudness and duration of noise events • The number of noise events during specific time period (12 hours for LAeq, 12hr and 24-hours for Ldn) However, DNL takes into account the increased sensitivity to noise at night by including a ten dB penalty between 10 p.m. and 7 a.m. local time. If there are no nighttime events, LAeq, 12hr will be three dB higher than DNL.

[6] FAA Order 1050.1F, Exhibit 4-1

Time Above 35 dBA [7]	The amount of time (in minutes) that aircraft sound levels are above a given threshold (i.e., 35 dBA) In quiet settings, outdoor sound levels exceeding 35 dB degrade experience in outdoor performance venues (ANSI 12.9-2007, Quantities And Procedures For Description And Measurement Of Environmental Sound – Part 5: Sound Level Descriptors For Determination Of Compatible Land Use); Blood pressure increases in sleeping humans (Haralabidis et al., 2008); maximum background noise level inside classrooms (ANSI/ASA S12.60/Part 1-2010, Acoustical Performance Criteria, Design Requirements, And Guidelines For Schools, Part 1: Permanent Schools).
Time Above 52 dBA	The amount of time (in minutes) that aircraft sound levels are above a given threshold (i.e., 52 dBA) This metric represents the level at which one may reasonably expect interference with Park interpretive programs. At this background sound level (52 dB), normal voice communication at five meters (two people five meters apart), or a raised voice to an audience at ten meters would result in 95% sentence intelligibility.[8]
Maximum sound level, L_{max}	The loudest sound level, in dBA, generated by the loudest event; it is event-based and is independent of the number of operations. L_{max} does not provide any context of frequency, duration, or timing of exposure.

For aviation noise analyses under the National Environmental Policy Act (NEPA), the FAA determines the cumulative noise energy exposure of individuals resulting from aviation activities in terms of an Average Annual Day (AAD). However, because ATMP operations in the park occur at low annual operational levels and are highly seasonal in nature it was determined that a peak day representation of the operations would more adequately allow for disclosure of any potential impacts. A peak day has therefore been used as a conservative representation of assessment of AAD conditions required by FAA policy.

The 90th percentile day was identified for representation of a peak day and derived from the busiest year of commercial air tour activity from 2017-2019, based on the total number of commercial air tour operations and total flight miles over the Park. It was then further assessed for the type of aircraft and route flown to determine if it is a reasonable representation of the commercial air tour activity at the Park.

For the Park, the 90th percentile day was identified as the following:

[7] dBA (A-weighted decibels): Sound is measured on a logarithmic scale relative to the reference sound pressure for atmospheric sources, 20 µPa. The logarithmic scale is a useful way to express the wide range of sound pressures perceived by the human ear. Sound levels are reported in units of decibels (dB) (ANSI S1.1-1994, American National Standard Acoustical Terminology). A-weighting is applied to sound levels in order to account for the sensitivity of the human ear (ANSI S1.42-2001, Design Response of Weighting Networks for Acoustical Measurements). To approximate human hearing sensitivity, A-weighting discounts sounds below 1 kHz and above 6 kHz.

[8] Environmental Protection Agency. Information on Levels of Noise Requisite to Protect the Public Health and Welfare with an Adequate Margin of Safety, March 1974.

- ARCHES – one flight, Cessna CE-172 aircraft
- COMBO – two flights, Cessna CE-207 aircraft

Noise contours for the acoustic indicators were developed using the Federal Aviation Administration's Aviation Environmental Design Tool (AEDT) version 3d and are provided below. A noise contour presents a graphical illustration or "footprint" of the area potentially affected by the noise.

- Time above 35 dBA (minutes) – see Figure 1
- Time above 52 dBA (minutes) – see Figure 2
- Equivalent sound level, $L_{Aeq,\ 12hr}$
    - Note 1: Contours are not presented for $L_{Aeq,\ 12hr}$ as the average sound levels were below 35 dBA for the ATMP modeled at the Park.
    - Note 2: Contours are not presented for L_{dn} (or DNL) as it is arithmetically three dBA lower than $L_{Aeq,\ 12hr}$ if there are no nighttime events, which is the case for the ATMP modeled at the Park.
- Maximum sound level or L_{max} – see Figure 3

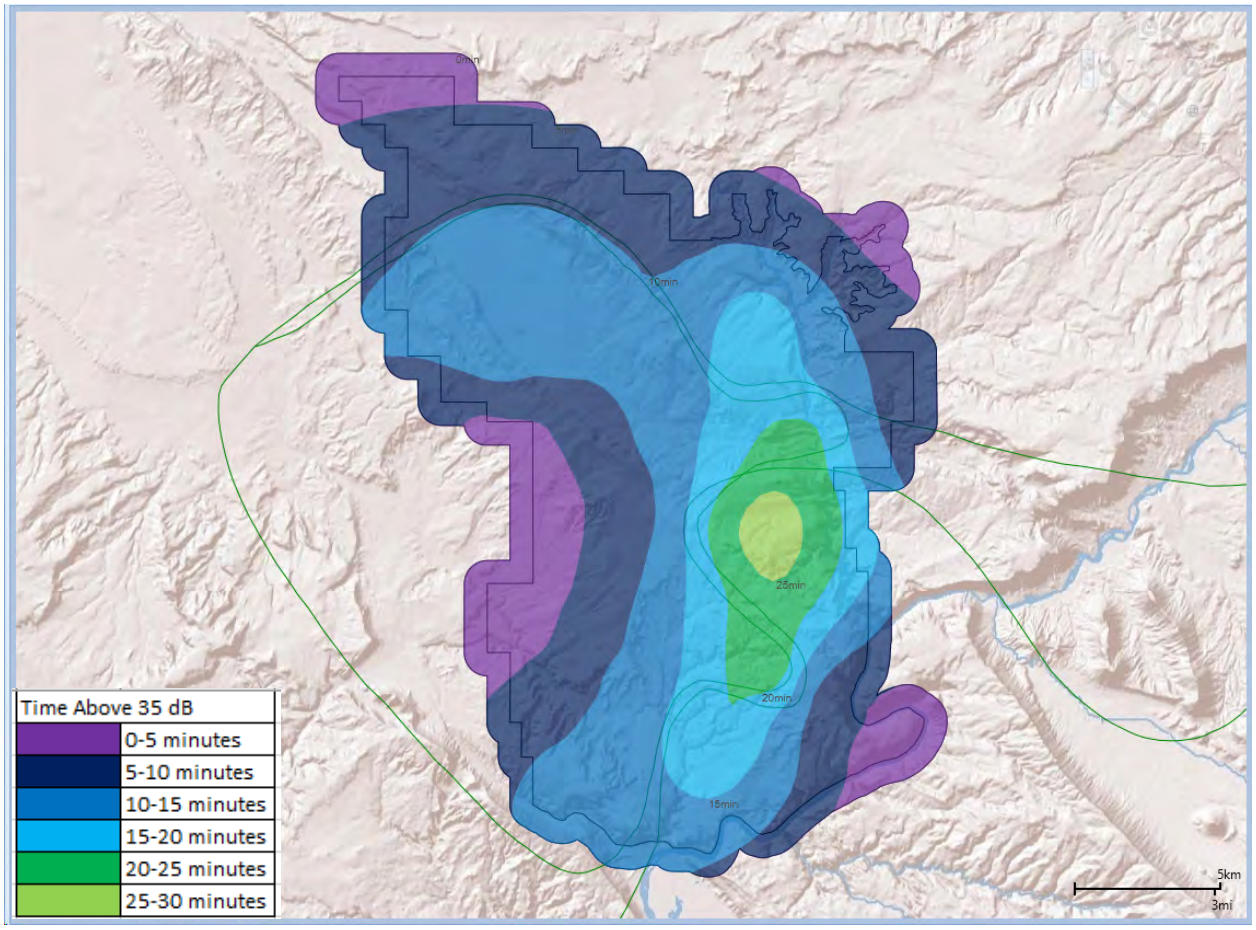


Figure 1. Noise contour results for Time Above 35 dBA

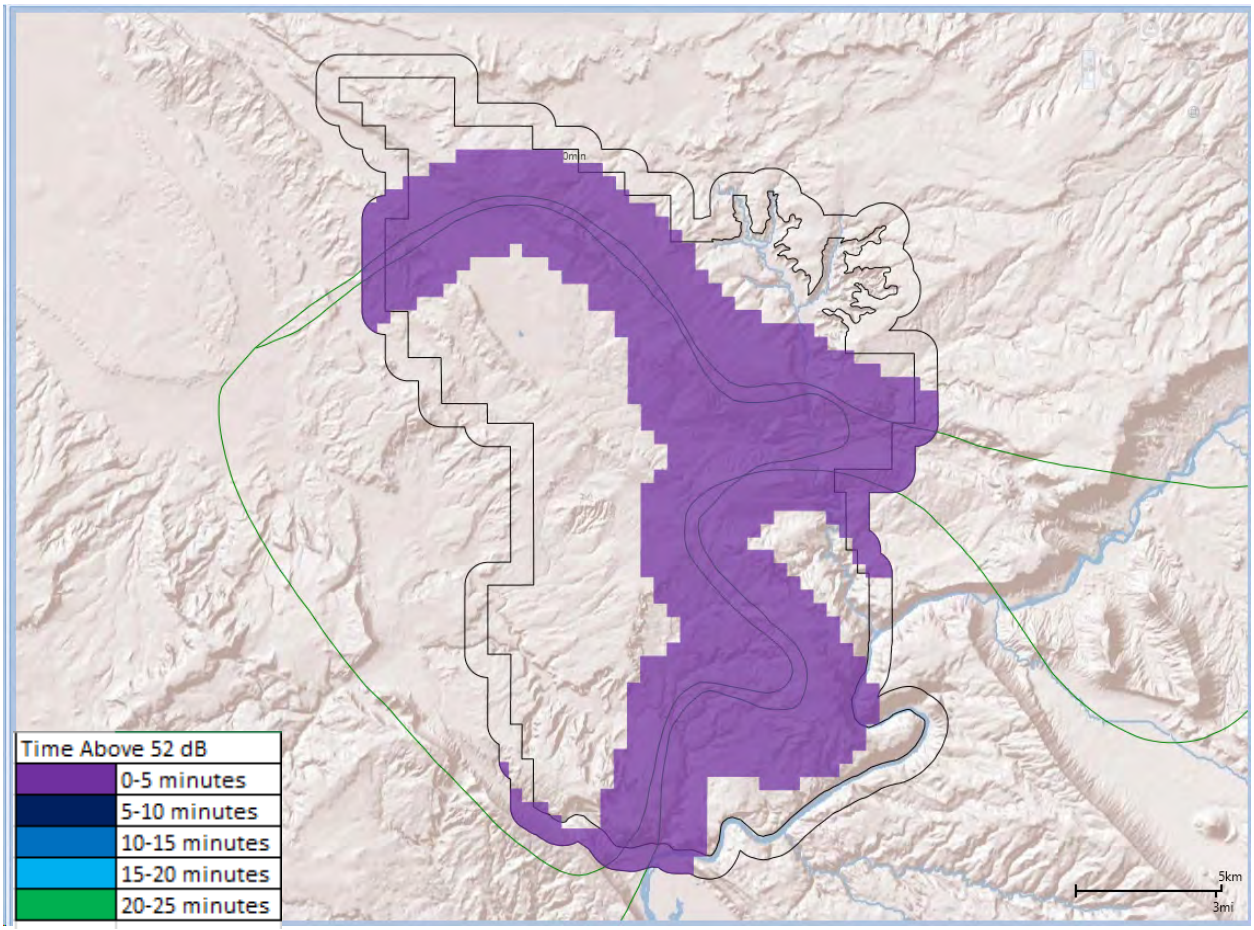


Figure 2. Noise contour results for Time Above 52 dBA

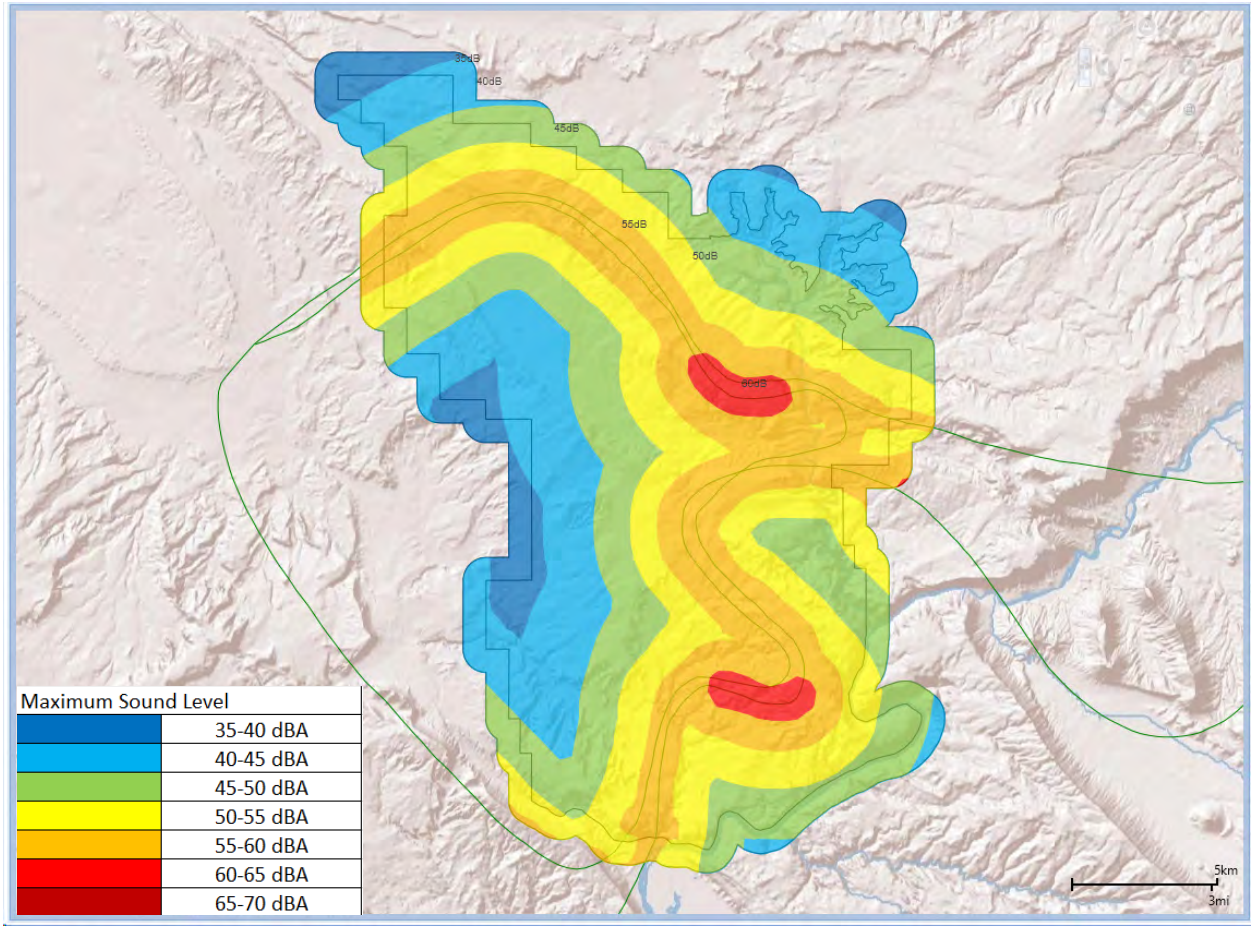


Figure 3. Noise contour results for L_{max}

Spencer J. Cox
Governor

Deidre M. Henderson
Lieutenant Governor

Jill Remington Love
Executive Director
Utah Department of Cultural and Community Engagement

Utah SHPO

Christopher Merritt
State Historic Preservation Officer
Utah State Historic Preservation Office

June 28, 2022

Judith Walker
Federal Preservation Officer
Federal Aviation Administration, Environmental Policy Decision

RE: Air Tour Management Plan for Arches National Park (Project #: 21-0762)

For future correspondence, please reference Case No. 22-1188

Dear Federal Preservation Officer Walker,

The Utah State Historic Preservation Office received your submission and request for our comment on the above-referenced undertaking on June 24, 2022.

We concur with your determination of "No Adverse Effect" and appreciate your thorough consultation efforts throughout this undertaking.

This letter serves as our comment on the determinations you have made within the consultation process specified in §36CFR800.4. If you have questions, please contact me at 801-245-7246 or by email at sagardy@utah.gov.

Sincerely,

Savanna Agardy
Compliance Archaeologist

APPENDIX G

NPS Statement of Compliance

APPENDIX G

NATIONAL PARK SERVICE STATEMENT OF COMPLIANCE

Arches National Park Air Tour Management Plan

Compliance with NPS Management Policies Unacceptable Impact and Non-Impairment Standard

As described in National Park Service (NPS or Service) 2006 Management Policies, § 1.4.4, the National Park Service Organic Act prohibits the impairment of park resources and values. *Guidance for Non-Impairment Determinations and the NPS NEPA Process* (September 2011) provides guidance for completing non-impairment determinations for NPS actions requiring preparation of an environmental assessment (EA) or environmental impact statement (EIS) pursuant to the National Environmental Policy Act (NEPA). The applicable NPS guidance does not require the preparation of a non-impairment determination where a categorical exclusion (CE) is applied because impacts associated with CEs are generally so minimal they do not have the potential to impair park resources. Nonetheless, out of an abundance of caution, the NPS has completed a non-impairment analysis for the Arches National Park (Park) Air Tour Management Plan (ATMP) and determined that it will not result in impairment of Park resources, or in unacceptable impacts as described in § 1.4.7.1 of the 2006 NPS Management Policies.

Sections 1.4.5 and 1.4.6 of Management Policies 2006 further explain impairment. Section 1.4.5 defines impairment as an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. Section 1.4.5 goes on to state:

> An impact to any park resource or value may, but does not necessarily, constitute an impairment. An impact would be more likely to constitute impairment to the extent that it affects a resource or value whose conservation is
>
> - necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park, or
> - key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or
> - identified in the park's general management plan or other relevant NPS planning documents as being of significance.

Section 1.4.6 of Management Policies 2006 identifies the park resources and values that are subject to the no-impairment standard. These include:

- the park's scenery, natural and historic objects, and wildlife, and the processes and conditions that sustain them, including, to the extent present in the park: the ecological, biological, and physical processes that created the park and continue to act upon it; scenic features; natural visibility, both in daytime and at night; natural landscapes; natural soundscapes and smells; water and air resources; soils; geological resources;

paleontological resources; archeological resources; cultural landscapes; ethnographic resources; historic and prehistoric sites, structures, and objects; museum collections; and native plants and animals;

- appropriate opportunities to experience enjoyment of the above resources, to the extent that can be done without impairing them;
- the park's role in contributing to the national dignity, the high public value and integrity, and the superlative environmental quality of the national park system, and the benefit and inspiration provided to the American people by the national park system; and
- any additional attributes encompassed by the specific values and purposes for which the park was established.

NPS non-impairment analysis normally does not include discussion of impacts to visitor experience, socioeconomics, public health and safety, environmental justice, land use, Park operations, wilderness, etc., as these do not constitute impacts to Park resources and values subject to the non impairment standard under the Organic Act. *See* Management Policies § 1.4.6.

Non-Impairment Determination for the Arches National Park ATMP

The purposes of Arches National Park, along with Park significance statements and a description of the Park's fundamental resources and values, are described in the *Foundation Document for Arches National Park* (Foundation Document), 2013:

> *Park Purpose:* The purpose of Arches National Park is to protect extraordinary examples of geologic features including arches, natural bridges, windows, spires, balanced rocks, as well as other features of geologic, historic, and scientific interest, and to provide opportunities to experience these resources and their associated values in their majestic natural settings (Foundation Document, page 8).

The Park's significance statements primarily highlight resources that are not impacted by commercial air tours. Commercial air tours under the ATMP do not impact the geologic features including the natural arches the Park protects (*See,* Moore Jr., 2018). However, the Park's unique ecosystems, wildlife and cultural resources within, may be impacted by commercial air tours (*See,* Foundation Document, page 9). Clean air, magnificent viewsheds, and cultural features, are listed as fundamental resources and values of the Park, all of which are potentially impacted by air tours (Foundation Document, page 11).

As a basis for evaluating the potential for impairment or unacceptable impacts on Park resources, the NPS relied on the environmental analysis in the Environmental Screening Form (ESF) (Appendix B to the Record of Decision (ROD), the Section 7 documentation for the Endangered Species Act (Appendix E to the ROD), and the Section 106 documentation for the National Historic Preservation Act (Appendix F to the ROD). The ESF includes analysis of impacts to air quality; biological resources including wildlife, wildlife habitat, and special status species; cultural resources including cultural landscapes, ethnographic resources, prehistoric and historic structures; soundscapes; lightscapes; wilderness; visitor experience; and viewsheds. The ESF considers both the change from current conditions as well the impact from the commercial air tours authorized under the ATMP (*See* ESF, Appendix B to the ROD).

The ATMP would result in limited impacts to the Park's natural and cultural soundscapes. Acoustic conditions in the Park were measured in 2000, and intermittently monitored through 2007 (Ambrose and Florian, 2008). Long term monitoring was conducted at two sites, the existing ambient (L_{50})[1] was reported to be 19–24 decibels, while the natural ambient (L_{nat})was reported to be 18–24 decibels. These metrics confirm that the natural acoustic environment at these sites do not often experience disturbances from anthropogenic noise. To determine the severity of the effect and potential for impairment, the NPS considered not just the presence of noise and potential for disturbance, but also the duration, frequency, and amplitude of noise. Noise modeling for the ATMP discloses that noise from 309 annual commercial air tours would be present less than 30 minutes on a peak day, defined as a 90th percentile day (*See* ESF, Appendix B to the ROD). Most areas of the park would experience noise above 35 decibels, a level at which quieter natural sounds would be masked, less than 20 minutes on a peak day and a smaller area would experience noise at or above 35 decibels for up to 30 minutes on a peak day. Less than half of the park would experience noise above 52 decibels, between 0–5 minutes on a peak day. At 52 decibels a visitor may reasonably expect interference with Park interpretive programs. Noise may reach 70 decibels in a few areas along the designated routes *(*ESF, Figures 3. and 4. Noise Technical Analysis, Appendix B to the ROD). Operators reported providing commercial air tours generally twice a day on the days commercial air tours were flown. Because of this, it is likely half of the year the Park will not experience noise from commercial air tours. Therefore, the natural and cultural soundscapes of the Park remain unimpaired and without unacceptable impacts under the ATMP since noise impacts are limited to only 309 instances, those instances will likely not occur every day, and noise only exceeds 52 decibels for 5 minutes on a peak day. Because the noise is short in duration with the loudest noise focused near or beneath the designated routes, the Park's natural and cultural soundscape will be largely unimpacted by commercial air tours and available for the enjoyment by present and future generations.

ATMP impacts to wildlife occur from noise generated by low flying tour aircraft. The analysis in the ESF discloses that noise would likely be heard by wildlife near the route (*See* Appendix B to the ROD). Generally noise from commercial air tours may impact wildlife in a number of ways: altered vocal behavior, breeding relocation, changes in vigilance and foraging behavior, predator avoidance, reproductive success, and impacts on individual fitness and the structure of ecological communities to name a few (Shannon et al., 2016; Kunc et al., 2016; Kunc and Schmidt, 2019). To determine the severity of the effect and potential for impairment, the NPS considered not just the presence of noise and potential for disturbance, but also the duration, frequency, and amplitude of noise. The analysis demonstrates that the 309 commercial air tours would impact the Park at levels above 35 decibels for less than 30 minutes on a peak day. The minimum altitude of 2,600 ft above ground level (AGL) referencing the topographic high point within ½ mile of the flight path, limits noise exposure to wildlife in the Park, including the Park's threatened and endangered species. The NPS concluded, with concurrence from the U.S. Fish

[1] Noise metrics referenced in this document are discussed in detail on pages 8–9 and 16–17 of the ESF.

and Wildlife Service, that the commercial air tours authorized by the ATMP may affect but are not likely to adversely affect threatened and endangered species in the Park[2] (Section 7 documentation, Appendix E to the ROD). In conclusion, the ATMP will not impair the Park's wildlife or its habitat because the impacts from the commercial air tours do not individually rise above 35 decibels for more than 20 minutes on a peak day and would only occur 309 days a year. Because the operator usually flies more than one tour per day, it is likely impacts will occur half of the year. As documented through this analysis, and in the ESF, impacts to wildlife, either individually or cumulatively, would occur on an individual level and would not affect wildlife on the population level. These impacts do not impair the functioning of the Park's unique ecosystems and the wildlife within. Consistent with the no adverse effect determination, wildlife, including threatened and endangered species, will persist in the Park without a loss of integrity and visitors will continue to enjoy wildlife and their habitats.

Impacts to the Park's cultural resources would be similar in frequency, amplitude, and duration to those described above for wildlife. The analysis in the ESF evaluated the impacts from commercial air tours on ethnographic resources, archeological sites, and historic resources. The option for no fly days will lessen impacts to ethnographic resources. Additionally, because of the limited number and times commercial air tours occur, and the location of the routes, noise impacts to these resources will be limited. Acting as lead agency for the purposes of compliance with Section 106 of the National Historic Preservation Act with respect to the ATMP, the FAA concluded, in coordination with the NPS, that there would be no adverse effects on historic properties from the 309 commercial air tours authorized under the ATMP. The State Historic Preservation Officer concurred with that determination. The consultation materials documented that the ATMP would not diminish the Park's cultural landscape's integrity of location, design, setting, materials, workmanship, feeling, or association. Additionally, the determination documented that commercial air tours do not adversely affect those elements of ethnographic resources that make them significant to traditionally associated groups, nor does the ATMP interfere with the use of ethnographic resources by these groups. Finally, the analysis documented that the ATMP does not adversely affect the feeling and setting of archaeological sites or historic structures that make those sites and structures eligible for listing on the National Register of Historic Properties (*See* Appendices B and F to the ROD). Since there are no adverse effects on these resources and impacts on these resources are limited, these resources would maintain their integrity and purpose and therefore remain unimpaired for the enjoyment of future generations under the ATMP.

As disclosed in the ESF, the ATMP may have very limited impacts on the Park's viewshed. The Park's views are a fundamental resource. As noted in the ESF, aircraft are not typically included in viewshed analyses because they are transitory. They are most noticeable because of the noise associated with them. As noted above, due to the short duration of the effects as well as the limited frequency, impacts to the Park's viewshed will be limited. As a result, visitors will continue to be able to enjoy the Park's beautiful views unimpaired.

[2] May affect, but not likely to adversely affect" means that all effects are beneficial, insignificant, or discountable.

The NPS completed an air quality analysis and determined that the 309 commercial air tours authorized under the ATMP contributes a minimal amount of emissions to the local air quality and would not have a regional impact (*See* ESF, Air Quality Technical Analysis, Appendix B to the ROD). Because the amount of emissions is so small the ATMP does not affect the integrity of the Park's air quality, leaving it unimpaired for future enjoyment.

As demonstrated here and in the analysis referenced above, the impacts to these resources, neither individually nor cumulatively, would preclude the NPS from achieving the purpose of the Park or desired conditions for resources; and would not unreasonably interfere with Park programs or activities, another appropriate use, the overall atmosphere of peace and tranquility or the natural soundscape, or NPS concessioner or contractor operations or services. As a result, there will not be impairment of or unacceptable impacts to the Park's natural and cultural resources or visitor experience. Impacts to other resources potentially affected were considered so small and insignificant that they did not warrant a written analysis here.

The ATMP sections on adaptive management and amending the plan will allow park managers to ensure that unanticipated or unacceptable impacts do not occur and the requirement for implementing flight tracking technologies included in the ATMP will better enable the NPS to monitor and enforce the restrictions in the ATMP.

Compliance with NPS Management Policies Regarding Appropriate Uses

A separate written appropriate use analysis is not required under NPS 2006 Management Policies. In recognition of comments suggesting that the NPS consider whether commercial air tours are an appropriate use over the Park, for this ATMP the NPS has decided to briefly address the issue of appropriate use below.

NPS 2006 Management Policies § 1.5 state:

> An "appropriate use" is a use that is suitable, proper, or fitting for a particular park, or to a particular location within a park. Not all uses are appropriate or allowable in units of the national park system, and what is appropriate may vary from one park to another and from one location to another within a park."

Section 8.1.2 of Management Policies further explain:

> The fact that a park use may have an impact does not necessarily mean it will be unacceptable or impair park resources or values for the enjoyment of future generations. Impacts may affect park resources or values and still be within the limits of the discretionary authority conferred by the Organic Act. In these situations, the Service will ensure that the impacts are unavoidable and cannot be further mitigated.

In determining whether a use is appropriate, the NPS evaluates:

- consistency with applicable laws, executive orders, regulations, and policies;
- consistency with existing plans for public use and resource management;
- actual and potential effects on park resources and values;

- total costs to the Service;
- whether the public interest will be served.

Parks may allow uses that are appropriate even if some individuals do not favor that particular use. The National Park Air Tour Management Act (NPATMA) contemplates that commercial air tours may be an acceptable use over National Park System units so long as protections are in place to protect park resources from significant impacts of such tours, if any. Therefore, commercial air tours are authorized by law, though not mandated, and generally may be appropriate where they do not result in significant impacts or cause unacceptable impacts on park resources and values.

Arches National Park ATMP – consistency with NPS Management Policies for Appropriate Uses

The NPS relied on the mitigations in the ATMP (Appendix A to the ROD), the analysis in the ESF (Appendix B to the ROD), Section 7 documentation for the Endangered Species Act (Appendix E to the ROD), the Section 106 documentation for the National Historic Preservation Act (Appendix F to the ROD), the unacceptable impact and non-impairment analysis above, and the language in NPATMA as a basis for finding that the ATMP's authorization of 309 commercial air tours over Arches National Park is an appropriate use.

- The ATMP for Arches National Park is consistent with applicable laws, executive orders, regulations, and policies. NPATMA specifically provides that air tours may be allowed over National Park System units where they do not result in significant impacts. Commercial air tours are not prohibited in applicable laws, regulations, or policies.
- The ATMP's authorization of 309 commercial air tours over the Park is consistent with the Park's existing management plans. No existing management plans preclude commercial air tours, though the Park may set different management direction in the future. Mitigations, including limiting the number of commercial air tours per year, restricting commercial air tours to the designated routes, and setting minimum altitudes, limit impacts to visitor experience and other resources.
- The effects of the 309 commercial air tours authorized in the ATMP on Park resources was evaluated in the materials referenced above and unacceptable impact and non-impairment discussion above. Since operator reporting shows that typically two tours occur each day, impacts would occur less than half of the days in a year. The commercial air tours are short in duration and occur at db levels that do not rise to the level of an unacceptable impact nor impair Park resources. The NPS does not interpret § 8.1.1 to require the NPS to contemplate mitigating Park uses to the point that the use no longer has any impact or no longer can occur. Rather, this section requires the NPS to consider whether there are mitigations that can reduce impacts to Park resources and whether the impacts of those uses, after applying mitigations, result in unacceptable impacts or impairment. In this case, the NPS evaluated the impacts of 309 commercial air tours and included specific mitigations in the ATMP to minimize impacts to Park resources. The NPS acknowledges that prohibiting commercial air tours entirely would avoid all impacts to Park resources, but the elimination of commercial air tours is not required to avoid unacceptable impacts or impairment of Park resources. The NPS believes the mitigations

in the ATMP are sufficient to protect Park resources and that additional mitigations are not required because the impacts associated with the ATMP are not significant and do not result in unacceptable impacts or impairment.

- The cost to the NPS from implementing the ATMP includes yearly compiling of operator reported commercial air tours and aircraft monitoring data which is done in coordination with the Federal Aviation Administration. These activities would occur anyway, because they are required under NPATMA, regardless of whether the Park has an ATMP because commercial air tours are currently authorized under interim operating authority (IOA). This is done by the NPS's Natural Sounds and Night Skies Division which also provides noise monitoring, modeling, and planning support to parks across the country.
- While some visitors may not like commercial air tours, others appreciate the opportunity to view the Park from a commercial air tour. Commercial air tours, as contemplated in NPATMA, serve the public in this way.

Additional commercial air tours and commercial air tours on other routes may not be appropriate. However, the NPS has determined that because the ATMP authorizes 309 commercial air tours, because those commercial air tours are restricted to designated routes, are relatively short in duration, and are at an acceptable altitude, the ATMP is adequately protective of Park resources and the commercial air tours it authorizes are an appropriate use of the Park at this time.

Compliance with NPS Management Policies for Soundscape Management

A separate written compliance analysis for Soundscape Management is not required under NPS 2006 Management Policies. In recognition of comments suggesting that the NPS consider whether the ATMP complies with NPS soundscape policies and guidance, the NPS has opted to briefly discuss the issue with respect to this ATMP.

Management Policies § 4.9 states, "The National Park Service will preserve, to the greatest extent possible, the natural soundscapes of parks." Section 5.3.1.7 similarly addresses cultural and historic resource sounds.

Section 8.4 specifically addresses overflights, including commercial air tours, which notes

> Although there are many legitimate aviation uses, overflights can adversely affect park resources and values and interfere with visitor enjoyment. The Service will take all necessary steps to avoid or mitigate unacceptable impacts from aircraft overflights.
>
> Because the nation's airspace is managed by the Federal Aviation Administration (FAA), the Service will work constructively and cooperatively with the Federal Aviation Administration and national defense and other agencies to ensure that authorized aviation activities affecting units of the National Park System occur in a safe manner and do not cause unacceptable impacts on park resources and values and visitor experiences.

Director's Order #47 gives further guidance for the management of natural and cultural soundscapes, requiring the consideration of both the natural and existing ambient levels.

Arches National Park ATMP – consistency with NPS Management Policies for Soundscape Management.

Consistent with § 8.4, the NPS worked constructively and collaboratively with FAA to develop the ATMP. The NPS relied on the mitigations in the ATMP (Appendix A to the ROD), the analysis in the ESF (Appendix B to the ROD), the Section 7 documentation for the Endangered Species Act (Appendix E to the ROD), the Section 106 documentation for the National Historic Preservation Act (Appendix F to the ROD), and the unacceptable impact and non-impairment analysis above as a basis for finding that the ATMP complies with the policies and guidance for management of natural and cultural soundscapes.

Consistent with Management Policies § 4.9, the ATMP eliminates some noise, or moves the Park closer to natural ambient conditions, by limiting commercial air tours to 309 per year, which is a reduction from the current authorized number (566) under IOA. In addition, the ATMP includes quiet technology incentives which could help reduce noise (ATMP, Appendix A to the ROD). When developing the ATMP, the NPS considered the commercial air tour routes and evaluated the potential for noise to reach the most sensitive resources in the Park, including cultural and natural resources, and areas where commercial air tours could disrupt educational opportunities. The commercial air tours occur along designated routes, which protects the majority of these areas from the intermittent, and short duration noise effects of commercial air tours. In addition, the ATMP includes quiet technology incentives which could help reduce noise.

Management Policies § 5.3.1.7 prohibits excessive noise and § 1.4.7.1 prohibits actions that unreasonably interfere with "the atmosphere of peace and tranquility, or the natural soundscape maintained in wilderness and natural, historic, or commemorative locations within the park." Acoustic conditions in the Park were measured in 2000, and intermittently monitored through 2007 (Ambrose and Florian, 2008). Long term monitoring was conducted at two sites, the existing ambient (L_{50}) was reported to be 19–24 decibels, while the natural ambient (L_{nat})was reported to be 18–24 decibels. When determining the severity of the impacts, results from the noise modeling for the ATMP were considered against both the natural soundscape and existing soundscape. In this case, there is minimal difference between natural and existing soundscape conditions for median measures. As discussed above under the non-impairment discussion, the noise from commercial air tours is limited, both spatially and temporally. Therefore, the noise from commercial air tours is neither excessive nor does it unreasonably interfere with the peace and tranquility of the Park, wilderness character, or natural or historic or commemorative locations. In conclusion, the ATMP complies with § 8.4, § 4.9, and § 5.3.1.7 of the Management Policies, because the NPS has successfully collaborated with the FAA and developed an ATMP that will not result in unacceptable impacts to natural or cultural soundscapes or impairment of Park resources.

Compliance with NPS Management Policies for Wilderness Preservation and Management

A separate written compliance analysis for Wilderness Preservation and Management is not required under NPS Management Policies. In recognition of comments suggesting that the NPS consider whether the ATMP complies with NPS wilderness policies and guidance, the NPS has elected to briefly discuss the issue with respect to this ATMP.

Management Policies for wilderness preservation and management do not specifically address commercial air tours. However, § 7.3 of Director's Order #41 notes that commercial air tours are inconsistent with preservation of wilderness character and requires the NPS to consider ways to further prevent or minimize impacts of commercial air tours on wilderness character.

The ATMP does not allow commercial air tours to take off or land within wilderness. Therefore, § 4(c) of the Wilderness Act and § 6.4 of Director's Order #41 do not apply and a minimum requirements analysis is not required. While the NPS did not complete a minimum requirements analysis, the NPS did analyze and report on the impacts of commercial air tours on wilderness character and minimized those impacts.

Arches National Park ATMP – consistency with NPS Management Policies for Wilderness Preservation and Management.

The NPS relied on the mitigations in the ATMP (Appendix A to the ROD), the analysis in the ESF (Appendix B to the ROD), the unacceptable impact and non-impairment analysis above, and soundscape management analysis above as a basis for finding that the ATMP complies with the policies and guidance for Wilderness Preservation and Management.

Approximately 96% of the Park (73,612 acres) is recommended wilderness, which is managed as designated wilderness by the NPS, pursuant to the 2006 NPS Management Policies. The NPS considered the impact of 309 commercial air tours on wilderness character. The ESF acknowledges noise from aircraft could impact wilderness character although the analysis demonstrates that the impact is limited. As described in detail above and in the ESF, noise from commercial air tours over wilderness will be infrequent and short. Wilderness character will remain unimpaired under the ATMP since a Park visitor will have the opportunity to hear the sounds of nature and experience the primeval character of the Park's wilderness, and the natural and cultural soundscape will remain largely unmarred by air tour noise the vast majority of time.

Consistent with Director's Order #41, § 7.3, the ATMP includes mitigations which minimize impacts to wilderness character including limiting commercial air tours to 309 per year, requiring aircraft to fly above 2,600 ft. AGL, and requiring the 309 commercial air tours to stay on designated routes (*See* ATMP, § 5.0, Appendix A to the ROD).

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The Wilderness Act, (1964), Public Law 88-577 (16 U.S.C. §§ 1131-1136) 88th Congress, Second Session (As amended).

APPENDIX H

Summary of Public Comments and Comment Analysis on the Draft Air Tour Management Plan for Arches National Park

US Department of Transportation
Federal Aviation Administration

US Department of the Interior
National Park Service

Arches National Park

Summary of Public Comments and Comment Analysis of the Draft Air Tour Management Plan

August 2022

CONTENTS

INTRODUCTION

An Air Tour Management Plan (ATMP) would provide the terms and conditions for commercial air tours conducted over Arches National Park (Park) pursuant to the National Parks Air Tour Management Act (Act) of 2000. The Act requires that the Federal Aviation Administration (FAA) in cooperation with the National Park Service (NPS) (collectively, the agencies) establish an ATMP or voluntary agreement for each National Park System unit for which one or more applications to conduct commercial air tours has been submitted, unless that unit is exempt from this requirement because 50 or fewer commercial air tour operations are conducted over the Park on an annual basis, 49 U.S.C. § 40128(a)(5).

The objective of establishing an ATMP for the Park is to develop acceptable and effective measures to mitigate or prevent the significant adverse impacts, if any, of commercial air tours on natural and cultural resources, visitor experiences and tribal lands.

A notification of the public review period for the draft ATMP was announced in the Federal Register, and the draft ATMP was provided for public review and comment from September 3 through October 3, 2021. In addition, the agencies held a virtual public meeting for the Park's draft ATMP on September 20, 2021. The draft ATMP was published on the NPS Planning, Environment, and Public Comment (PEPC) website.

Any comments entered into PEPC by members of the general public, as well as any written comments mailed or emailed to the NPS, were considered and included in the overall project record. This *Public Comment Summary Report* provides a summary of the substantive comments submitted during the public comment period.

COMMENT ANALYSIS METHODOLOGY

Comment analysis is a process used to compile and correlate similar comments into a usable format for the agencies' decision-makers and the program team. Comment analysis assists the agencies in organizing, clarifying, and addressing information and aids in identifying the topics and issues to be evaluated and considered throughout the ATMP planning process.

The process includes five main components:

- developing a coding structure
- employing a comment database for comment management
- reviewing and coding of comments
- interpreting and analyzing the comments to identify issues and themes
- preparing a comment summary.

A coding structure was developed to help sort comments into logical groups by topic and issue. The coding structure was designed to capture the content of the comments rather than to restrict or exclude any ideas.

The NPS PEPC database was used to manage the public comments received. The database stores the full text of all correspondence and allows each comment to be coded by topic and category. All comments were read and analyzed, including those of a technical nature, opinions, suggestions, and comments of a personal or philosophical nature.

Under each code, all comments were grouped by similar themes, and those groups were summarized with concern statements.

CONTENT ANALYSIS TABLES

In total, 450 correspondences were received providing 570 comments. The term "correspondence," as used in this report, refers to each submission offered by a commenter. The term "comment," as used in this report, refers to an individual issue and/or concern raised by a commenter that the agency coded by topic and category. A single commenter may have raised multiple comments within a correspondence. Similarly, multiple commenters raised many of the same comments. Of the correspondences received, one was identified as a form letter, to which there were 368 signatories. The form letter expressed opposition to air tours and requested National Environmental Policy Act (NEPA) analyses with a suite of alternatives including a no air tour option. This letter noted that several of these parks hold Native American cultural and sacred sites, and that the majority of these park lands are either federally designated or proposed wilderness that should be managed for natural quiet and wilderness values.

The following table was produced by the NPS PEPC database and provides information about the numbers and types of comments received, organized by code, including form letters.

Code	Description	Comments	Percentage
ADV100	Adverse Impacts: Soundscape impacts	63	11%
ADV200	Adverse Impacts: Wildlife/biological impacts	17	3%
ADV300	Adverse Impacts: Endangered species impacts	2	0.4%
ADV400	Adverse Impacts: Wilderness character impacts	15	2.6%
ADV500	Adverse Impacts: Cultural resource impacts	3	0.5%
ADV510	Adverse impacts: Visual impacts	2	0.4%
ADV520	Adverse Impacts: Equity	0	0%
ADV530	Adverse Impacts: Climate change / greenhouse gases / air quality	10	1.8%
ADV600	Adverse Impacts: Other	24	4%
ELE100	ATMP Elements: Annual number of air tours	36	6%
ELE200	ATMP Elements: Routes and altitudes	40	7%
ELE300	ATMP Elements: Aircraft type	13	2%
ELE400	ATMP Elements: Day/time	10	1.8%
ELE500	ATMP Elements: Other	56	10%
FAV100	Benefits of air tours	8	1.4%
NS100	Non-substantive comment: Support air tours	3	0.5%
NS150	Non-substantive comment: Other	22	3.9%
NS200	Non-substantive comment: Oppose air tours continuing	18	3%
NS300	Non-substantive comment: Oppose air tours introduction	41	7.2%
PRO100	Process Comments: Impact analysis	66	11.6%
PRO200	Process Comments: Public review	6	1%
PRO300	Process Comments: Alternatives considered	29	5%
PRO400	Process Comments: Other	38	6.6%
PRO500	Process Comments: NEPA	40	7%
TRIBE	Tribal concerns	8	1.4%

SUMMARY OF COMMENTS

The following text summarizes the comments received during the comment period and is organized by code. The summarized text is formatted into concern statements to identify the thematic issues or concerns represented by comments within the code. The focus on coding comments is on those comments with substantive content. Substantive comments raise, debate, or question a point of fact, or

analysis of the impacts associated with the ATMP, or elements of the ATMP. Comments that merely support or oppose the ATMP are not considered substantive.

ADV100 Adverse Impacts: Soundscape Impacts

1. Commenters noted concern that air tours would impact soundscapes and the solitude and natural sounds in the Park along with impacts to ecological and biodiversity values. Commenters also noted that the recommended increase in tour aircraft elevation, may be inadequate to reduce noise levels needed to meet the park quiet requirement. Commenters also noted that sound levels of 40 decibels (dB) or higher is a significant negative impact. Commenters suggested that each park develop a soundscape management plan to identify maximum aircraft noise levels to protect soundscapes and that air tours then maintain those sound levels.
2. One commenter noted that high altitude jets provide the most common aircraft noise and noted aircraft flying under 2,000 feet (ft.) elevation could register sound at 80 dB or more. The commenter also noted that acoustic studies conducted at the Park found backcountry areas average natural sounds audible for time periods of 2.4 minutes in the summer and 3.2 minute in the winter with a few peaks of noise from aircraft reaching 55 dB with most measurement in the range of 35 to 40 dB. The natural background was 17-30 dB. The commenter provided the following reference, noting Figure 16: Ambrose, Skip and Chris Florian. 2008. Draft, Acoustic Measurements in Arches National Park, Canyonlands National Park, Hovenweep National Monument, and Natural Bridges National Monument, 2001-2007. Sandhill Company.
3. One commenter interpreted a statement made by NPS in an NPR report to mean that degradation of Park values will be permitted in order to promote a commercial use of the Park. The commenter started this is not supported by the legal obligations that NPS must follow and the objectives given for this decision. The commenter referenced: https://www.kuer.org/sports-recreation/2021-09-22/national-park-services-latest-balancing-act-commercial-air-tours-vs-the-environment.
4. One commenter stated adopting this draft ATMP would result in air tour noise audible throughout the entire Park on a typical fair-weather day.
5. One commenter stated that the objective of an ATMP would be to improve resource conditions by markedly reducing the ambient level of air tour noise, especially in areas managed as wilderness. The commenter provided the following references: https://www.science.org/doi/full/10.1126/science.aah4783; A synthesis of two decades of research documenting the effects of noise on wildlife; Graeme Shannon et al; 26 June 2015. https://onlinelibrary.wiley.com/doi/10.1111/brv.12207; https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_91-36D.pdf.
6. One commenter noted that the Park is initiating a visitor use management planning process and several of the zones overlap with the flight paths of the ATMP, including the Pedestrian, Sensitive Resource Protection, and Backcountry Zones referring to https://storymaps.arcgis.com/stories/909991e9919f4722adf1700379074f99). The commenter noted that the Park's cultural and geological resources along with the opportunities to experience the Park's natural soundscapes, remoteness, and minimal modern human influences could be impaired by air tours.
7. One commenter noted the green route shown in the map would go over an undisclosed town and result in noise impacts.
8. One commenter referenced the mission of the NPS, which includes the preservation of the natural soundscapes that are inherent components of the scenery and the natural and historic objects and the wildlife protected by the NPS Organic Act (Director's Order #47).

9. One commenter referenced the adverse impacts of aircraft overflight noise on park resources and values contained in the 1994 Report to Congress on Effects of Aircraft Overflights on the National Park System (https://www.nonoise.org/library/npreport/intro.htm#TABLE OF CONTENTS).
10. Commenters provided the following references related to soundscapes: Mace, Britton. 2011; Brotak 2021; and Helicopter Association International 1981; Brotak, Ed. 2021; Vertical Rotary Wing magazine. 25 February 2021 issue; Buxton, R.T., McKenna, M.F., Mennitt, D., Fristrup, K., Crooks, K., Angeloni, L. and Wittemyer, G., 2017. Noise pollution is pervasive in US protected areas. Science, 356(6337), pp.531-533; https://sites.warnercnr.colostate.edu/soundandlightecologyteam/wp-content/uploads/sites/146/2020/11/science2017.pdf; A. Rapoza, E. Sudderth, K. Lewis, J. Acoust. Soc. Am. 138, 2090-2105 (2015); J. R. Barber, K. R. Crooks, K. M. Fristrup, Trends Ecol. Evol. 25, 180-189 (2010).; G. Shannon et al., Biol. Rev. Camb. Philos. Soc. 91, 982-1005 (2016). Manning, Robert, Peter Newman, Jesse Barber, Christopher Monz, Jeffery Hallo, and Steven Lawson. 2018. Natural Quiet and Natural Darkness: The New Resources of the National Parks. Hanover, NH: University Press of New England.; https://www.nps.gov/subjects/sound/acousticmonitoring_reports.htm.; the Organic Act.

ADV200 Adverse Impacts: Wildlife/Biological Impacts

1. Many commenters expressed general concern about the impacts of air tour noise on wildlife, including concern that noise may interfere with the ability of wildlife to perceive natural sounds and interfere with critical ecological processes.
2. One commenter stated that a minimum altitude of 2,000 ft. above ground level (AGL) for such a low number of overflights would not be a significant increase in noise or a raptor or wildlife threat. The commenter stated that the air tour time-of-day is more important than lowering the minimum altitude to 2,000 ft. AGL for raptors or wildlife and noise impacts to ground visitors, and that time-of-day restrictions are already in the draft ATMP.
3. One commenter provided the following reference: A synthesis of two decades of research documenting the effects of noise on wildlife; Graeme Shannon et al; 26 June 2015. https://onlinelibrary.wiley.com/doi/10.1111/brv.12207.

ADV300 Adverse Impacts: Endangered Species Impacts

1. Commenters noted general concern regarding endangered species and suggested protection of endangered and threatened species of wildlife if studies show potential impacts from air tours.
2. One commenter noted that according to public testimony, the NPS asserts that the altitude requirements are necessary to comply with general guidance for raptor protection including threatened and endangered and migratory birds, notably the Mexican spotted owl and the peregrine falcon. The commenter noted that the US Fish and Wildlife Service (USFWS) is not expected to say that the air tours have or will in the future cause any damage to threatened or endangered species in the park.
3. One commenter noted there are many threatened, endangered, and Utah sensitive species that occupy the Park, including for sensitive life events like breeding, migration, and rearing young. The commenter requested that NPS conduct an assessment of potential impacts on wildlife and the ecological functions they provide, especially for those species which studies have shown are uniquely sensitive to noise, human activity, and unpredictable disturbances like aircraft overflight. The commenter noted that the proposed air tour activities have significant potential for adverse impacts to wildlife, including nesting raptors, bighorn sheep, and other unique and

sensitive species. The commenter provided the following references: Bleich, V. C., R. T. Bowyer, A. M. Pauli, M. C. Nicholson, and R. W. Anthes. 1994. Mountain sheep Ovis canadensis and helicopter surveys: ramifications for the conservation of large mammals. Biological Conservation 70:1-7; Frid, A., and L. M. Dill. 2002. Human-caused disturbance stimuli as a form of predation risk. Conservation Ecology; Government Accountability Office. 2006. National Parks Air Tour Management Act: more flexibility and better enforcement needed. (GAO Publication GAO-06-263). Washington, D.C.: US Government Printing Office.; Manning & Anderson, The buzz from above at Grand Canyon; Miller, G. D., and E. L. Smith. 1985. Human activity in desert bighorn habitat: what disturbs sheep? Desert Bighorn Council Transactions 29:4-7; Papouchis, C. M., F. J. Singer, and W. B. Sloan. 2001. Responses of desert bighorn sheep to increased human recreation. The Journal of Wildlife Management 65:573-582.; Sproat, K. K. 2012a. Alteration of behavior by desert bighorn sheep from human recreation and desert bighorn sheep survival in Canyonlands National Park: 2002-2010. Master's thesis. Brigham Young University, All Theses and Dissertations. 3916. https://scholarsarchive.byu.edu/etd/3916.; Sproat, K. K. 2012b. Potash desert bighorn research. Brigham Young University; Weisenberger, M.E., P.R. Krausman, M.C. Wallace, and D.W. De Young, and O.E. Maughan. 1996. Effects of Simulated Jet Aircraft Noise on Heart Rate and Behavior of Desert Ungulates. Journal of Wildlife Management 60(1): 52-61.

ADV400 Adverse Impacts: Wilderness Character Impacts

1. Commenters noted that commercial air tours and aircraft overflights negatively affect wilderness character, that the ATMP does not acknowledge compliance with the Wilderness Act, and referenced various sources: NPS Management Policies at 6.3.1; NPS Directors Order # 41 Wilderness Stewardship (DO-41), Section 6.2; https://www.nonoise.org/library/npreport/intro.htm#; https://www.science.org/doi/full/10.1126/science.aah4783, Journal of Forestry in 2016 titled, A Framework to Assess the Effects of Commercial Air Tour Noise on Wilderness; Landres et al. 2008, p. 7- 8); Watson et al. 2015; Barber et al. 2010); NPS 2006, Marin et al. 2011; Miller 2008, Lynch et al. 2011; Mace et al. 2013, Rapoza et al. 2014.
2. One commenter stated 14 CFR Part 93 determines that aircraft noise impacts are eliminated by mandating that aircraft not overfly urban communities, and this same approach should be applied to National Park designated wilderness areas, citing https://www.faa.gov/regulations_policies/rulemaking/media/NYNShoreHelicopterFinalRule.pdf; and https://www.planenoise.com/docs/12-1335-1446255.pdf.

ADV500 Adverse Impacts: Cultural Resource Impacts

1. Commenters noted the draft ATMP provides no information regarding compliance with Section 106 of the National Historic Preservation Act (NHPA) and lacks necessary consultation with potentially affected Native American Tribes. Referring to the Council on Environmental Quality (CEQ) NEPA regulations and the agencies' NEPA policies, NHPA compliance, and other applicable federal statutes, one commenter stated these should be integrated into the NEPA document prepared for the proposed action, and failing to do so violates NEPA process requirements.
2. One commenter noted a lack of avoidance over sacred land, including over 2,000 sandstone arches that the NPS acknowledges in the draft ATMP are considered sacred by associated Tribes.

ADV510 Adverse Impacts: Visual Impacts

1. Commenters noted that air tours would contribute visual pollution, and that parks are places to get away from the lights and sounds of congestion and population.

ADV520 Adverse Impacts: Equity

No comments were received directly related to equity issues or concerns.

ADV530 Adverse Impacts: Climate Change, Greenhouse Gasses, and Air Quality

1. Commenters noted that air tours produce unnecessary pollution and contribute to climate change, and that there is no mention of the carbon footprint associated with air tours.

ADV600 Adverse Impacts: Other

1. Commenters stated that air tours benefit only a very small percentage of the population that can afford them.
2. Commenters were concerned about the risk of aircraft failure, crash events and/or midair collisions in a crowded area which is not controlled. One commenter stated that the timing restrictions force operators to fly during times of the day when the prevailing winds are strongest, and the heat of the day increases chances of less reliable flying conditions, and therefore air tour operators will have a very difficult time finding safe flying conditions.
3. One commenter was concerned that the presence of aircraft will further degrade an experience already diminished by overcrowding/ historic levels of visitation.
4. One commenter stated that they have invested nearly $3 million in quiet technology to minimize impacts to the Park and an additional $1.6 million dollars to provide a better experience for guests, but that the ATMP as proposed will cause great economic impact.

ELE100 ATMP Elements: Annual Number of Air Tours

1. One commenter suggested the authorized number of air tours should be no more than the lesser of actual usage in 2000 or the recited recent three-year window average to maintain consistency with the Act's legislative history, which provided that: “In determining the number of authorizations to issue to provide commercial air tour operations over a national park, the Administrator, in cooperation with the Director, shall take into consideration the provisions of the air tour management plan, the number of existing commercial air tour operators and current level of service and equipment provided by any such operators, and the financial viability of each commercial air tour operation.” (106th Congress, H.R. 717, H.Rept. 106-273).
2. One commenter noted that in Section 9.0, of the draft ATMP, there should be no ability to amend the ATMP to increase the total number of annual air tours. The commenter stated that due to natural habitat and visitor experience preservation, a requirement should be added that no more than two of the authorized flights annually may be operated in any one day.
3. One commenter stated that operators have held back air tours in order to be good stewards, that operators have cut sales to minimize effects and to ensure compliance with agreements and operating specifications, that operators have stopped selling flights at busy times of the year to minimize the impact despite demand, and that operators would have continued to sell flights if they had known that flights would be reduced without including operators in the ATMP process.
4. Commenters stated that the proposed number of air tours based on the three-year average is arbitrary and misleading because it includes years when the airport was under construction for a runway expansion, there was low international visitation, and when operators limited their flights

due to medical issues. Commenters stated that the flight numbers do not adequately reflect the current market, public interest in air tours, or reflect the capability, interest and needs of operators. Commenters suggested calculating flight averages for the previous 20 or 30 years which would more accurately reflect market fluctuations caused by the strength of the US dollar, recessions, fuel prices, and even pandemics; that 2021 would reflect a normal operating year; and suggested use of the maximum number of flights for specific years.

5. One commenter stated that one of the primary findings from the Government Accountability Office (GAO) was that the "FAA and the Park Service lack a mechanism to verify the number of air tours conducted over national park units, both historically and under interim operating authority." The commenter asked why the GAO's recommendation that a sturdy monitoring program be implemented as an integral part of any ATMP was ignored in this proposal.
6. One commenter, referencing Mace 2011, suggested a reduction of routes over backcountry areas or a reduction in the total number of flights. The commenter requested a ban on air tours given that that visitation in Arches is substantially higher than in the 1990's.
7. Commenters stated that NPS did not do due diligence to determine current conditions in the park with Interim Operating Authority (IOA) used to determine the impacts to resources, and questioned what previous negative effects to the park were caused by air tours to incur this reduction. Commenters stated that if the NPS cannot document specific negative impacts caused by the high number of flights which occurred in the 1990s and 2000s, there is no reason to reduce flights, and that taking away allocations must be based on demonstrable negative impact of aircraft noise. Commenters stated that basing the number of flights on three years is without empirical or economic justification, and it lacks effort to consider the impact of denying the public equal access to the Park experience by air.
8. One commenter asked the following: How will the number of commercial flights be divided up between companies? What if one company uses up all the flight early in the year - does this mean that others will not be able to fly?
9. Commenters stated that there was no due process in the taking of IOA by the government which was not fair or equitable and fails to pass the "reasonable and necessary" test of regulation, and that operators were not informed that IOA was a use or lose proposition, and the operators are denied the chance to return to earlier days of profitability during different economic times.
10. Commenters were concerned that travel and market trends change, and that operators would not be able to respond to changes in market demand.

ELE200 ATMP Elements: Routes and Altitudes

1. One commenter stated that the minimum AGL altitude of 2,900 ft. is insufficient to prevent disruption on the ground; it should be at least the 5,000 ft. recited in Section 2.0(1) of the draft ATMP and with the qualifications on no deviations as discussed there. The commenter also stated that there is no reason to adopt varying altitude requirements for various parts of the Park, as all parts of the Park should be valued and protected. The commenter also stated the exception listed in Section 2.0(1) should be replaced with requirements that (a) flights will operate at all times at the stated minimum altitude over any part of the terrain, and (b) flights will not operate or, if in operation, will discontinue operations where cloud cover or other conditions are expected to require them to deviate below the stated altitude.
2. Regarding Section 3.2 of the draft ATMP, first sentence (authorized route), one commenter questioned the basis for this specific route, whether it is it to maximize the scenic opportunities of the commercial air passengers and profit of the operator, or if it is to minimize actual ground

disruptions to the natural habitat and visitor experience. The commenter stated that it should be the latter, and if not, then the approved route should be modified to that effect.

3. One commenter stated that the justification for the 2,900 ft. minimum AGL altitude in Section 4.0 is not sufficient. The commenter noted that the measure against the actual physical injury threshold for animal life does not account for disruption of natural habitat and does not address the disruption to the visitor experience. The commenter also noted that the noise from helicopters/rotary aircraft which are the bulk of commercial air tour operations are far louder and far more disruptive than fixed wing aircraft, both in general cruise mode and especially in altitude adjustment mode, and are more impactful at any altitude, approaching if not exceeding the cited 92 dB injury level.
4. One commenter stated that a minimum altitude of 2,000 ft. AGL for such a low number of overflights would not be a significant increase in noise or raptor or wildlife threat. The commenter also stated that an overflight at a lower altitude of 2,000 ft. AGL would enrich the experience of air tour customers by allowing a closer, crisper view of the national park from above, without adversely affecting the protection of park resources.
5. One commenter stated that the requirement for air tour operators to fly at or above 2,900 ft. AGL is excessive, and that the air tour operator route minimum altitudes should be consistent with what has historically been allowed for overflights of national parks by all aircraft, and referenced that the agencies have deemed that overflight of a national park at an altitude of 2,000 ft. AGL is protective of wildlife and quiet enjoyment of the national parks by visitors to the park.
6. One commenter stated that one of the operators was never consulted during the process to aid in route construction; the commenter asked if the FAA and the other IOA shareholders were consulted, and if deconfliction between helicopter and airplane traffic was considered.
7. One commenter referred to the Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances which recommends a minimum of 1,000 ft. of elevation separation opposed to the 2,600 ft. proposed in the draft ATMPs.
8. One commenter stated that the proposed minimum flight altitudes of 11,500 ft. would require planes to climb to high altitudes at high power settings resulting in maximum noise generated in the lower altitudes during the climb, but also at high altitudes in order to maintain flight elevation. The commenter added that at high altitudes, the cone of engine noise will have its greatest propagation effect. The commenter stated that it takes a plane much longer to climb than to descend, so the negative effects of climb are greater than the positive effects of descent.
9. One commenter questioned the logic of requiring two different altitudes depending on direction of flight, stating that it is still possible for different tour routes to converge by as much as ninety degrees in the same directional quadrant. The commenter stated that if there were one common minimum altitude for the Park, pilots concerned about other planes could climb an extra 500 ft. and that pilots should be encouraged to fly heads up, using "see and avoid" navigation. The commenter added that the volume of air tour flights over the Park on any particular day is small (averaging one per day) as to make the split minimum flight altitudes requirement meaningless for operating purposes.
10. One commenter stated there are potential safety concerns with excessively high routes, and referred to FAA regulations that require commercial pilots to be on oxygen whenever flying above 10,000 ft. for more than thirty minutes, and that oxygen must be available for passengers. The commenter stated that under the proposed ATMP rules, no scenic flight over the Park will last more than 30 minutes, which destroys the usefulness and viability of air tours for seeing the back country of the park, and that on these short flights the high elevations will put many sea-

level oriented passengers at risk of heart attacks due to rapid and significant pressure changes to which they are not acclimated.

11. One commenter stated that the minimum flight altitude over the Park should be based on minimum altitudes above the valleys, not the peaks, and recommended that all planes should be required to fly 2,000 ft. over river/lake level and use 80% of cruise power unless climbs are necessary, which would bring the ATMP into alignment with the flights being conducted by all other general aviation aircraft. The commenter stated that altitudes that protect the tops of the buttes from aircraft noise is pointless because it is impossible for hikers to get anywhere near the summits due to sheer cliffs and for lack of water. The commenter stated that flying below the level of the buttes and mesas tends to block aircraft noise horizontally, a benefit that is completely lost by forcing flight at least 2,900 ft. above the highest point along an aircraft's route.
12. One commenter recommended that there should be some area of the park with no air tour routes overhead and requested the agencies maintain flights at least 2,000 ft. AGL.
13. One commenter requested that the air tour elevation be increased to an elevation above which aircraft noise is almost unheard on the ground. The commenter provided the following reference: https://www.federalregister.gov/documents/2002/10/25/02-27033/national-parks-air-tour-management.
14. One commenter suggested that noise-incentive routes at 1,500 ft. should be encouraged by the NPS along the perimeter of the park, away from noise-sensitive areas and in areas where few people hike.
15. One commenter noted many of the air tour routes are directly over the arches in the Park and that the passenger view is limited to the viewing angle down and to the side of the aircraft, and that for passengers on the far side of the aircraft, the view to the opposite side of the plane is even more restricted. The commenter stated that for this reason, tour routes off to the side of the features offer a better passenger experience. The commenter stated that it is unclear if the viewing aspect of touring aircraft was considered in developing these tour routes, and suggested that the ATMP include a route that offers a better view to the side.
16. One commenter stated that the minimum flight altitudes suggested for the current block of proposed ATMPs in the Southwest will eliminate the air tour industry.
17. One commenter stated that proposed minimum flight altitudes are without warrant. The commenter stated that according to public testimony, the NPS asserts that their high minimum altitudes are necessary to comply with general guidance for raptor protection including threatened and endangered and migratory birds, notably the Mexican spotted owl and the peregrine falcon; however, the USFWS is not expected to say that the air tours being challenged at the Park either have, are, or would in the future cause any damage to eleven threatened/endangered species in the park.
18. One commenter stated that the Park lies along a long-established fly-way following the Colorado River. Either route requires pilots to pass over the Park. The commenter stated that pilots flying this route have to climb in hot weather over relatively high local terrain, requiring full power well into the Park's airspace, and that most of the flights intruding on the park are due to transient operations, not air tours. The commenter stated that the ATMP does not take the noise generated by general aviation (non-commercial) flights into account, but blames aircraft noise on four operators that fly over the Park infrequently, noting that the average number of flights by all active air tour operators over the Park amounts to one every five days.

ELE300 ATMP Elements: Aircraft Type

1. Several commenters requested that helicopter tours be prohibited. One commenter stated that helicopter noise is far more disturbing than fixed wing aircraft, and that numerous studies have shown that people perceive helicopter noise as being much louder than it really is, almost twice as loud (Brotak, Ed. 2021. The science behind helicopter noise - and how the industry is working to reduce it. Vertical Rotary Wing magazine. 25 February 2021 issue), and that at 2,000 ft. elevation above the ground, the helicopter can sound as loud as a vacuum cleaner at 65-75 dB (Helicopter Association International 1981).
2. Regarding Section 3.3, commenter noted that noise-reducing technology currently exists in next generation commercial air tour aircraft. Any authorized new or replacement aircraft should be required to utilize the maximum noise-reducing technology and models, not simply exceed the prior noise levels, and this should be an express requirement for any FAA/NPS concurrence.
3. One commenter stated that the T207 is neither a new or replacement aircraft; rather, it is an existing aircraft and must be included in Appendix A with respect to all the ATMPs affecting an operator. The commenter stated that the removal of the T207 in the Ops Specs was temporary and associated with a regulatory-mandated overhaul, and that about three years ago the FAA was informed about the forthcoming overhaul. The commenter stated that the Primary Maintenance Inspector had advised removal of the T207 from the Ops Specs, but said that it would be easy to put the plane back on flying status once the overhaul was completed. The commenter stated that the operator is installing the TSIO-520-M engine. The commenter stated that when the plane does come back on line, it would be used as allowed by existing law and regulation, and that the operator would continue to use the C182. The commenter stated that it is to the advantage of the NPS to allow flights over the parks, as one flight in the T207 is equal to two to three flights in the C182, considering passenger load, and that the T207 is actually a little quieter than the C182R.

ELE400 ATMP Elements: Day/Time

1. One commenter requested a window of operation from 11:00 AM to 1:00 PM, and that any limitation should be stated as the more restrictive, as in may operate from the later of four hours after sunrise or 11:00 AM to the earlier of four hours before sunset or 1:00 PM.
2. One commenter noted that while the draft ATMP mentions the prohibition of air tours two hours after sunrise and two hours before sunset due to effects on wildlife species and visitors, there is no further investigation, study or monitoring of wildlife behavior at other times of the day. The commenter stated that this omission of information violates the fundamental laws and policies governing NPS units.
3. One commenter noted that the draft ATMPs state that the hours of operation restrictions provide quiet periods so that people can enjoy the quiet of the park, but the plan doesn't address the fact that auditory disruptions pass quickly, no matter the time of day. The commenter stated that the draft ATMPs justify timing restrictions by reserving two hours in the morning and two hours at night for quietness and yet those are the hours of the day with the least number of visitors in the park units enjoying said quietness, so by requiring flights to occur in late morning and early afternoon, any disturbance to solitude will affect the greatest number of visitors rather than the fewest, which seems arbitrary and counter intuitive to the common good.
4. One commenter noted that the Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances was used to justify prohibiting flights until two hours after sunrise and within two hours of sunset, but that these guidelines actually only recommend disturbance restrictions within one hour of official sunset, and that these restrictions are only needed during

winter roosting, November through March. The commenter stated that if adopted by the agencies, these restrictions would allow operators to operate more freely during peak visitation seasons thereby improving business opportunities.

ELE500 ATMP Elements: Other

1. One commenter asked how the NPS will be monitoring the limits, and suggested a more specific, outlined plan for monitoring.
2. One commenter recommended that air tour operators be required to provide passengers with an educational brochure or rack card that informs the public they will be flying over a noise sensitive area and special restrictions (e.g., AGL requirements) are in effect to minimize the adverse impact of aircraft noise on the environment below, and that this is especially important when considering a park's wilderness boundaries.
3. Commenters had suggestions and questions about quiet technology, including the suggestion that Section 3.8 of the draft ATMP include a definition or at least a reference to FAA guidance defining what quiet technology aircraft is. One commenter noted the draft ATMP should state the ATMP incentivizes the adoption of quiet technology aircraft, adding as described in FAA Advisory Circular AC-93-2, by the commercial air tour operator conducting commercial air tours over the Park. Another commenter had questions about converting to quiet technology aircraft including upgrading the muffling devices on the aircraft currently being used, or whether it only applies to new aircraft employed by the operator; how much quieter would the aircraft have to be; and since the improvement of only a few decibels would be indistinguishable to wildlife and visitors, has the required improvement been quantified, and if so, is there a specific decibel reduction that operators would have to achieve before being allowed to conduct air tours only one hour after sunrise and until one hour before sunset.
4. One commenter recommended that Section 6 of the draft ATMP be clarified to say that, while the allotment of annual flights may be redistributed from existing operator(s) to accommodate new entrants, the cap on the total number of annual flights will remain the same as stated in Section 3.1 of the plan.
5. One commenter stated that the adaptive management section of the draft ATMP is vague and asked if there would be a pre-defined and systematic adaptive management program with indicators, desired future conditions, periodic review time frames, or other metrics that would trigger an NPS review to determine if changes are needed to the ATMP, as is commonly done with many adaptive management programs, and if so what are those indicators or metrics. Other commenters had recommendations for adaptive management including: 1) that it not be authorized in the event it would increase the number of air tours, decrease minimum altitude or other mitigation requirements, or otherwise increase noise emission or other negative impacts on the natural habitat and visitor experience; 2) that any proposed modifications under adaptive management be fully noticed to the public for advance comment; 3) that adaptive management be adequately described in an appropriate level NEPA document; 4) that NPS have volunteers monitor aircraft flight patterns and noise, and that implementation of this draft ATMP should include an adaptive management process with operators, agency staff, scientists, and citizen ears on the ground; and 5) the NPS and the FAA should monitor new technology that may further reduce the noise from aircraft and its ability to meet Park needs, and as a part of adaptive management, NPS should require the most current noise reducing equipment and practices for permitting use by a specific type of aircraft.
6. One commenter stated that the monitoring and enforcement of ATMP limits may be expensive or problematic, and the public should not be expected to subsidize these costs for private profits,

therefore an outright prohibition on overflights makes the most sense because it is easy to understand, monitor, and enforce.

7. Regarding Sections 6.0 and 7.0 of the draft ATMP, one commenter stated there is no provision setting forth requirements for any operator sale of its business or transfer of its temporary license to overfly the Park under this ATMP, and that one should be added that at a minimum requires quiet technology. In addition, the commenter stated that reasonable operator licensing, certification, insurance, and bond requirements should be included as a condition of authorized operations under the ATMP to ensure maximum safety and compliance.
8. Regarding Section 5.1 of the draft ATMP, one commenter stated that all aircraft should be required to install Automatic Dependent Surveillance-Broadcast Out (ADS-B OUT) technology and to operate from the beginning to the end of any flight under the ATMP in full transmit mode, because it is critical to adequate enforcement of and public confidence in the ATMP that all such operations be public and subject to public review and complaint in real time by specific identification of the aircraft, operator, time, altitude and location. The commenter stated that while operators have sometimes taken the position that such information is private, that this is not acceptable; there is no expectation of privacy by any operator in such operations.
9. Regarding Section 5.0 of the draft ATMP, first sentence, one commenter stated there should be a date by which the operator must modify the operation specifications to comply with the ATMP or cease any operations, and that deadline should be a matter of a few months.
10. Regarding Section 3.7B of the draft ATMP, one commenter stated that the meeting should be fully open to the public for participation.
11. Regarding Section 3.6 of the draft ATMP, one commenter stated that the required reporting should be fully accessible to the public, that there is no proprietary claim by any operator to information on operations.
12. One commenter requested that all mention of required tracking equipment be taken out of the proposed ATMP as well as for all the other affected park service units. The commenter stated that small air tour operators cannot afford to implement digital reporting systems, and that it is unfair to require the large investment in digital equipment, software, training, data management and reporting, and user subscriptions of operators who can be shut down at any time for any cause at parks managed by ATMPs. The commenter stated the requirement for special tracking hardware has no substantive justification in the Act or FAA regulations, including FAR 136.39C(2). The commenter stated that digital tracking of flights is unnecessary because flight paths over national parks can easily be observed and digital data can easily be changed or deleted. The commenter stated that the methodology of keeping digital track of all flights over multiple park units, and sorting them out by flight, day, and park, would be problematic for operators, and that the law requires the FAA to do a cost/benefit analysis on all new regulations.
13. One commenter requested that all mention of required tracking equipment be taken out of the proposed ATMP as well as for all the other affected park service units. The commenter stated that small air tour operators cannot afford to implement digital reporting systems, and that it is unfair to require the large investment in digital equipment, software, training, data management and reporting, and user subscriptions of operators who can be shut down at any time for any cause at parks managed by ATMPs. The commenter stated the requirement for special tracking hardware has no substantive justification in the Act or FAA regulations, including FAR 136.39C(2). The commenter stated that digital tracking of flights is unnecessary because flight paths over national parks can easily be observed and digital data can easily be changed or deleted. The commenter stated that the methodology of keeping digital track of all flights over multiple

park units, and sorting them out by flight, day, and park, would be problematic for operators, and that the law requires the FAA to do a cost/benefit analysis on all new regulations.

14. One commenter stated that it is logical and customary in legal documents to specify that the aggrieved parties to a unilaterally-imposed mandate be granted the right of judicial review of disputes, and therefore the right of access to the courts is a stipulation that must be put into all ATMPs, as these impositions do not represent voluntary agreements. The commenter noted that paragraph 40128(b)(4)(5) of the Act requires such inclusion.
15. One commenter stated that the provisions of the ATMP should not be made part of operation specifications, which are legally an agreement between an operator and the FAA, yet the NPS will control an operator's operations as well as operation specifications through the ATMP process. The commenter cautioned that the precedent it sets for all commercial operators, not just air tour operators, is probably irreversible. The commenter stated that Section 10.0 of the draft ATMP constitutes a de facto merger between two independent agencies, but Congress never contemplated nor authorized such a union.
16. One commenter stated that the amendment process proposed under Section 9.0 of the draft ATMP is not fair for operators because the agencies get to make minor modifications to the ATMP without a formal ATMP amendment process, including taking away or reducing an existing operator's allocations, including competitive bidding for existing allocations. The commenter stated that an existing operator should also be allowed to be issued additional allocations without imposing the requirement for a formal ATMP amendment process.
17. One commenter stated that the requirement for in-flight communication on frequency 122.9 should be dropped because very few general aviation pilots monitor this frequency in flight and non-tour pilots will not know what an air tour pilot is talking about. The commenter stated that all pilots are responsible to see and avoid under existing FAA regulations.
18. One commenter stated that operators should have the option of attending all meetings and training sessions by phone or zoom to reduce cost, increase the chance of participation, and decrease the likelihood of a meeting being cancelled due to inclement weather. The commenter added that frequent long-distance travel by operators may be cost prohibitive.

<u>FAV100 Benefits of Air Tours</u>

1. One commenter stated that an overflight of the Park at a lower altitude of 2,000 ft. AGL would enrich the experience of air tour customers by allowing a closer, crisper view of the Park, without adversely affecting the protection of Park resources, and that the rights and enjoyment by air tour visitors needs to be protected just as much as those of visitors at ground level.
2. Commenter stated that air tours offer visitors the opportunity to see the Park without adding to Park congestion, and that air tours provide the only timely way to see the back country of the Park, especially along its perimeter.
3. Commenters stated that air tours offer the elderly or those with physical disabilities an opportunity to experience the Park in a way that they otherwise could not, but by capping air tours at the levels proposed, increased demand by the disabled community will not be met.
4. One commenter stated that the air tour pilots provide education about the region, the history, the geology, the importance of the ecosystem, the impact of tourism on this region, and the importance of conservation. The commenter stated that operators routinely fly university geology students from all over the world to see the unique geological features only found in this Park.
5. In reference to NPS management policies under the Organic Act, one commenter stated that no use of the parks leaves them less impaired than flight tours since, other than the audible noise, there is no initial impact. The commenter stated that the noise dissipates within minutes of

departure and leaves the parks with zero remaining impact. The commenter also stated that air tours do not require any infrastructure improvements within the Park boundaries.

PRO100 Process Comments: Impact Analysis

1. Commenters stated that there has been no NEPA, NHPA, or Endangered Species Act (ESA) analysis presented and that the agencies have issued a proposed action for public comment without disclosing potential impacts, citing NEPA regulations at 40 CFR 1501.2(b)(2), NPS Handbook 2015, Section 1.4.A, and FAA NEPA policies in Order 1050.1F, Section 1-8.
2. Many commenters noted the lack of studies, analysis, or modeling to justify ATMP provisions, or to justify not having a limit on flights allowed per day or during sensitive time of the year for wildlife, or to evaluated effects to Tribal resources and cultural sites.
3. Commenters noted the availability of the NPS Natural Sounds Office, Natural Sounds Acoustic Monitoring Reports (https://www.nps.gov/subjects/sound/acousticmonitoring_reports.htm), and the study published in the Journal of Forestry in 2016 titled, A Framework to Assess the Effects of Commercial Air Tour Noise on Wilderness (https://doi.org/10.5849/jof.14-135).
4. One commenter requested that the agencies assemble a bibliography of noise related data and documents for these National Park units, and requested that this bibliography be part of the final environmental analysis.
5. One commenter stated that all commercial flights from small planes should be considered in the ATMP, regardless of their purpose. Another commenter stated that the agencies have focused on air tours, while ignoring general vehicle traffic.
6. One commenter stated that the management decision needs to have a logical basis that links air tour routes and the number flights with measurable goals to protect Park values.
7. Many commenters noted the lack of studies, analysis, or modeling to justify ATMP provisions, or to justify not having a limit on flights allowed per day or during sensitive time of the year for wildlife, or to evaluated effects to Tribal resources and cultural sites. Another commenter noted that without full NEPA analyses, the impacts of low-flying tours on delicate natural bridges, hoodoos and arches features are unknown.
8. One commenter stated that the NPS should have analyzed the low impact nature of air tours and how air visitation reduces the overcrowding that most national parks have been experiencing.
9. One commenter stated that 40 CFR 1508.8 requires government programs to address indirect effects, and although the draft ATMP only extends to a half-mile around the Park, the indirect effects stretch all the way back to the airport. The commenter asked how the draft ATMP considers the damage to the homes and businesses affected by air tours.
10. One commenter asked if a visitor poll was conducted at the Park, similar to the poll done early in the ATMP process for Hawai'i Volcanoes National Park. The commenter asked if a poll was conducted, what were the results, or if not, why a poll was not conducted.
11. One commenter noted that absent from the meeting of September 22, 2021, was any specific reference to documented allegations of noise or evidence. Commenters stated that the NPS is basing all of its claims of negative aircraft impact on subjective and arbitrary standards, none of which have substantive proof that can be formally defended, and that there is no scientific basis upon which to establish a reasonable and defensible altitude standard, nor for reducing the number of flights from current IOA allocations or for changing route structures.
12. One commenter stated that the draft ATMP does not include any park-specific data or information to judge adverse impacts to resources, visitor experience, and tribal lands, yet it allows new entrants' to be granted operating authority.

13. One commenter stated that NPS should be conducting acoustic monitoring beyond the sunrise/sunset time frames to ensure no adverse effects or impairment of Park resources and values.
14. One commenter stated that the Ambrose and Florian's 2008 report found that in backcountry areas natural sound levels were generally very low, often less than 20 dB, but that this conclusion may reflect the limitation of their equipment rather than actual conditions which are likely to be lower than reported. The commenter stated that future monitoring needs to more accurately assess the sound level of the natural environment.
15. One commenter stated that the agencies need to establish noise standards that protect Park values, requesting that air tours be designed that call for altitudes, routes, frequency of flights and time that meet the noise standards, and that this should be adopted by the NPS in an environmental impact statement (EIS) as the preferred alternative. Another commenter stated that NPS should consider the impacts of commercial air flights at all elevations as they cross the park because there are alternatives that can reduce the noise that commercial flights generate in National Park units.
16. One commenter noted that flight monitoring technology is expensive and that the government should be responsible, not the operator, if it is required.

PRO200 Process comments: Public Review

1. One commenter stated that by issuing the draft ATMP for public comment without releasing the compliance, the agencies have violated a basic principle of NEPA, which is to disclose potential impacts of a proposed action when asking the public to comment on that action. The commenter added that the agencies have provided no explanation for this significant departure from NEPA procedural norms.
2. One commenter stated that the agencies have issued a proposed action (the plan) for public comment without disclosing potential impacts or providing any environmental impact analysis regarding the proposed action. The commenter cited: 40 CFR 1501.2(b)(2).
3. One commenter stated that the online submission for comments does not allow formatted text (which has footnotes for example) and images, special characters, graphs, photographs, and other image information, and that related documents that the NPS should consider cannot be attached and submitted. The commenter stated that this limits public input into this process.

PRO300 Process Comments: Alternatives Considered

1. Commenters suggested a no flight alternative to protect wilderness stating tours could still be offered outside the Park's boundaries and/or over 5,000 ft. AGL. Other commenters requested that NPS consider a range of reasonable alternatives in addition to the proposed action. Another commenter suggested an attrition alternative that would reduce the number of air tours allowed per year if an operator closes its business, sells its business, or otherwise ceases operations and eliminate new entrants. Other commenters suggested limiting the elevation of air tours to 4,000 ft. above backcountry areas. Referencing NPS NEPA Handbook 2015, a commenter noted it is the NPS' responsibility (not the public's) to identify a preliminary range of alternatives or alternative elements for the public to comment on; and/or to conduct public scoping to solicit, among other things, public input on possible alternatives. The commenter stated that neither has occurred in this case. Commenters referenced the following: Bob Marshall Alliance v. Hodel, 852 F.2d 1223, 1229 (9th Cir. 1988); Greater Yellowstone Coalition v. Flowers, 359 F.3d 1257, 1277 (10th Cir. 2004); 42 U.S.C.A. Section 4332(E).

2. One commenter suggested an alternative that provides a simplified route that offers greater safety over the Park. The commenter stated that the route in this alternative would originate at an airport, then aircraft would climb to 2,900 ft. AGL and fly south generally following Highway 95, then over Moab the route would follow the south and then east edge of the Park half a mile from the boundary, and near the north end of the Park the route crosses the Park on the 210 degree heading that goes directly to the airport. The commenter stated that this suggested route gives passengers an excellent view of the key geologic features of the Park including many arches and the Colorado River canyon.
3. Commenters suggested the following alternatives: 1) the proposed alternative; 2) no air tours; 3) coordinated loop alternative crossing the Park flying around and just outside the Park; 4) quiet week alternative; 5) adaptive management alternative based on Park values; 6) backcountry quiet route.

PRO400 Process Comments: Other

1. One commenter stated that the agencies are not regulating non-commercial air tour operations, and that if Park resources and values were seriously under threat from commercial air tours, then the agencies should also be taking steps to regulate private activities. The commenter added that non-commercial operators often fly dangerous and disruptive routes through the parks with impunity, thereby giving commercial operators a poor reputation since the casual observer has no way of knowing which flights are commercial and non-commercial.
2. Commenters stated that NPS should prepare an appropriate use analysis in accordance with NPS Management Policies 2006, Sections 1.5 and 8.1.2, that serves, in part, as the basis for determining whether air tours of any amount should be allowed or prohibited.
3. One commenter recommended that the ATMP planning and compliance process be managed directly by Southeast Utah Group NPS staff, or, if the intent is to ensure consistent planning documents across all 23 ATMPS, the ATMP planning process be managed by a NEPA project manager at the NPS Environmental Quality Division (EQD).
4. One commenter was concerned that the NPS has failed to include State and local governments in the development of the ATMPs, and noted that the State of Utah was not involved in public meetings prior to and during the development of the draft ATMP, which is a formal requirement of the Act. The commenter added that the operators that will be negatively impacted by these changes were also not included in the planning process despite repeated requests, and therefore this ATMP planning effort should be paused so that specific details of the plan can be meaningfully coordinated with the interested parties per federal law.
5. Commenters suggested that a voluntary agreement option should be explored.
6. One commenter noted concern that operators were initially invited to participate in the draft ATMP planning process by the FAA but were not included in the process and were not included in the drafting of the ATMP.
7. One commenter asked questions including how the proposed numbers were divided among the operators, why there is only one operator required to reduce the total number of flights, how the committee for the draft ATMP was selected, and why does the visitor on the ground outweigh that of the visitor in the air who has zero infrastructure needs or improvements to the parks.
8. One commenter stated that the agencies should have coordinated with the air tour industry so operators could have responded with reasoned debate before the agencies brought in the public. The commenter noted they did not have sufficient time to respond in detail to complicated regulatory changes involving five parks, each with its own unique issues.

9. One commenter suggested that the FAA designate National Park units as Restricted Airspace and these areas should be shown on aviation maps and GPS maps used for flying (https://www.faa.gov/air_traffic/publications/atpubs/aip_html/part2_enr_section_5.1.html).

PRO500 Process Comments: NEPA

1. Commenters requested that the agencies conduct a full NEPA analysis with a suite of alternatives.
2. One commenter stated that the NPS should be the lead agency in making this decision, and FAA should act in cooperation to NPS.
3. One commenter stated that the ATMP does not comply with NEPA, that no decision document is available for public review concurrent with the ATMP, and pointed out the following from the court decision that prompted this ATMP planning process: Management plans must go through notice and comment and comply with NEPA (https://www.peer.org/wp-content/uploads/2020/05/5_1_20-Court-Decision-Overflights.pdf).
4. Commenters noted shortcomings in the NEPA process including: A) the agencies have issued a proposed action for public comment without disclosing potential impacts or providing any environmental impact analysis regarding that proposed action; B) the agencies have failed to conduct public scoping or otherwise consider reasonable alternatives to the proposed action; C) the NPS has not made the case that its proposed action will effectively mitigate the adverse impacts of ongoing air tours at the Park that have been operating virtually unregulated over the past 20 years; D) the agencies stated intention is to finalize the action (i.e., the ATMP) before actually issuing a NEPA analysis which violates NEPA procedural requirements; and E) the agencies have improperly identified NPS categorical exclusion 3.3 A1 as the preliminary NEPA pathway for this draft ATMP.
5. Commenters questioned why the NPS would consider a pre-existing air tour to be an approved action eligible for NPS CE 3.3 A1 since NPS has not conducted a NEPA review and never formally approved national park air tours in the first place (i.e., has never signed or had the authority to sign, or otherwise approved authorizations, permits, plans or other documents allowing national park air tours to occur).
6. Commenters stated that this draft ATMP requires an EIS. One commenter asked why the NPS is not conducting a complete environmental review when a federal lawsuit already determined that EISs are necessary for ATMPs. Another commenter stated that this decision is a major federal action that significantly impacts the environment and involves unresolved conflicts concerning alternative uses, and cited the following: Scientists' Inst. for Pub. Info., Inc. v. Atomic Energy Comm'n, 481 F.2d 1079 (D.C. Cir. 1973) (citing CEQ, Statements on Proposed Federal Actions Affecting the Environment: Guidelines, 36 Fed. Reg. 7724, 7726 (Guideline 5(a)(i)) (April 23, 1971), which justifies the preparation of an EIS or EA.; NPS 1994. Report To Congress, Report on Effects of Aircraft Overflights on the National Park System, Prepared Pursuant to Public Law 100-91, The National Parks Overflights Act Of 1987. One commenter referenced an Air Force EIS that noted significant impacts would potentially occur in Wilderness Areas and areas protected for wilderness qualities due to aircraft overflights at subsonic speeds, and that National Park units have even more requirements to protect quiet and natural values than are found on other federal lands given the habitats of endangered species, reduction of natural areas, and their ability to preserve nature for future generations.

TRIBE Tribal Concerns

1. One commenter stated that there is no evidence that Section 106 consultation requirements have been met, citing FAA Order 1050.1F, Section 2-4.4, which requires FAA, when preparing a

NEPA document for a proposed action that may impact Native American Tribes, to conduct government-to-government consultation with the Tribe(s) in accordance with the requirements of FAA Order 1210.20, American Indian and Alaska Native Tribal Consultation Policy and Procedures (https://www.faa.gov/about/office_org/headquarters_offices/arc/programs/grand_canyon_overflights/documentation/FAAOrder1210.20.pdf).

2. Commenters stated that the ATMP needs to incorporate Native American information on cultural landscapes and make route and flight changes to protect these values, and that air tours need to be designed to always protect cultural resources and related cultural landscapes and ethnographic resources, such as views, that are important to Native American Tribes. Commenters stated there was no evaluation of effects on known Tribal resources and cultural sites.
3. Commenters asked if Tribes have requested any areas that should be permanent no-fly zones due to culturally sensitive resources or significant areas.
4. One commenter noted that Tribal members describe the La Sal Mountains as a dwelling place for spirits and sacred beings, and that having unobstructed views of the mountains from places where rituals were performed, such as arches, was identified as extremely important. The commenter stated that this is a primary reason why Arches is so highly valued by indigenous people as a powerful and sacred place. The commenter referenced an NPS study by Neal Herbert.
5. One commenter expressed concern with the lack of tribal consultation and the lack of avoidance of flight paths over sacred land, including any of the over 2,000 sandstone arches that the NPS acknowledges in the draft ATMP are considered sacred by associated Tribes.

NS100 Non-Substantive Comment: Support Air Tours

1. Several commenters supported air tours noting the NPS should take this opportunity to expand access to the immediate airspace above these parks by commercial air tours, including helicopters. The commenters noted there is a justifiable means to improve access to these aerial views which does not degrade these treasured landscapes. Several commenters noted that the Park has limited access to people not exceedingly fit and very experienced in backcountry access and air tours provide a means of access.

NS150 Non-Substantive Comment: Other

1. One commenter asked why air tour operators do not pay an entrance fee.
2. One commenter requested the FAA designate Park units as restricted airspace on aeronautical charts, referencing https://www.faa.gov/air_traffic/publications/atpubs/aip_html/part2_enr_section_5.1.html. The commenter also requested that the Class E airspace be reduced to the minimum amount over the Park, referencing https://skyvector.com/?ll=34.6,-116&chart=301&zoom=3
3. One commenter asked that the agencies incorporate the ideas found in their national policy for air tours: https://www.sierraclub.org/policy/air-tours.
4. Commenters provided general references: (Buxton et al. 2017); National Park Service. 2017. Soundscape Management Policy 2006. (updated June 20th, 2017) https://www.nps.gov/subjects/sound/soundscape-management-policy_4-9.htm; Buxton, Rachel T., Megan F. McKenna, Daniel Mennitt, Kurt Fristrup, Kevin Crooks, Lisa Angeloni, and George Wittmeyer. 2017. Noise pollution is pervasive in U.S. protected areas. Science 356(6337): 531-533.

NS200 Non-Substantive Comment: Oppose Air Tours Continuing

1. Many commenters opposed the continuation of air tours, where the stated concerns included impacts to wildlife, wilderness, arches, and soundscapes.

NS300 Non-Substantive Comment: Oppose Air Tours Introduction

1. Many commenters opposed the introduction of air tours, citing various reasons including impacts to the visitor experience and wildlife.