APPENDIX H

Biological Resources

H.1 US FISH AND WILDLIFE SERVICE, INFORMATION FOR PLANNING AND CONSULTATION RESOURCE LIST

H.2 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, ESSENTIAL FISH HABITAT MAPPER REPORT

H.3 TRICOLORED BAT HABITAT ASSESSMENT

H.4 US FISH AND WILDLIFE SERVICE COORDINATION

H.5 NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION COORDINATION

APPENDIX H.1

US Fish and Wildlife Service, Information for Planning and Consultation Resource List

IPaC U.S. Fish & Wildlife Service

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Bergen County, New Jersey



Local office

New Jersey Ecological Services Field Office

(609) 646-9310

4 E. Jimmie Leeds Road, Suite 4
Galloway, NJ 8205

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Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Tricolored Bat Perimyotis subflavus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

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Bald & Golden Eagles

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

Review the FAQs
The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Sep 1 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted

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Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▮)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Bald & Golden Eagles FAQs

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are an eagle (Bald and Golden Eagle Protection Act requirements may apply).

Proper interpretation and use of your eagle report
On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort line or no data line (red horizontal) means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide you in knowing when to implement avoidance and minimization measures to eliminate or reduce potential impacts from your project activities or get the appropriate permits should presence be confirmed.

How do I know if eagles are breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If an eagle on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your "IPaC PROBABILITY OF PRESENCE SUMMARY" at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:
The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

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Breeding Season ()
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Migratory birds

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

Measures for Proactively Minimizing Migratory Bird Impacts

Your IPaC Migratory Bird list showcases birds of concern, including Birds of Conservation Concern (BCC), in your project location. This is not a comprehensive list of all birds found in your project area. However, you can help proactively minimize significant impacts to all birds at your project location by implementing the measures in the Nationwide avoidance and minimization measures for birds document, and any other project-specific avoidance and minimization measures suggested at the link Measures for avoiding and minimizing impacts to birds for the birds of concern on your list below.

Ensure Your Migratory Bird List is Accurate and Complete

If your project area is in a poorly surveyed area, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles document, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

Review the FAQs
The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Sep 1 to Aug 31
Black Skimmer Rynchops niger This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Black-billed Cuckoo Coccyzus erythropthalmus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10

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Blue-winged Warbler Vermivora cyanoptera This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 1 to Jun 30
Bobolink Dolichonyx oryzivorus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Canada Warbler Cardellina canadensis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10
Chimney Swift Chaetura pelagica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Pectoral Sandpiper Calidris melanotos This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Prairie Warbler Setophaga discolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Red-headed Woodpecker Melanerpes erythrocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird Euphagus carolinus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Scarlet Tanager Piranga olivacea This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 10 to Aug 10
Semipalmated Sandpiper Calidris pusilla This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Short-billed Dowitcher Limnodromus griseus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Wood Thrush Hylocichla mustelina This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

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Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▫)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

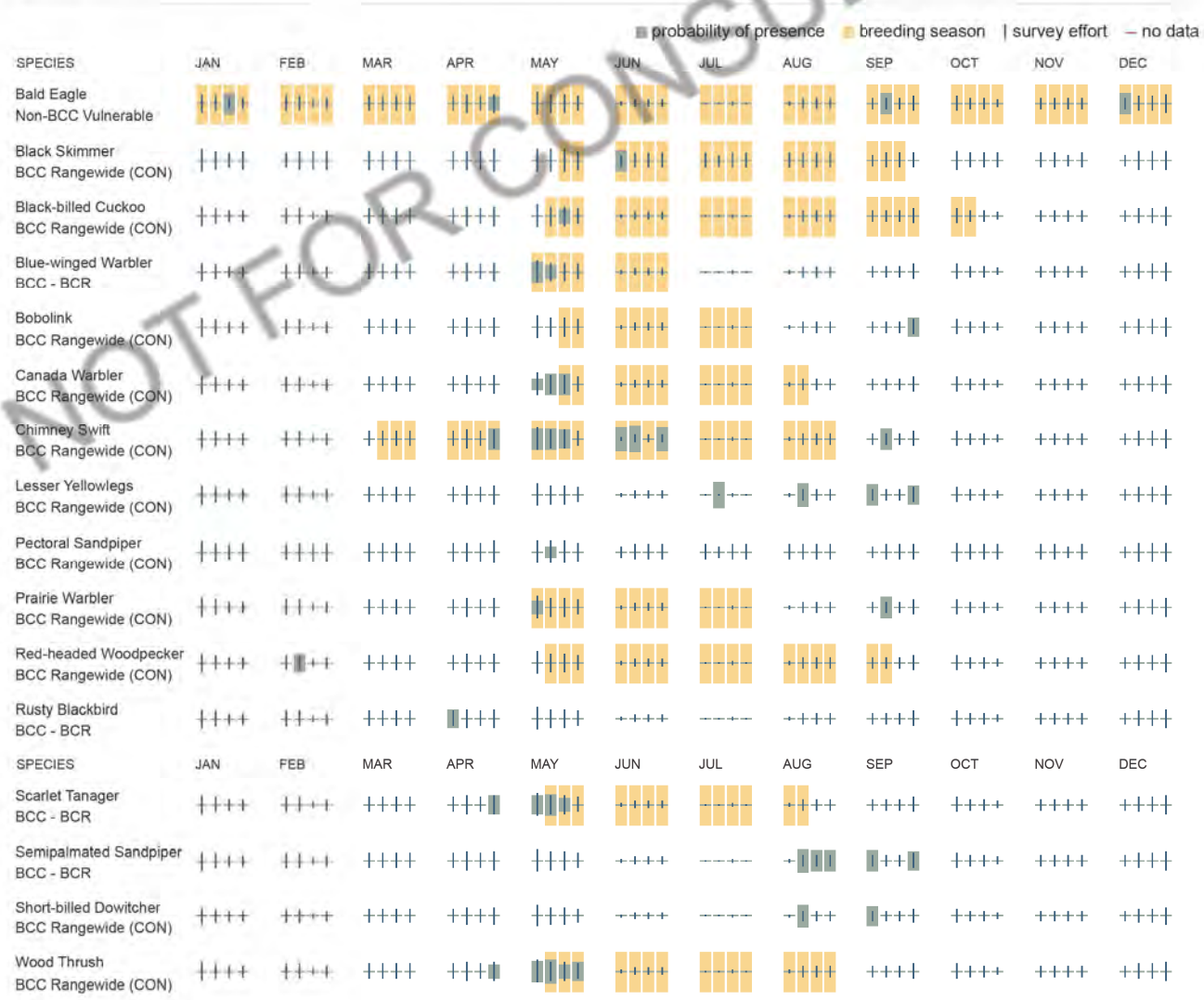
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

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Migratory Bird FAQs

Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Avoidance & Minimization Measures for Birds describes measures that can help avoid and minimize impacts to all birds at any location year-round. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is one of the most effective ways to minimize impacts. To see when birds are most likely to occur and breed in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location, such as those listed under the Endangered Species Act or the Bald and Golden Eagle Protection Act and those species marked as "Vulnerable". See the FAQ "What are the levels of concern for migratory birds?" for more information on the levels of concern covered in the IPaC migratory bird species list.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) with which your project intersects. These species have been identified as warranting special attention because they are BCC species in that area, an eagle (Bald and Golden Eagle Protection Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, and to verify survey effort when no results present, please visit the Rapid Avian Information Locator (RAIL) Tool.

Why are subspecies showing up on my list?

Subspecies profiles are included on the list of species present in your project area because observations in the AKN for **the species** are being detected. If the species are present, that means that the subspecies may also be present. If a subspecies shows up on your list, you may need to rely on other resources to determine if that subspecies may be present (e.g. your local FWS field office, state surveys, your own surveys).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your "IPaC PROBABILITY OF PRESENCE SUMMARY" at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Bald and Golden Eagle Protection Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially BCC species. For more information on avoidance and minimization measures you can implement to help avoid and minimize migratory bird impacts, please see the FAQ "Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Proper interpretation and use of your migratory bird report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a

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lack of certainty about presence of the species. This list does not represent all birds present in your project area. It is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide implementation of avoidance and minimization measures to eliminate or reduce potential impacts from your project activities, should presence be confirmed. To learn more about avoidance and minimization measures, visit the FAQ "Tell me about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Interpreting the Probability of Presence Graphs
Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:
The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

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Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

APPENDIX H.2

National Oceanic and Atmospheric Administration, Essential Fish Habitat Mapper Report

EFH Mapper Report

EFH Data Notice

Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional fishery management councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

Greater Atlantic Regional Office
Atlantic Highly Migratory Species Management Division

Query Results

Degrees, Minutes, Seconds: Latitude = 40° 51' 5" N, Longitude = 75° 56' 21" W
Decimal Degrees: Latitude = 40.851, Longitude = -74.061

The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

*** W A R N I N G ***

Please note under "Life Stage(s) Found at Location" the category "ALL" indicates that all life stages of that species share the same map and are designated at the queried location.

EFH

Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
		Atlantic Butterfish	Larvae	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11
		Atlantic Herring	Adult, Juvenile, Larvae	New England	Amendment 3 to the Atlantic Herring FMP
		Bluefish	Adult, Juvenile	Mid-Atlantic	Bluefish
		Clearnose Skate	Adult, Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
		Little Skate	Adult, Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
		Longfin Inshore Squid	Eggs	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11

Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
		Red Hake	Adult, Eggs/Larvae/Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
		Summer Flounder	Adult, Juvenile, Larvae	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass
		Windowpane Flounder	Adult, Eggs, Juvenile, Larvae	New England	Amendment 14 to the Northeast Multispecies FMP
		Winter Flounder	Eggs, Juvenile, Larvae/Adult	New England	Amendment 14 to the Northeast Multispecies FMP
		Winter Skate	Adult, Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP

Pacific Salmon EFH

No Pacific Salmon Essential Fish Habitat (EFH) were identified at the report location.

Atlantic Salmon

No Atlantic Salmon were identified at the report location.

HAPCs

Link	Data Caveats	HAPC Name	Management Council
		Summer Flounder SAV	Mid-Atlantic Fishery Management Council

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data.
****For links to all EFH text descriptions see the complete data inventory: open data inventory -->**

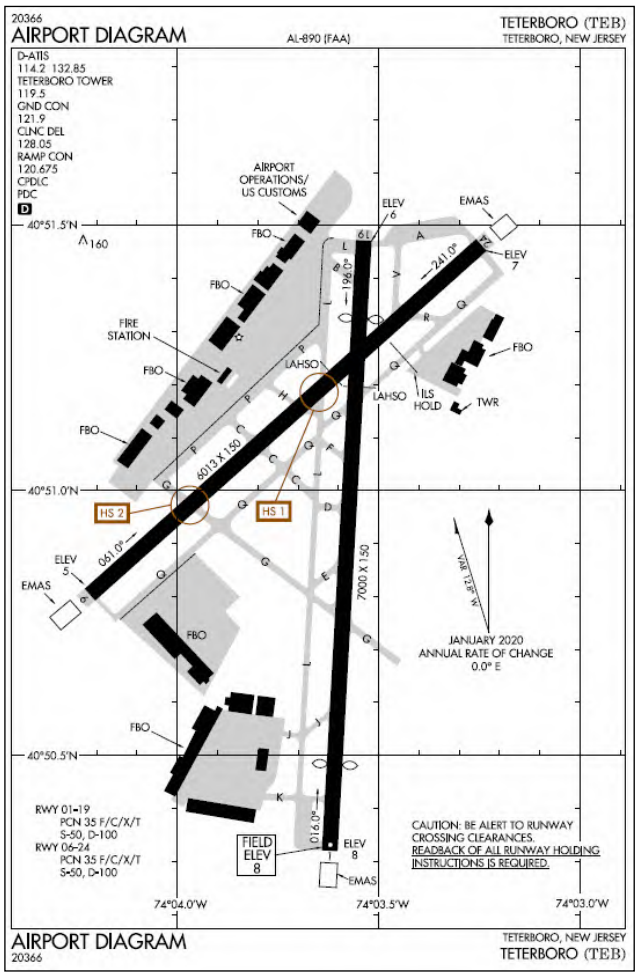
All EFH species have been mapped for the Greater Atlantic region,
Atlantic Highly Migratory Species EFH,
Bigeye Sand Tiger Shark,
Bigeye Sixgill Shark,
Caribbean Sharpnose Shark,
Galapagos Shark,
Narrowtooth Shark,
Sevengill Shark,
Sixgill Shark,
Smooth Hammerhead Shark,
Smalltail Shark

APPENDIX H.3

Tricolored Bat Habitat Assessment

A Habitat Assessment (Phase I Survey) to Determine Habitat Suitability for Tricolored Bat (*Perimyotis subflavus*) at Select Locations within Teterboro Airport

October 5, 2023



Prepared for:
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Prepared by:
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Resource Environmental Solutions
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King of Prussia, PA 19406

EXECUTIVE SUMMARY

A habitat assessment was conducted on July 19, 2023 to determine the habitat suitability for tricolored bat (*Perimyotis subflavus*) at two (2) select locations within the property fence line of the Teterboro Airport (KTEB) Teterboro, Bergen County, New Jersey. The results of this assessment determine there is no suitable *Perimyotis* genus bat habitat present at either Signature East or Signature South. More specifically, the Areas of Interest (AOI) are primarily palustrine emergent wetland dominated by common reed (*Phragmites australis*) with a mosaic of small woody habitats but lacking meaningful tree size and patch density to support a maternal colony of tricolored bats. Signature East woody habitats were early succession silver maple (*Acer saccharinum*), red maple (*Acer rubrum*), grey birch (*Betula populifolia*), black willow (*Salix nigra*), and red oak (*Quercus rubra*) with intermittent shrubs and grasses. The average tree diameter at breast height (DBH) where trees were present was 3-8" and average height was less than 20'. Shrub and herbaceous layers were dominated by invasive plant species. Signature South woody habitats were comprised of a shrub thicket dominated by bayberry (*Myrica pennsylvanica*), highbush blueberry (*Vaccinium corymbosum*), and arrowwood viburnum (*Viburnum dentatum*) ringed in a narrow configuration (determined by hydrology) by hardwood trees including red maple, sweetgum (*Liquidambar styraciflua*), black gum (*Nyssa sylvatica*), and one large/mature individual scarlet oak (*Quercus coccinea*). The average tree diameter at breast height (DBH) where trees were present is 9-15" and average height is 20-50'. Signature South abuts a mature hardwood forest on one side that does qualify as suitable habitat. All other sides abut pavement in service of flight activity (tarmac and taxiways). Onsite hardwood communities at both sites are stunted in growth by a combination of prior land use (grading, stockpiling, etc.), vegetation management (cutting), hydrology, soils (nutrient depauperate), and local environmental conditions (both sites are adjacent to jet airplane parking and taxiing areas that experience significant impacts from jet engine exhaust).

It is highly unlikely that any tree-roosting bat species occupy these two parcels in any season due to unsuitable habitat conditions. Therefore, further studies (ex. acoustic monitoring or mist netting) are not recommended.

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1. Introduction & Project Description

Range-wide, tree-roosting bat populations, such as Indiana bat (*Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), and tricolored bat (*Perimyotis subflavus*) have suffered population declines in recent years (Amelon and Burhans 2006, Cryan et al. 2010, Cryan et al. 2013, Francl et al. 2012). This decline is, in part, due to habitat loss and fragmentation. In addition, the spread of white-nose syndrome (WNS) has resulted in a recent, large decrease in many bat species' populations (including tricolored bat) over a relatively short period (Alves et al. 2014). WNS is an introduced fungus from Europe which agitates bats during aestivation, causing starvation and secondary forms of death. This dramatic population decline has warranted the recent (2022) U. S. Fish and Wildlife Service (USFWS) decision to propose tricolored bats as Threatened under the Federal Endangered Species Act. The contents of this report detail the scientific process used to determine the presence or absence of tricolored bat habitat within 2 distinct locations at Teterboro Airport located in Teterboro, Bergen County, New Jersey.

The project locations are within the known range of tricolored bat. Specifically, the two locations are within the northeast and south-central portions of the airport at Signature East and Signature South (Figures 1 and 2, respectively). Overall, Teterboro Airport is dominated by a cool season grass monoculture and paved areas in support of safe and efficient air traffic operations. Secondarily, the site supports low-grade, tidally influenced drainages and associated wetland habitat types that are concentrated in the southwest and northeast. Three hubs associated with parking (vehicular and airplane) and building infrastructure in the west, northeast, and south central (listed from largest to smallest). Immediately adjacent properties in all directions are densely developed as commercial, industrial, and residential with the exception of the eastern border where a wooded tract exists between the airport and another densely populated residential development. Historically, this region was dominated by a mosaic of low-lying and poorly drained wetlands (open canopied and forested) associated with tidal tributaries. Regionally, Teterboro Airport is within the eastern section of the Piedmont physiographic province less than 5 miles west of upper Manhattan. Proximity to the Inner Coastal Plain physiographic province is evident in both the soils and vegetation found on site.

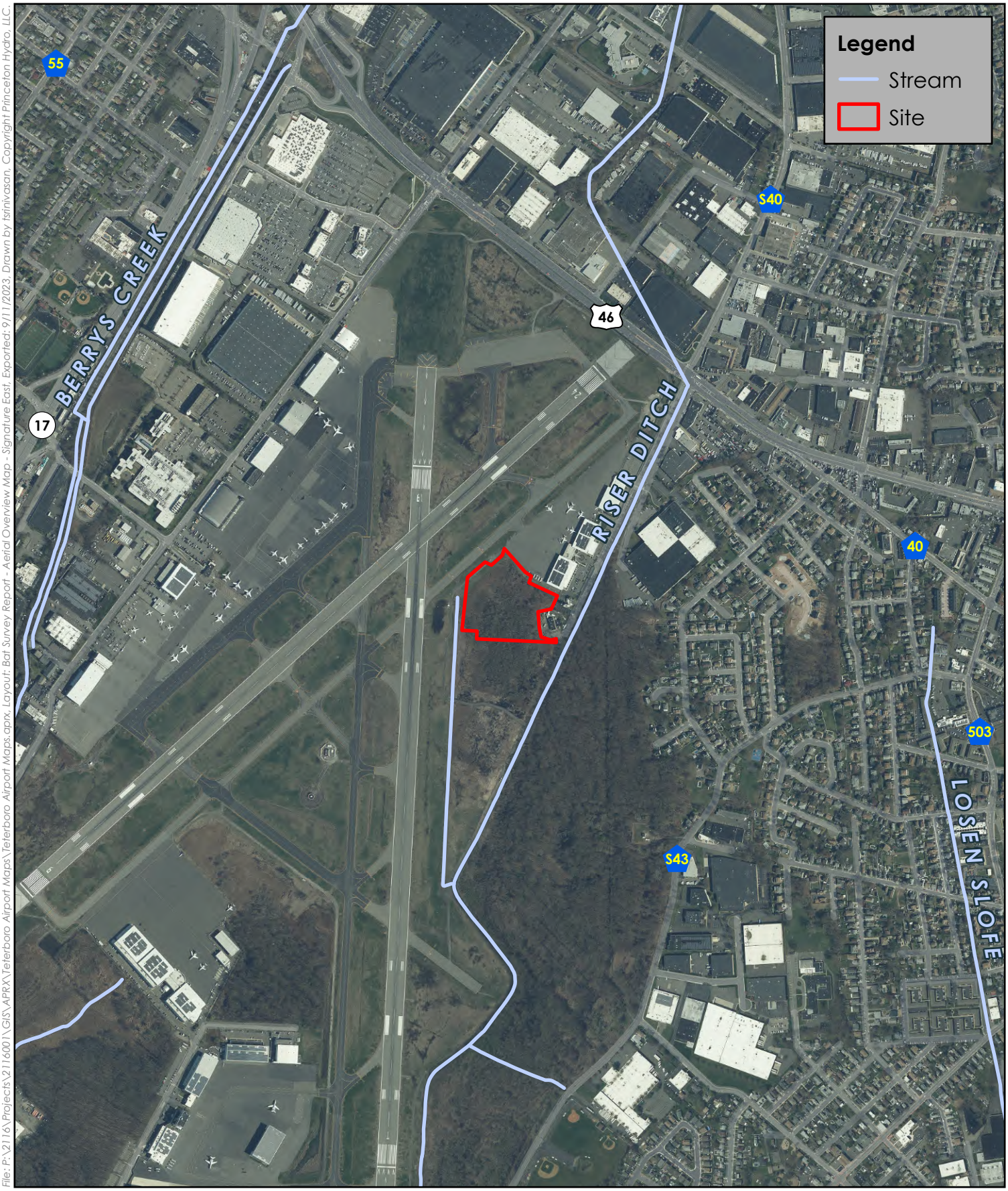
2. Methods

2.1 Habitat Assessment

A habitat assessment was completed on July 19, 2023 to determine if suitable tricolored bat summer (breeding, rearing, foraging) habitat was present on site. The standard USFWS habitat assessment protocol and data sheets found in the 2015 Range-wide Indiana Bat Summer Survey Guidelines (USFWS 2015, link to digital version in citation) was used with modifications to account for differences in tricolored bat habitat preference. Please see Appendix A for original data sheets.

2.2 RES Team

Senior wildlife biologist, Michael McGraw, MES, QAWB, conducted the onsite habitat assessment for the site, data analysis, and report writing. Resumes for key staff are provided in Appendix B.



File: P:\2116\Projects\2116001\GIS\APRX\Teterboro Airport Maps\Teterboro Airport Maps.aprx, Layout: Bat Survey Report - Aerial Overview Map - Signature East, Exported: 9/11/2023, Drawn by tsrinivasan, Copyright Princeton Hydro, LLC.

NOTES:
1. Streams obtained from the United States Geological Survey's (USGS) National Hydrography Dataset (NHD).
2. Site A boundary provided by Signature Flight Support.
3. 2020 orthoimagery and roads obtained from the New Jersey Geographic Information Network.

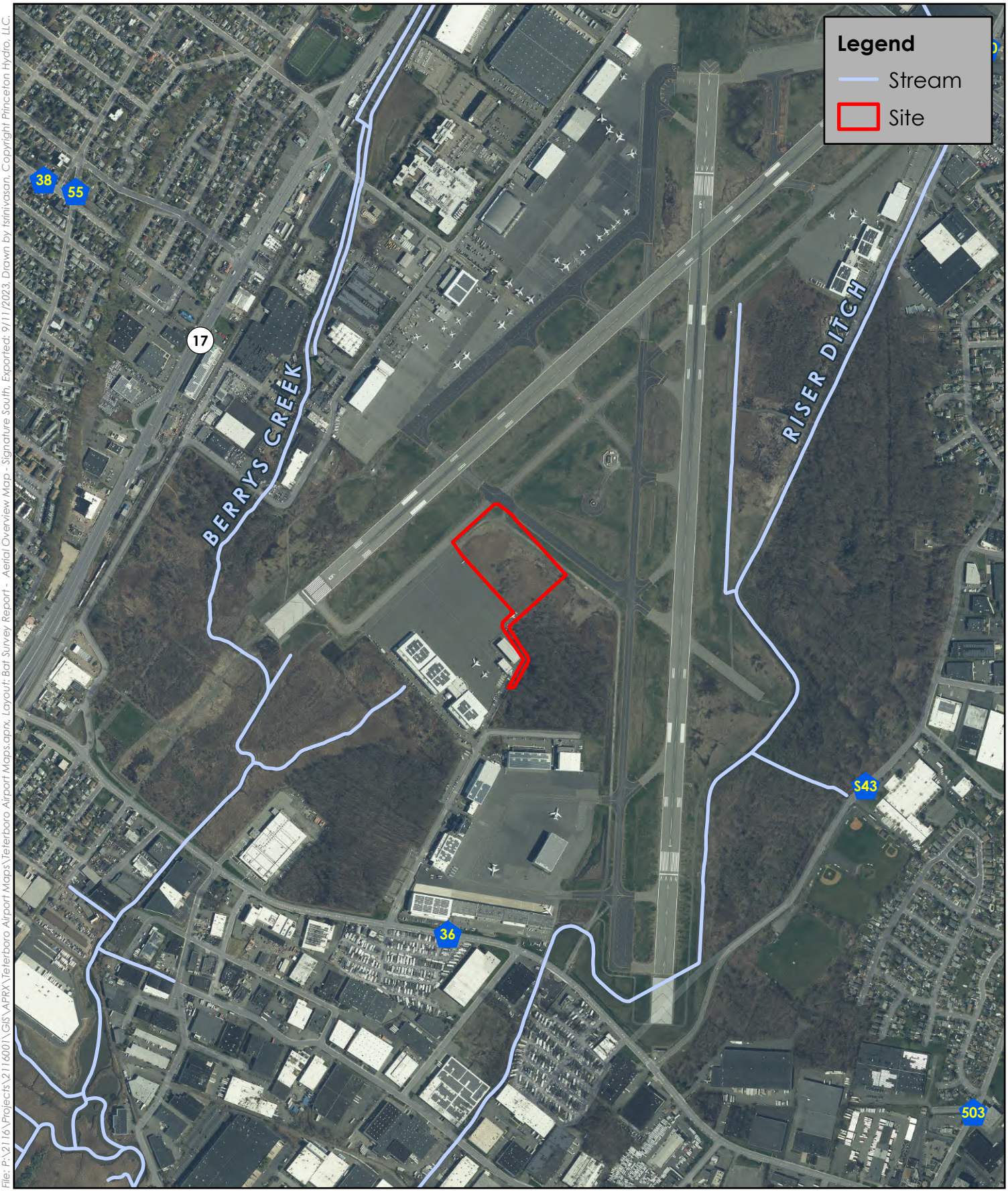
0 500 1,000 Feet

Spatial Reference: NAD 1983 2011 StatePlane New Jersey FIPS 2900 Ft US

Figure 1
AERIAL OVERVIEW MAP
SIGNATURE EAST

SIGNATURE FLIGHT SUPPORT - TETERBORO AIRPORT
TETERBORO AND MOONACHIE BOROUGHS
BERGEN COUNTY, NEW JERSEY

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File: P:\2116\Projects\211600\GIS\APRX\Teterboro Airport Maps\Teterboro Airport Maps.aprx, Layout: Bat Survey Report - Aerial Overview Map - Signature South, Exported: 9/11/2023, Drawn by tsrinivasan, Copyright Princeton Hydro, LLC.

NOTES:
1. Streams obtained from the United States Geological Survey's (USGS) National Hydrography Dataset (NHD).
2. Site B boundary provided by Signature Flight Support.
3. 2020 orthoimagery and roads obtained from the New Jersey Geographic Information Network.

0 500 1,000 Feet

Spatial Reference: NAD 1983 2011 StatePlane New Jersey FIPS 2900 Ft US

Figure 2
AERIAL OVERVIEW MAP
SIGNATURE SOUTH

SIGNATURE FLIGHT SUPPORT - TETERBORO AIRPORT
TETERBORO AND MOONACHIE BOROUGHS
BERGEN COUNTY, NEW JERSEY

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3. Results

3.1 Habitat Assessment

KTEB is located within the Piedmont province in a relatively low and flat area that has been densely developed and populated. The region was historically dominated by tidally-influenced tributaries and expansive lowland and wetland forest, shrubland, and meadows. Historically, soils were (typically) mucky peat over muck and deep sandy deposits, as evidenced by nearby natural areas and onsite relicts. The actual airport property is comprised nearly exclusively of manmade soils (Udorthents) that were likely a function of filling and grading during original construction of the airport (or even earlier related to farming).

Phase 1 Summer Habitat Assessment data sheets were completed at a total of 8 locations (5 at Signature East, 3 at Signature South) to develop a composite assessment. Below are subsections specific to each site.

Signature East - Vegetation is approximately 50% grey birch/red maple successional forested wetland, 20% scrub/shrub wetland, 15% common reed dominated wetland, 10% maintained lawn wetland and upland, and 5% Japanese knotweed wetland and upland. Tree age in the canopy appears consistent throughout the site (5-25yr). Canopy height averages less than 20'. Understory density varies from non-existent in regularly flooded areas under tree canopy to dense thickets of invasive common reed (*Phragmites australis*) in open herbaceous wetlands. Shrub community present along margins of the two habitat types and is dominated by sumac (*Rhus typhina*), wineberry (*Rubus phoenicolasius*), multiflora rose (*Rosa multiflora*) and vines such as oriental bittersweet (*Celastrus orbiculatus*) and a grape species (*Vitis* sp.). The site is underlain by manmade soils (Udorthent indicated as UdwB) (Figure 3).



Figure 3. Soils map of Signature East. Source - USDA Web Soil Survey.

Table 1. Plant Species Observed at Signature East during Phase I Summer Bat Habitat Assessment.

Trees		**Shrubs and Vines**		**Groundstory**	
Scientific Name	Common Name	Scientific Name	Common Name	Scientific Name	Common Name
Quercus rubra	red oak	*Rhus typhina*	sumac	*Phragmites australis*	common reed
Acer saccharinum	silver maple	*Rubus phonesicolasius*	wineberry	*Solidago canadensis*	Canada goldenrod
Acer rubrum	red maple	*Rosa multiflora*	multiflora rose	*Artemesia vulgaris*	mugwort
Salix nigra	black willow	*Vaccinium corybosum*	highbush blueberry	*Fallopia japonica*	Japanese knotweed
Populus deltoides	cottonwood	*Ampelopsis brevipedunculata*	porcelain berry	*Apocynum cannabinum*	dogbane
Prunus serotina	black cherry	*Viburnum dentatum*	arrowwood viburnum	*Cirsium arvense*	Canada thistle
Betula lenta	sweet birch	*Vitis species*	a grape vine	*Lythrum salicaria*	purple loosestrife
Betula populifolia	gray birch			*Erigeron anuus*	daisy fleabane
				Oenothera biennis	evening primrose
				Triflorum rubra	red clover

Trees		Shrubs and Vines		Groundstory	
Scientific Name	Common Name	Scientific Name	Common Name	Scientific Name	Common Name
				Plantago lanceolata	plantain
				Lotus corniculatus	birdsfoot trefoil
				Panicum virgatum	switchgrass
				Aclepias syriaca	common milkweed

Signature East is situated between an active taxiway (west), jet airplane parking (north), contiguous/similar habitat (south) and an airplane museum (east). Just east of the museum is a small but functional woodlot with mature second growth hardwood trees.

Signature South – Vegetation is approximately 80% common reed dominated wetland, 15% red/maple pin oak successional forested wetland, and 5% degraded emergent wetland. The open herbaceous community is dominated by a near monoculture of the invasive common reed. The shrub thicket is mature (8-18' tall) and dominated by bayberry (*Myrica pennsylvanica*) and highbush blueberry (*Vaccinium corymbosum*) with arrowwood viburnum (*Viburnum dentatum*) and multiflora rose (*Rosa multiflora*) present as well. The narrow ring of trees that buffers the shrub thicket is comprised of only about 15 individual trees representing 5 species (largely indicative of a coastal plain forest). Understory within the wooded sections varies from sparse to moderate density and comprised of mainly shade-tolerant obligate and facultative wetland plant species (see Table 2). USDA Web Soil survey indicates a portion (~50%) of Signature South is underlain by a native hydric soil of the Westbrook, Ipswitch, and Sandyhook Series (indicated as TrkAv (Figure 3). This is a Typic Sulfihemist which is a muck soil (Histosol) over loamy/sandy marine deposits that historically experienced tidal inundation. The remainder is underlain by manmade soils (Udorthent indicated as UdwB).

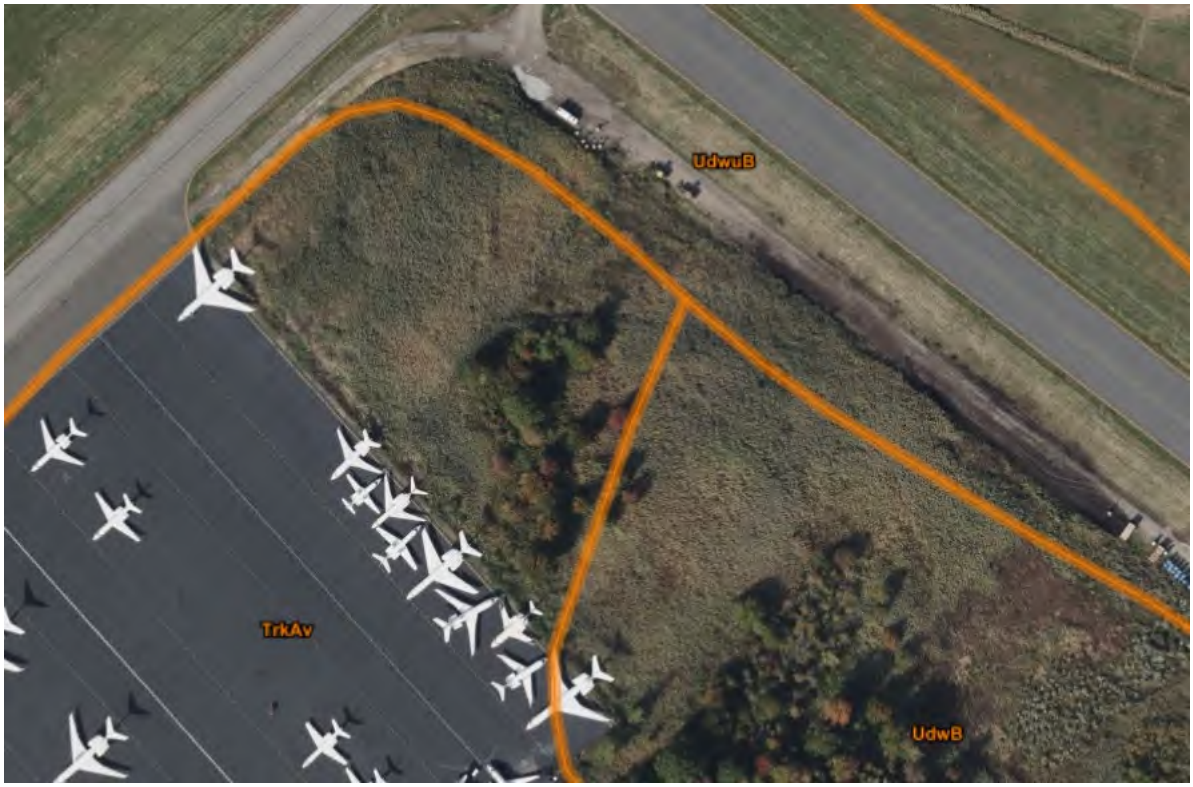


Figure 4. Soils map of Signature South. Source - USDA Web Soil Survey

Table 2. Plant Species Observed at Signature South during Phase I Summer Bat Habitat Assessment.

Trees		**Shrubs and Vines**		**Groundstory**	
Scientific Name	Common Name	Scientific Name	Common Name	Scientific Name	Common Name
Acer rubrum	red maple	*Myrica pennsylvanica*	bayberry	*Phragmites australis*	common reed
Liquidambar styraciflua	sweetgum	*Rosa multiflora*	multiflora rose	*Solidago canadensis*	Canada goldenrod
Magnolia virginiana	sweetbay magnolia	*Vaccinium corybosum*	highbush blueberry	*Solidago rugosa*	gray goldenrod
Nyssa sylvatica	sweet gum	*Ampelopsis brevipedunculata*	porcelain berry	*Solidago sempervirens*	seaside goldenrod
Quercus coccinea	scarlet oak	*Viburnum dentatum*	arrowwood viburnum	*Artemesia vulgaris*	mugwort
Populaus deltoides	cottonwood	*Vitis species*	a grape vine	*Fallopia japonica*	Japanese knotweed
		Rhus typhina	sumac	*Apocynum cannabinum*	dogbane
		Toxicodendron radicans	poison ivy	*Cirsium arvense*	Canada thistle
		Parthenocissus quinquefolia	Virginia creeper	*Lythrum salicaria*	purple loosestrife

Trees		Shrubs and Vines		Groundstory	
Scientific Name	Common Name	Scientific Name	Common Name	Scientific Name	Common Name
				Erigeron anuus	daisy fleabane
				Oenothera biennis	evening primrose
				Trifolium rubra	red clover
				Plantago lanceolata	plantain
				Securigera varia	crown vetch
				Poa pratensis	Kentucky bluegrass
				Panicum virgatum	switchgrass
				Asclepias syriaca	common milkweed
				Vernonia novaeboracensis	NY ironweed
				Microstegium vimineum	Japanese stilt grass
				Eupatorium serotinum	late thoroughwort

Signature South is situated between an active taxiway and runway (west/northwest), jet airplane parking (south/southwest), taxiways and lawn (north) and a mature woodlot (east/southeast).

4. Discussion

Both sites are comprised significantly of open canopied palustrine emergent marsh which are dominated by the invasive plant common reed. Sections of each site where trees are growing do not meet the criteria for suitable roosting habitat for tricolored bat. For Signature East, the trees are too small (in DBH and tree height), sparsely arranged (not a cohesive woodlot unit), and the overall patch size is also too small. Further, there are a paucity of trees, such as oaks, that provide dense leaf clusters preferred by maternal tricolored bats. For Signature South, the trees are larger, but there are very few. Just one individual tree fits the description of a possible roost tree (lone, mature, second-growth scarlet oak), but this tree stands alone and, therefore, is not a suitable or typical habitat condition.

Signature East is not directly adjacent to any suitable habitat, but there is suitable habitat less than 100m to the east. This is a mature hardwood woodlot that meets the criteria for suitable tricolored bat habitat (and other tree-roosting bat species). Signature South is directly adjacent to a smaller but equally suitable habitat patch located off the property. Both of these nearby locations are comprised of a closed-canopy, mature, second-growth hardwood tree stand that averages live tree DBH over 15" and canopy height that averages >50'. These woodlots are separated by a runway (RWY 1/19).

Both have critical habitat features such as dead snags and oak trees with preferred terminal and interior leaf clusters.

The proposed conversion of Signature East and Signature South will not adversely impact any extant tricolored bat populations since no maternal roost habitat is present. Foraging potential at each site is low (no open water and dominated by invasive species which are documented to support less diversity and biomass of insects).

Additionally, the habitat in each site (as it exists) poses a threat to flight safety as a significant wildlife attractant for various breeding passerine and, most importantly, as a roosting location for flocking blackbirds in July, August, and September (post-breeding and migration). Onsite phragmites-dominated wetlands are supporting nesting habitat for red-winged blackbirds and foraging habitat for a variety of birds, including swallows and, potentially, waterfowl in certain seasons. Adjacent trees and shrubs are suitable roosting areas for large flocks of blackbirds (a collective term for starlings, grackles, cowbirds, and blackbirds) which are known to cause significant hazards for flight safety (AC150/5200-38 Appendix A). Signature East is in close proximity to a runway, and during site visits large flocks of European starlings, red-winged blackbirds, and American robins were observed traveling to and from the site into the runway, nearby taxiways, and low-cut grasses in the AOA foraging and seeking refugia. The removal of these habitats in support of this project will notably increase flight safety by virtue of separation criteria (provided any future site development follows existing guidance for minimizing wildlife attractants per CFR 139.337 and AC150/5200-38).

5. Conclusion

This survey effort did not detect suitable tricolored bat habitat (per USFWS 2015) at Signature East or Signature South at Teterboro Airport, Teterboro, Bergen County, New Jersey. RES does not recommend further population studies since no suitable habitat was detected.

6. Literature

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Amelon, S. and D. Burhans. 2006. Conservation assessment: *Myotis septentrionalis* (northern long-eared bat) in the eastern United States. Pages 69-82 in Conservation assessments for five forest bat species in the eastern United States, Thompson, F. R., III, editor. U.S. Department of Agriculture, Forest Service, North Central Research Station, General Technical Report NC-260. St. Paul, Minnesota.

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United States Fish and Wildlife Service. 2015. 2015 Range Wide Indiana Bat Summer Survey Guidelines.http://www.fws.gov/midwest/endangered/mammals/inba/surveys/pdf/2015IndianaBatSummerSurveyGuidelines01April2015.pdf

7. Appendices

A– Phase I Summer Habitat Assessment data sheets and habitat map

B – RES Team Resume



Image 1. Signature East PEM dominated by common reed (Phragmites australis) with ring of cattail and sedges.



Image 2. Signature East successional woodland transitional zone dominated by Japanese knotweed (*Phalaris arundinacea*) with young maple/birch woodland in the background.



Image 3. Image from within the successional maple/birch woodland at Signature East.



Image 4. Edge of common reed (*Phragmites australis*) dominated PEM. The margin had additional species such as common milkweed (*Asclepias syriaca*).



Image 5. Shrub-dominated wetland and ring of hardwood trees within Signature South.



Image 6. Narrow strip of early successional woodland within Signature South.



Image 7. Image of mature second growth mixed hardwood woodland offsite but directly adjacent to Signature South. This is suitable tricolored bat habitat.

A1

APPENDIX A: PHASE 1 HABITAT ASSESSMENTS

Site A

BAT HABITAT ASSESSMENT DATASHEET

Project Name: Teterboro Airport Date: 7/19/23

Township/Range/Section:

Lat Long/UTM/ Zone: Surveyor: MJ/E

Brief Project Description

Proposed Hangar Expansion area
(clearing naturalized area

Project Area

	Total Acres	Forest Acres	Open Acres
Project	20	20* mostly scrubby	

Proposed Tree Removal (ac)	Completely cleared	Partially cleared (will leave trees)	Preserve acres- no clearing
	✓		

Vegetation Cover Types

Pre-Project	Post-Project
Early succession see plant species on back Young trees + Field	cleared/paved/developed

Landscape within 5 mile radius

Flight corridors to other forested areas?

to the East

Describe Adjacent Properties (e.g. forested, grassland, commercial or residencial development, water sources)

Airport + Hangars + pavement on all sides except to the east

Proximity to Public Land

What is the distance (mi.) from the project area to forested public lands (e.g., national or state forests, national or state parks, conservation areas, wildlife management areas)?

TBD

Is ya the berm was added (spoil from other Project

A1

APPENDIX A: PHASE 1 HABITAT ASSESSMENTS

Use additional sheets to assess discrete habitat types at multiple sites in a project area

Include a map depicting locations of sample sites if assessing discrete habitats at multiple sites in a project area

A single sheet can be used for multiple sample sites if habitat is the same

Sample Site Description

Sample Site No.(s): A1

Water Resources at Sample Site

Stream Type (# and length)	Ephemeral	Intermittent	Perennial	Describe existing condition of water sources
Pools/Ponds (# and size)	1 (100 sqft)	Open and accessible to bats? Y		
Wetlands (approx. ac.)	Permanent	Seasonal	see WL DELN	

Forest Resources at Sample Site

	Canopy (> 50')	Midstory (20-50')	Understory (<20')	1=1-10%, 2=11-20%, 3=21-40%, 4=41-60%, 5=61-80%, 6=81-100%
Closure/Density	0	0	3	
Dominant Species of Mature Trees	SAL NIG, ACE SOL, JUG NIG, QUE RUB			
% Trees w/ Exfoliating Bark	0	0	0	
Size Composition of Live Trees (%)	Small (3-8 in)	Med (9-15 in)	Large (>15 in)	
	80	20	0	
No. of Suitable Snags	0	0	0	

Standing dead trees with exfoliating bark, cracks, crevices, or hollows. Snags without these characteristics are not considered suitable.

IS THE HABITAT SUITABLE FOR INDIANA BATS? NO

IS THE HABITAT SUITABLE FOR NORTHERN LONG-EARED BATS? NO

" " Tricolored NO

Additional Comments:

shrub, young trees in linear row behind berm + berm - berm in herbaceous comm.

Attach aerial photo of project site with all forested areas labeled and a general description of the habitat

Photographic Documentation: habitat shots at edge and interior from multiple locations; understory/midstory/canopy; examples of potential suitable snags and live trees; water sources



SAL NG
ACE SAC (silver)
ACE rub
QUE rub
TOP DEL

VIT SPP (3)

✓ AIT VUL (2)
✓ LYT SOL (2)
✓ FOL JAP (3)
✓ SOL CAN (2)
✓ APO CAN (2)
✓ ONO BIE (3)
✓ PHT AUS (3)
✓ ERI ANN (1)
✓ TRI rub (1)
✓ CIT ARV (2)
✓ PLA LAN (2)
Rinds tutorial
✓ (LOT COR) (2)

✓ PAN VIR (1)
✓ ASC SYR (1)

RTH TYP

AMRO
CHSW
ROP1
CUST → Hacking
BARS
RUBL
COGR

Spotted butterfly
disgusting SP.

TRES
NEWS
COVE
GRCA

APPENDIX A: PHASE 1 HABITAT ASSESSMENTS

Use additional sheets to assess discrete habitat types at multiple sites in a project area
Include a map depicting locations of sample sites if assessing discrete habitats at multiple sites in a project area
A single sheet can be used for multiple sample sites if habitat is the same

Sample Site Description
Sample Site No.(s): A2 Phrg Patch

Water Resources at Sample Site				
Stream Type (# and length)	Ephemeral	Intermittent	Perennial	Describe **existing** condition of **water** sources: Phrg near-mature
Pools/Ponds (# and size)	1 (3-5ac)	Open and accessible to bats? NO		
Wetlands (approx. ac.)	Permanent	Seasonal		

Forest Resources at Sample Site				
Closure/Density	Canopy (> 50')	Midstory (20-50')	Understory (<20')	1=1-10%, 2=11-20%, 3=21-40%, 4=41-60%, 5=61-80%, 6=81-100%
Dominant Species of Mature Trees				
% Trees w/ Exfoliating Bark				
Size Composition of Live Trees (%)	Small (3-8 in)	Med (9-15 in)	Large (>15 in)	
No. of Suitable Snags				

Standing dead **trees** with exfoliating bark, cracks, crevices, or hollows. Snags without these characteristics are not considered suitable.

IS THE HABITAT SUITABLE FOR INDIANA BATS? _____

IS THE HABITAT SUITABLE FOR NORTHERN LONG-EARED BATS? _____

Additional Comments:
VAC CUR TYPLAT ONO SEN
LYT SQL yellow mist edge VIB DEN
ERP SER SCH SPP.
VER NOV
CIR ARV
PER SP. POR celastrus berry

Attach aerial photo of project site with all forested areas labeled and a general description of the habitat

Photographic Documentation: habitat shots at edge and interior from multiple locations; understory/midstory/canopy; examples of potential suitable snags and live trees; water sources



APPENDIX A: PHASE 1 HABITAT ASSESSMENTS

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Sample Site Description
Sample Site No.(s): AB — wooded area

Water Resources at Sample Site				
Stream Type (# and length)	Ephemeral	Intermittent	Perennial	Describe existing condition of water sources:
Pools/Ponds (# and size)		Open and accessible to bats?		
Wetlands (approx. ac.)	Permanent	Seasonal		

Forest Resources at Sample Site				
Closure/Density	Canopy (> 50')	Midstory (20-50')	Understory (<20')	1=1-10%, 2=11-20%, 3=21-40%, 4=41-60%, 5=61-80%, 6=81-100%
	0	5(1)	95(6)	
Dominant Species of Mature Trees				
% Trees w/ Exfoliating Bark				
Size Composition of Live Trees (%)	Small (3-8 in)	Med (9-15 in)	Large (>15 in)	
No. of Suitable Snags				

Standing dead trees with exfoliating bark, cracks, crevices, or hollows. Snags without these characteristics are not considered suitable.

GRCA
COYE
CHSW
PUBL
AMRO

IS THE HABITAT SUITABLE FOR INDIANA BATS? NO

IS THE HABITAT SUITABLE FOR NORTHERN LONG-EARED BATS? NO

TCB NO

Additional Comments:

LIQ STY RUB PHD
VIT SP. BET LEN
SAL NIG PRU SER
ACE RUB ~~PHRAGLA~~
QUE COC - common in this

habitat is poor, scrubby w/ mix of mostly low quality early succession hardwood trees

DAU CAR

Attach aerial photo of project site with all forested areas labeled and a general description of the habitat

Photographic Documentation: habitat shots at edge and interior from multiple locations; understory/midstory/canopy; examples of potential suitable snags and live trees; water sources



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Sample Site Description	
Sample Site No.(s):	A4 small pond

Water Resources at Sample Site				
Stream Type (# and length)	Ephemeral	Intermittent	Perennial	Describe **existing** condition of **water** sources: phrag ditch stormwater capture
Pools/Ponds (# and size)	2 / 100ft²	Open and accessible to bats?		
Wetlands (approx. ac.)	Permanent	Seasonal		

Forest Resources at Sample Site				
Closure/Density	Canopy (> 50')	Midstory (20-50')	Understory (<20')	1=1-10%, 2=11-20%, 3=21-40%, 4=41-60%, 5=61-80%, 6=81-100%
Dominant Species of Mature Trees	None			
% Trees w/ Exfoliating Bark	—	—	—	
Size Composition of Live Trees (%)	Small (3-8 in)	Med (9-15 in)	Large (>15 in)	
No. of Suitable Snags				

Standing dead trees with exfoliating bark, cracks, crevices, or hollows. Snags without these characteristics are not considered suitable.

IS THE HABITAT SUITABLE FOR INDIANA BATS? NO

IS THE HABITAT SUITABLE FOR NORTHERN LONG-EARED BATS? NO

TCB? Yes*

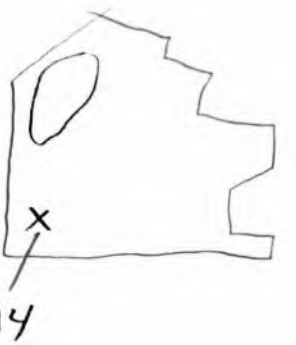
Additional Comments:

C. p picta
Rel Rel
Phr AUS
ros mul

Poor foraging habitat for TCB

Attach aerial photo of project site with all forested areas labeled and a general description of the habitat

Photographic Documentation: habitat shots at edge and interior from multiple locations; understory/midstory/canopy; examples of potential suitable snags and live trees; water sources



APPENDIX A: PHASE 1 HABITAT ASSESSMENTS

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Sample Site Description	
Sample Site No.(s):	A5 Young HW WOODLOT

Water Resources at Sample Site				
Stream Type (# and length)	Ephemeral	Intermittent	Perennial	Describe existing condition of water sources
Pools/Ponds (# and size)	NONE	Open and accessible to bats?		
Wetlands (approx. ac.)	Permanent	Seasonal		

Forest Resources at Sample Site				
Closure/Density	Canopy (> 50')	Midstory (20-50')	Understory (<20')	1=1-10%, 2=11-20%, 3=21-40%, 4=41-60%, 5=61-80%, 6=81-100%
	0	1	6	
Dominant Species of Mature Trees	No mature trees			
% Trees w/ Exfoliating Bark	N/A			
Size Composition of Live Trees (%)	Small (3-8 in)	Med (9-15 in)	Large (>15 in)	
	50	20	0	
No. of Suitable Snags				

Standing dead **trees** with exfoliating bark, cracks, crevices, or hollows. Snags without these characteristics are not considered suitable.

IS THE HABITAT SUITABLE FOR INDIANA BATS? NO

IS THE HABITAT SUITABLE FOR NORTHERN LONG-EARED BATS? NO
TCB? – NO

Additional Comments:

Mesic, early succession
Intermittent clearings
ACE RUB, ACE SAL / ULMA
BET LEN
few QUE COC, POP DEL

Attach aerial photo of project site with all forested areas labeled and a general description of the habitat

Photographic Documentation: habitat shots at edge and interior from multiple locations; understory/midstory/canopy; examples of potential suitable snags and live trees; water sources



Site B

BAT HABITAT ASSESSMENT DATASHEET

Project Name: Peterbuilt Airport (South) Date: 7/19/23

Township/Range/Section:

Lat Long/UTM/ Zone: Surveyor: MJM / EJZ

Brief Project Description

Proposed Hangar Expansion

Project Area

	Total Acres	Forest Acres	Open Acres
Project	9.52	~2	7.5

Proposed Tree Removal (ac)	Completely cleared	Partially cleared (will leave trees)	Preserve acres- no clearing
	100%	—	—

Vegetation Cover Types

Pre-Project	Post-Project
PEM phrag + HW wetland	developed

SOSP
GRCA
COYE
RWBL
MODO

Landscape within 5 mile radius

Flight corridors to other forested areas?

yes

Describe Adjacent Properties (e.g. forested, grassland, commercial or residencial development, water sources)

HW Forest to the ESE otherwise airport infrastructure

Proximity to Public Land

What is the distance (mi.) from the project area to forested public lands (e.g., national or state forests, national or state parks, conservation areas, wildlife management areas)?

TBD



APPENDIX A: PHASE 1 HABITAT ASSESSMENTS

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Sample Site Description
Sample Site No.(s): B1 SE corner by lot

Water Resources at Sample Site				
Stream Type (# and length)	Ephemeral	Intermittent	Perennial	Describe **existing** condition of **water** sources:
Pools/Ponds (# and size)		Open and accessible to bats?		
Wetlands (approx. ac.)	Permanent	Seasonal	See WL DELN	
		7.5/100% PHRAUS		

Forest Resources at Sample Site				
Closure/Density	Canopy (> 50')	Midstory (20-50')	Understory (<20')	1=1-10%, 2=11-20%, 3=21-40%, 4=41-60%, 5=61-80%, 6=81-100%
	NA			
Dominant Species of Mature Trees	— NA —			
% Trees w/ Exfoliating Bark	NA			
Size Composition of Live Trees (%)	Small (3-8 in)	Med (9-15 in)	Large (>15 in)	
No. of Suitable Snags				

Standing dead trees with exfoliating bark, cracks, crevices, or hollows. Snags without these characteristics are not considered suitable

PHR AUS 5
PRUN CER 1
SOL CAN 2
PAW TYP 1
POP DEL 1
EUP SER 1
EUT GRA 1

IS THE HABITAT SUITABLE FOR INDIANA BATS? NO

IS THE HABITAT SUITABLE FOR NORTHERN LONG-EARED BATS? NO

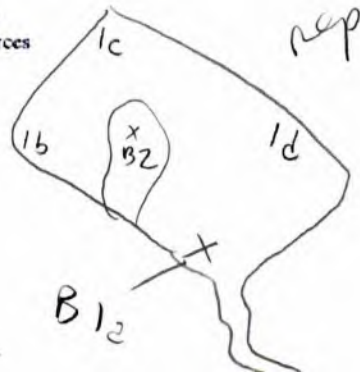
NO

Additional Comments:
Open phrag mono culture

SWSP

Attach aerial photo of project site with all forested areas labeled and a general description of the habitat

Photographic Documentation: habitat shots at edge and interior from multiple locations; understory/midstory/canopy; examples of potential suitable snags and live trees; water sources



represents 1a, 1b, 1c, 1d

APPENDIX A: PHASE 1 HABITAT ASSESSMENTS

Use additional sheets to assess discrete habitat types at multiple sites in a project area

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A single sheet can be used for multiple sample sites if habitat is the same

Sample Site Description	
Sample Site No.(s): BZ	small wooded patch, N phrag

Water Resources at Sample Site				
Stream Type (# and length)	Ephemeral	Intermittent	Perennial	Describe existing condition of water sources: No standing water
Pools/Ponds (# and size)		Open and accessible to bats?		
Wetlands (approx. ac.)	Permanent: PSS/PFO ~2 AC	Seasonal		

Forest Resources at Sample Site				
Closure/Density	Canopy (> 50')	Midstory (20-50')	Understory (<20')	1=1-10%, 2=11-20%, 3=21-40%, 4=41-60%, 5=61-80%, 6=81-100%
	0	40	60	
Dominant Species of Mature Trees	LIQ STY, ACE RUB			
% Trees w/ Exfoliating Bark	0	0	0	
Size Composition of Live Trees (%)	Small (3-8 in)	Med (9-15 in)	Large (>15 in)	
	0	5	1	
No. of Suitable Snags				

Standing dead trees with exfoliating bark, cracks, crevices, or hollows. Snags without these characteristics are not considered suitable.

marginally suitable (1 oak)

IS THE HABITAT SUITABLE FOR INDIANA BATS? NO

IS THE HABITAT SUITABLE FOR NORTHERN LONG-EARED BATS? NO

TCB NOT

no dead/loose clusters of hollow or cavity trees

Additional Comments:

ACE RUB
LIQ STY
MAC VIR

'ring' of mature trees around VAC COR PSS — 10' tall

really only about 15 ind. trees

1 large Oak Tree (QUE COC

ACE RUB
LIQ STY
MAC VIR
MYS SYL

Attach aerial photo of project site with all forested areas labeled and a general description of the habitat

MONARCH

SOS P
GRCA

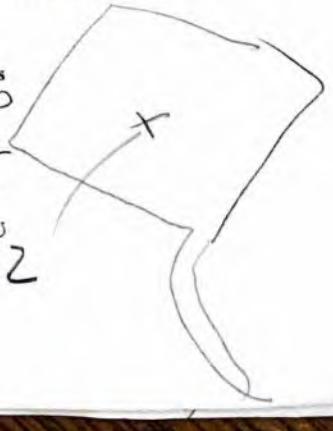
MYR PEN
VAC COR
VIB DEN
TOX RAD
SOL RUG
SOL SEM
SOL RUG/CON
MIC VIM

Photographic Documentation: habitat shots at edge and interior from multiple locations; understory/midstory/canopy; examples of potential suitable snags and live trees; water sources

Porcelain Berry
PAR QUI
POA PRA
PHR AUS
LIT SAL

on edge
ASC SYR
VER NOV
EUP SER
PAN VIR
MULLEIN
crown vetch
APO CAN

SETFAB
ARTVUL
PLALAN
GLOSMO
BZ



APPENDIX A: PHASE 1 HABITAT ASSESSMENTS

Use additional sheets to assess discrete habitat types at multiple sites in a project area

Include a map depicting locations of sample sites if assessing discrete habitats at multiple sites in a project area
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Sample Site Description
Sample Site No.(s): B3 edge woods strip

Water Resources at Sample Site				
Stream Type (# and length)	Ephemeral	Intermittent	Perennial	Describe existing condition of water sources
Pools/Ponds (# and size)		Open and accessible to bats?		
Wetlands (approx. ac.)	Permanent	Seasonal		

Forest Resources at Sample Site				
Closure/Density	Canopy (> 50')	Midstory (20-50')	Understory (<20')	1=1-10%, 2=11-20%, 3=21-40%, 4=41-60%, 5=61-80%, 6=81-100%
	6	3	4	
Dominant Species of Mature Trees	Bet POP			
% Trees w/ Exfoliating Bark				
Size Composition of Live Trees (%)	Small (3-8 in)	Med (9-15 in)	Large (>15 in)	
No. of Suitable Snags				

Standing dead trees with exfoliating bark, cracks, crevices, or hollows. Snags without these characteristics are not considered suitable.

IS THE HABITAT SUITABLE FOR INDIANA BATS? NO

IS THE HABITAT SUITABLE FOR NORTHERN LONG-EARED BATS? NO NO TCB

Additional Comments:

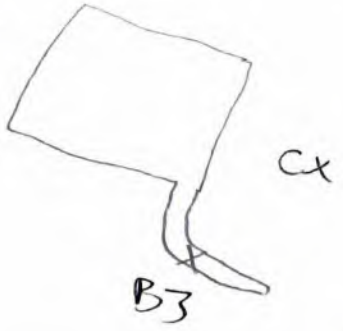
Bet POP - dominated w/ heavy cel orb tangle (PRU SER + PRU AV)

cel orb
FAL JAP
PRU SER
Bet POP
LIQ STY
(large
MOR ALB
LOW MA

Attach aerial photo of project site with all forested areas labeled and a general description of the habitat

Photographic Documentation: habitat shots at edge and interior from multiple locations; understory/midstory/canopy; examples of potential suitable snags and live trees; water sources

see other side for offsite habitat description (CX)



mature, 2nd growth HW forest

most mature trees are Que rub/coc

some snags present

mostly mid canopy + 9-15" in dbh

but 30% large/50'+ + >15" dbh

(suitable habitat

TCB? yes

myotis? yes



Mike McGraw, MES, QAWB, ACE

Senior Wildlife Biologist | Ecologist | Pennsylvania Branch Manager

Michael McGraw is a Wildlife Biologist and Ecologist. Since 2002, Michael has performed an extensive variety of reptile, amphibian, and avifaunal surveys in the Eastern and Midwestern U.S. with a strong emphasis on endangered, threatened, and species of concern. Beyond survey and research, his work as a consulting scientist includes project design, permitting, project management, and client relations, as well as writing technical reports and proposals.

Michael is currently managing numerous projects and functioning as a lead biologist on a variety of RES projects, including wildlife surveys, ecological assessments, threatened and endangered species surveys, population biology research, wetland mitigation, sensitive habitat restoration, FAA-mandated wildlife hazard management plans for airports, land management and site master planning, and energy development projects.

AT A GLANCE

Contact
mmcgraw@res.us | 610.585.7746

Years' Experience
20+ years

Education

- M.E.S., Environmental Biology, University of Pennsylvania, Philadelphia, PA, 2015
- B.S., Environmental Science, Drexal University, Philadelphia, PA, 2002

Professional Licenses, Certifications, and Training

- Safety Management Systems – Airport Certified Employee
- FAA Qualified Airport Wildlife Biologist
- Adjunct Professor of Ornithology, University of Pennsylvania, Philadelphia
- Bander in Charge, The Rushton Farm Preserve Saw Whet Owl Research Station, Willistown, PA

SELECT PRIOR PROJECT EXPERIENCE

South Wetlands Park Design, Freshwater Tidal Master Plan, Park and Open Space Planning | Philadelphia, PA.

- *Development of Urban Wetland Restoration Project*
- *Role – Lead Faunal Biologist, Permtting*

Trexler Nature Preserve Master Plan | Lehigh County, PA.

- *Ecological and Biolgical research to inform master plan*
- *Role – Lead Faunal Biologist, Public Engagement*

Swarthmore College Crum Woods Stewardship Plan | Swarthmore, PA.

- *Studied entire site and developed a plan of action for ecoloigcal management of the campus for the next 15 years. We identified 54 prioritized projects with funding strategies and other key metrics*
- *Role – Project Manager and Lead Ecologist*

Catawissa Nature Preserve Design-Build, Langhorne | Bourough, PA.

- *Design/Permit/Build of a stream within a forested landscape in Langhorne Borough*
- *Role – Project Manager, Ecologist, Permtting*

Ecological Assessment of Moore's Quarry in Support of Master Plan | Hopewell Township, NJ.

- *Did robust assessment and development of an ecological plan as part of the Master Plan for the repurposing of a retiring trap rock quarry. Involved understanding important wildlife habitat use and rare plant populations.*
- *Role – Lead Ecologist*

Minsi Lake Greenway Corridor Master Plan | Northhampton County, PA.

- *Ecological and Biolgical research to inform master plan*
- *Role – Lead Faunal Biologist, Public Engagement*

Ecological Assessment & Restoration Opportunity Identification | Middlebury College, VT.

- *Large-scale assesment of callege and town lands to identify opportunities to improve ecology and develop strategies for locally sourced wood for their steam-powered generators*
- *Role – Project Manager, Field Ecologist*

Wildlife Study & Ecological Restoration Plan. Green-Wood Cemetery | Brooklyn, NY.

- *Develop robust faunal studies to inform a sitewide ecological restoration plan*
- *Role – Project Manager, Lead Faunal Biologist*

APPENDIX H.4

US Fish and Wildlife Service Coordination

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Jersey Field Office
4 East Jimmie Leeds Road, Suite 4
Galloway, New Jersey 08205
(609) 646-9310

In Reply Refer To:
2023-0086067

June 27, 2024

Andrew Brooks
Environmental Program Manager
Federal Aviation Administration
Eastern Region Airports Division
1 Aviation Plaza
Jamaica, New York 11434

Dear Mr. Brooks:

The U.S. Fish and Wildlife Service (Service), New Jersey Field Office has reviewed the preliminary introduction and purpose and needs document prepared by the Federal Aviation Administration (FAA) for the Facilities Redevelopment Project at Teterboro Airport (TEB). Information in the document will be incorporated into the Environmental Assessment that the FAA is preparing pursuant to the National Environmental Policy Act (83 Stat. 852, as amended; 42 U.S.C. 4321 *et seq.*) (NEPA). The project is located at the TEB within the Boroughs of Teterboro and Moonachie, Bergen County, New Jersey. The Port Authority of New York and New Jersey (Port Authority) owns TEB and leases out space to operators that support general aviation activity. Signature Flight Support (Signature) is one of these operators and is proposing additional apron, hangar, and supporting space at TEB Signature East and South facilities (the proposed action). Signature initiated development of the EA, under sponsorship of the Port Authority, to evaluate the environmental effects of the proposed action. The FAA explains that the proposed action is needed to address the following: existing Signature facility demands, parking deficiencies due to an increase in fleet size, existing and proposed needs for ferry flights to/from TEB, and congested apron and hangar facilities. The purpose of the proposed action is to "increase aircraft parking, hangar space, and associated facilities at Signature East and Signature South leaseholds to better accommodate existing and forecasted demand while enhancing the safety and efficiency of aircraft operations related to aircraft parking." In addition to our review of the preliminary introduction and purpose and needs document, the Service is also providing Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) technical assistance comments for our review of a habitat assessment received for the tricolored bat (*Perimyotis subflavus*, proposed endangered).

The Service is participating in the NEPA process as a Cooperating Agency. The Service previously provided comments on the U.S. Army Corps of Engineers (Corps) Public Notice to issue a permit for the proposed project on September 11, 2017 and September 13, 2019. The Service provided additional comments to the FAA on October 29, 2020. Please see Enclosure A for previous correspondence.

AUTHORITIES

The following comments are provided pursuant to the Clean Water Act of 1977 (86 Stat. 816, 33 U.S.C. 1344 *et seq.*); the ESA; the Fish and Wildlife Coordination Act (48 Stat. 401; 16 U.S.C. 661 *et seq.*); and the NEPA. The following comments do not preclude additional comments on forthcoming phases of the Project (*e.g.,* Draft EA Notice of Availability, permitting), including consultation on potential effects to federally listed species pursuant to Section 7 of the ESA.

GENERAL COMMENTS:

Needs for the Proposed Action

Section 2.1.1 explains that a facility requirements analysis was conducted for TEB. The FAA explains that "if the results of a facility requirements analysis identify a deficit in existing space available to accommodate future demand, it indicates the need for additional space to accommodate future demand (although relatively minor space deficits may be tolerated or addressed through reconfiguration without facility expansion)." From review of the EA, it appears this analysis only results in development or non-development at TEB. It does not appear that the facility requirements analysis considers alternative methods for addressing future demands or what the implications of not accommodating for projected future demands at TEB would be. For example, it's not clear why referring customers to utilize other airports in the area is not a potential result for the facility requirements analysis. The Service recommends that the FAA either provide an explanation of why the facility requirements analysis does not consider alternatives to development or excludes this analysis from the purpose and needs document.

Section 2.1.3 explains that "As a federally obligated public-use airport, the Port Authority must make TEB available for public use on reasonable terms and without unjust discrimination, to all types, kinds, and classes of aeronautical uses to comply with federal Grant Assurance 22. Under federal law, neither the Port Authority nor Signature can limit or restrict use of TEB or force aircraft and pilots to use other airports." However, this description is not entirely clear while considering the needs of the proposed action. For example, if the number of aircraft is approaching capacity at TEB that will make the airport unsafe and/or unusable, this section makes it appear that is allowable. Is that the case? Or will another agency ensure that there are safe levels of aircraft usage at TEB to ensure that it is maintained at operable conditions? Also, the EA explains that reservations are made for Signature Facilities and that they can close their "aprons and turn away flights". As such, it appears that Signature can limit usage of its facilities at TEB. The Service recommends that this is issue be clarified.

Section 2.1.4 explains that there are multiple safety, operational, and congestion issues at TEB and how Signature has reduced their safety standards. For example, the FAA explains that "to

accommodate peak demand for aircraft parking, including the need to accommodate larger aircraft, Signature modified its typical safety standards for the minimum separation between parked aircraft from 3 feet to 2 feet at its TEB facilities to allow aircraft to park closer together than would occur under Signature's typical spacing requirements." The EA goes on to explain that this has created unsafe and congested conditions. If this is truly creating unsafe and congestion conditions, it's not clear why Signature continues to allow this to occur at their facilities. The FAA should explain if this is something Signature was required to do from a regulatory entity or if Signature is the entity modifying their standards to allow unsafe and congested conditions. If Signature is the entity in charge of modifying their safety standards to allow these unsafe and congested conditions, it's not clear why future development actions would make their facilities safer/less congested. If development of the proposed action were to occur, would Signature be required to implement safer conditions, such as parking aircraft 3 feet apart? Or could Signature continue parking aircraft 2 feet apart for even more aircraft capacity, creating potential increased safety and congestion issues. The Service recommends that this is further explained in the EA.

Alternatives Analysis

While the Service has not received the alternatives analysis for review from the FAA, the current document we have reviewed makes references to what is anticipated. Section 1.1.2.1 explains that the John F. Kennedy (JFK), Newark (EWR), and LaGuardia (LGA) airports "are not reasonable alternatives to TEB, as they are primarily serviced by commercial airlines and have no or limited ability to accept additional flights." In context to the proposed purpose and needs, the Service disagrees with this statement. It's not clear why JFK, EWR, and LGA can't be used to form practicable alternatives that would address the purpose and needs while also avoiding adverse effects to environmentally significant and special aquatic sites, such as the proposed wetland fill. For example, an alternative could include Signature not developing the site and limiting the number of customers so that they do not create unsafe or congested conditions at TEB Signature facilities. Those individuals could then choose to use commercial airlines that are greater serviced by airports such as JFK, EWR, and LGA. They could also utilize other airports in the region. Additionally, as mentioned in the referenced September 13, 2019 letter by the Service to the Corps, individuals could use comparatively affordable and fast alternative transportation services to Manhattan directly from EWR, LGA, and JFK. This includes helicopter shuttles (see *https://www.blade.com/airport)*. This alternative appears to directly address the proposed purpose and needs without development/impacting sensitive environmental areas (*e.g.,* wetlands, waters, forested areas). It's not clear why the FAA is limiting the alternatives by excluding major airports in the region. Please be aware that the Service will disagree with the results of a future alternatives analysis that does not fully consider practicable alternatives that avoid impacts to sensitive environments or special aquatic sites.

The Service recommends that the FAA ensures the anticipated alternatives analysis is compliant with the Clean Water Act 404(b)(1) guidelines. The guidelines located at 40 CFR Part 230 explains that "no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences…Where the activity associated with a discharge which is proposed for a special

aquatic site (as defined in subpart E) does not require access or proximity to or siting within the special aquatic site in question to fulfill its basic purpose (*i.e.*, is not "water dependent"), practicable alternatives that do not involve special aquatic sites are presumed to be available, unless clearly demonstrated otherwise." Wetlands are considered special aquatic sites and the development within wetlands at TEB by Signature would not be a water dependent use. An alternatives analysis within a NEPA document usually provides the information for the evaluation of alternatives under the 404(b)(1) guidelines. However, the guidelines at 40 CFR Part 230.10(a)(4) explains it may be necessary to supplement a NEPA document if the necessary information is missing. If the FAA does not consider practicable alternatives that the Service has explained above and within our prior correspondence included in Enclosure A, we will raise those concerns during later review of the EA's alternatives analysis and (if still excluded at that time without clearly explaining why) the Corps permit. The Service is likely to recommend denial of a future Corps permit if practicable alternatives are not analyzed in the EA or within the future permit application. As such, the Service strongly recommends that the FAA ensures their EA alternatives analysis is in compliance with the 404(b)(1) guidelines.

Proposed Action

Section 2.3 describes the proposed action. However, the Service has not received the remaining EA, including the alternatives analysis, discussion of environmental/natural resources effects, reasonably foreseeable effects, etc. Without reviewing the remaining EA, and how the issues we have presented in this letter and previous correspondence are to be addressed, the Service does not support the FAA moving forward with the selected proposed action in their EA. In addition, without this information, the Service does not support the "unconditional approval of the portion of the Airport Layout Plan depicting the proposed action". The Service recommends that the NEPA, ESA, and CWA processes are completed before the proposed action is permanently included in the TEB layout plan.

FEDERALLY LISTED, PROPOSED, AND CANDIDATE SPECIES

The following comments are provided separate to our review of the subject preliminary introduction and purpose and needs document. However, these comments are relevant to the anticipated remaining portions of the EA.

The Service appreciates that the Service's Information for Planning and Consultation (IPaC) tool was used to obtain an official species list (dated March 25, 2023). As described within the list, the tricolored bat and monarch butterfly (*Danaus plexippus*, candidate) are the only species to consider within the action area. Please also be aware that, as per the ESA interagency regulations at 50 Code of Federal Regulations 402.12(e), the official species list is only valid for 90 days. As such, please ensure that an updated list is requested at regular intervals during project planning and implementation.

Tricolored bat

On September 14, 2022, the Service published a proposal in the Federal Register (FR) to list the tricolored bat as endangered under the ESA (FR Vol. 87 (177): 56381-56393). A final

determination to either list the tricolored bat under the ESA or to withdraw the proposal is anticipated during Fiscal Year 2024.

In 2023, the tricolored bat was acoustically detected within 1 mile of the project areas. It is a small insectivorous bat that typically overwinters in caves, abandoned mines and tunnels, and road-associated culverts (southern portion of the range). They spend the rest of the year in a wide variety of forested areas where they roost and forage, including adjacent and interspersed non-forested areas such as emergent wetlands and adjacent edges of agricultural fields, old fields, and pastures. This also includes forests and woodlots containing trees with potential roost substrate (*i.e.,* live and dead leaf clusters of live and recently deceased deciduous trees, Spanish moss (*Tillandsia usneoides*), and beard lichen (*Usnea trichodea*)), as well as linear features such as fencerows, riparian forests, and other wooded corridors. Tricolored bats will roost in a variety of tree species, especially oaks, and often select roosts in tall, large diameter trees, but will roost in smaller diameter trees when potential roost substrate is present (*e.g.,* 4-inch [10-centimeter]; Leput 2004). They may also roost in human-made structures, such as bridges and culverts, and occasionally in barns or the underside of open-sided shelters (*e.g.,* porches, pavilions).

On April 30, 2024, the FAA submitted to the Service a habitat assessment (Phase 1 Survey) to determine habitat suitability for tricolored bat at select locations within TEB. The assessment was developed/completed in 2023 to determine if suitable tricolored bat habitat is present at the Signature East and Signature South project areas. The assessment concluded that suitable tricolored bat habitat is not present. However, the Service disagrees with this conclusion. The assessment prepared has multiple flaws and describes suitable habitat at the Signature South and East project locations. Issues with the assessment include, but is not limited to the following:

- The assessment explains that the project areas contain deciduous trees and that they are within the vicinity of a mature hardwood forest to the East and a second growth mixed hardwood forested area located adjacent to Signature South. The mature hardwood forest and mixed growth forested areas were determined to be suitable tricolored bat habitat. Additionally, as mentioned above, tricolored bat has been acoustically detected within 1 mile of the proposed project locations. These features would indicate that there is suitable habitat for tricolored bat at the project locations.

- The habitat assessment utilized the 2015 Range-wide Indiana Bat Summer Survey Guidelines, which is no longer used by the Service. These guidelines have been updated and now include suitable tricolored bat summer habitat definitions as well. The updated guidelines can be found at: *https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.* Additionally, the habitat assessment forms utilized display handwritten text that is difficult to decipher.

While the Service disagrees with the conclusions of the habitat assessment, we do not recommend providing an updated version. The project areas contain suitable tricolored bat habitat. However, the project areas do not appear to be preferred tricolored bat habitat. As described within the assessment, the proposed project areas at Signature South and East contain mostly smaller or younger trees that are directly adjacent to developed areas. The project areas are also fragmented from the larger area of mature forest located to the east by roads and the

airport facilities/runway. Additionally, while tricolored bats have high site fidelity, females are known to regularly switch roost trees within that summer habitat (USFWS 2021). As such, if tricolored bats are present, they may be able return to the forested areas that would not be cleared and that are located directly adjacent to/are within the vicinity of the project. Hence, the Service recommends the following conservation measure to ensure the proposed action is not likely to adversely affect the tricolored bat:

1. Avoiding any cutting or other means of knocking down, bringing down, or trimming of trees that contain suitable/potential tricolored bat roosting substrate (as described above) during the pup season from May 15 to July 31 (recommended from April 1 to September 30 to avoid impacts for all bats).

This project is not likely to jeopardize the continued existence of the tricolored bat therefore, ESA Section 7(a)(4) conference is not required. Once a final rule to list the tricolored bat is published and goes into effect (typically 30–60 days after publication), Section 7(a)(2) requirements for consultation and Section 9 prohibitions against unpermitted "take" of the species will apply. The Service recommends that the FAA submits an ESA Section 7 (a)(2) informal consultation to our office once/if the tricolored bat is listed pursuant to the ESA and includes the indicated conservation measure. However, if the above May 15 to July 31 time of year restriction is not possible, or if project activities change, the Service would need to reevaluate at that time to determine if we can concur with a not likely to adversely affect determination.

Monarch butterfly

The monarch butterfly was designated a candidate for ESA listing in December 2020. Although candidate species receive no substantive or procedural protection under the ESA prior to listing, the Service encourages consideration of these species in project planning. The monarch butterfly range includes all of New Jersey, including small habitat patches within developed areas. The Service encourages adherence to best management practices for avoiding impacts to the monarch and improving habitat where possible. The following conservation measures are recommended:

1. Identifying presence of and avoiding impacts to suitable monarch butterfly habitat. If avoiding impacts to suitable monarch habitat is not possible, we recommend avoiding impacts during times of year monarch's may be present (May 1 to September 30). Review the "Mowing and Management: Best Practices for Monarch's" handout at: *https://monarchjointventure.org/blog/revised-handout-mowing-and-management-best-practices-for-monarchs* to see if any other conservation measures are applicable to this project/can be implemented.

2. Review the conservation measures and descriptions included in Section VII of the "Monarch CCAA Application" that can be found at: *https://rightofway.erc.uic.edu/working-group-access/monarchccaatoolkit.* Although the Candidate Conservation Agreement for monarch butterfly is not applicable for this project, we recommend reviewing the application to help aid in the development of possible conservation measures.

3. Review the Services website at: *https://www.fws.gov/initiative/pollinators/monarchs*, New Jersey Department of Environmental Protection's (NJDEP) (2017) Monarch Butterfly Conservation Guide, and the Monarch Joint Venture website at: *https://monarchjointventure.org/mjvprograms/science/roadside-habitat-for-monarchs/best-management-practices-resources* for possible conservation measures to implement.

If future listing of the monarch butterfly occurs before or during project construction, the Service may recommend additional conservation measures.

The Service appreciates the opportunity to review the FAA's preliminary introduction and purpose and needs document and to provide ESA technical assistance comments for the Facilities Redevelopment Project at TEB. As explained above, the Service does not support the FAA moving forward with the selected proposed action in their EA without receiving/reviewing the remaining portions and seeing how the issues we have presented in this letter and previous correspondence are to be addressed. Additionally, the Service recommends that the NEPA, ESA, and CWA processes are completed before the proposed action is permanently included in the airport layout plan. We look forward to the opportunity to work with the FAA in the future. For further assistance or questions, please contact Michael Ciappi at michael_ciappi@fws.gov.

Sincerely,

Eric Schrading
Field Supervisor

Enclosures:

Enclosure A – Previous Correspondence

cc:
Ross Conover, USFWS
Aaron Braswell, FAA
Edward Knoesel, FAA
Kathryn Lamond, Port Authority
Stephen Culberson, Ricondo
Andrew Raddant, USDOI
Rosita Miranda, USACE
Christopher Minck, USACE
Terry Doss, NJSEA
Sharon Mascaro, NJSEA

Sara Sundell, NJSEA
Jessie Murray, NOAA-NMFS
Karen Greene, NOAA-NMFS
Marco Finocchiaro, EPA
Robert Montgomerie, EPA
Benjamin Arielle, EPA
Ryan Anderson, NJDEP
Ryan Carter, NJDEP
Jessica Klein, NJDEP
Chivon Kisic, NJDEP

REFERENCES

Leput, D.W. 2004. Eastern red bat (*Lasiurus borealis*) and eastern pipistrelle (*Pipistrellus subflavus*) maternal roost selection: Implications for forest management. Master's Thesis Clemson University, Clemson, South Carolina.

Monarch Joint Venture. 2019. Mowing and Management: Best Practices for Monarchs. Available at: *https://monarchjointventure.org/blog/revised-handout-mowing-and-management-best-practices-for-monarchs.*

New Jersey Department of Environmental Protection. 2017. New Jersey Monarch Butterfly Conservation Guide. Available at: *https://www.nj.gov/dep/docs/monarch-guide.pdf.*

U.S. Fish and Wildlife Service. 2021. Species Status Assessment Report for the Tricolored Bat (*Perimyotis subflavus*), Version 1.1. December 2021. Hadley, MA. Available at: *https://ecos.fws.gov/ServCat/DownloadFile/221212.*

Enclosure A

Previous Correspondence

United States Department of the Interior

FISH AND WILDLIFE SERVICE

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Galloway, New Jersey 08205
Tel: 609/646 9310
www.fws.gov/northeast/njfieldoffice

In reply refer to 2017-CPA-0277c

October 29, 2020

Andrew Brooks
Environmental Program Manager
Federal Aviation Administration
Eastern Regional Office
1 Aviation Plaza
Jamaica, New York 11434

Subject: U.S. Army Corps of Engineers, New York District, Public Notice Number NAN-2020-00313-WCA; Federal Permitting Dashboard, Federal Aviation Administration, Signature Flight Support - South Facility and the Signature Flight Support - East Facility.

Dear Mr. Brooks:

The U.S. Fish and Wildlife Service (Service) is writing the Federal Aviation Administration (FAA) regarding the subject application to expand two fixed based operation facilities at Teterboro Airport, located in the Hackensack Meadowlands (Meadowlands), in the Boroughs of Moonachie and Teterboro, Bergen County, New Jersey (Project). The Project includes the filling of approximately 12 acres of jurisdictional wetlands in the Meadowlands. According to the Corps of Engineers New York District (Corps) latest correspondence dated April 10, 2020 (copy enclosed) the Corps recognizes that both Signature Flight and the Port Authority of New York and New Jersey (owner and operator of Teterboro Airport) (PANYNJ) are co-applicants for the Project. On the Federal Permitting Dashboard, the Project sponsor is identified as the PANYNJ.

The Service is providing these comments as a follow-up to our last teleconference call with the FAA, Corps, Service, PANYNJ, and Signature Flight and its agents on July 17, 2020 and a previous call that was hosted by the FAA on May 4, 2020. These calls discussed the FAA's role on the review of the Project pursuant to National Environmental Policy Act (NEPA) (83 Stat. 852; 42 U.S.C. 4321 *et seq*) and concerns previously raised by the Service, Corps, and the U.S. Environmental Protection Agency (EPA).

AUTHORITY

The following comments are provided under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401; 16 U.S.C. 661 *et seq.*), NEPA, and the Clean Water Act (CWA) (33 U.S.C. 403) (CWA), and the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*), as amended, and are consistent with the intent of the Service's Mitigation Policy (Federal Register, Vol. 46, No. 15, Jan. 23, 1981). The Service's Mitigation Policy emphasizes that avoidance and minimization precede compensation, which is to be considered for unavoidable adverse impacts to fish and wildlife resources and supporting ecosystems. These comments are intended for the protection of fish and wildlife and for use in determining compliance with the CWA Guidelines (40 CFR Part 230) and the Final Rule: Mitigation for Losses of Aquatic Resources (Federal Register 33 CFR 325 and 332, 73(70):19594-19705) (Mitigation Rule).

BACKGROUND

On September 11, 2017 and September 13, 2019 the Service provided substantive comments on the subject proposal to the Corps. At the time of these letters, the Service and others were unaware of FAA's role as lead Federal agency pursuant to NEPA. Since then the Service understands the FAA is the lead Federal agency responsible for the NEPA review of the Project. Principle concerns raised by the Service included; the Project site was determined an Aquatic Resource of National Importance (ARNI); that the alternatives analysis was not commensurate to the applicants purpose or need; that the mitigation plan to offset impacts to the aquatic environment was inadequate; and that the project could impact a downstream Federal flood control investment by the U.S. Department of Housing and Urban Development (HUD). In a similar letter to the Corps dated October 30, 2019, the EPA summarized over three years of coordination with the Corps reiterating their concerns regarding the analysis of alternatives; the potential for cumulative impacts; piecemealing; purpose and need; and the inadequacy of the mitigation plan. In addition, the EPA reiterated that the Project would also impact an ARNI. In letters from the Corps dated May 14 and 19, 2020, the Corps reiterated concerns raised by the Service and EPA and requested further information regarding the presence of conservation easements at Teterboro Airport; additional grant assurances and FAA requirements that prohibit the placement of easements at Teterboro Airport; and further documentation that the resolution of the outstanding concerns raised by the Service and EPA have been met.

National Environmental Policy Act

The Service directs the FAA to the numerous deficiencies identified in the letters referenced above by the Corps, EPA, and the Service regarding NEPA compliance. In addition, the Service identified a least one less environmental damaging practicable alternative (LEDPA) at Stewart International Airport (SIA) which is owned and operated by the PANYNJ and where the fixed based operator (FBO) has leased lands that could meet the general aviation needs of the region, all without the need to impact an ARNI.

Based on the current inadequacies identified above, that the Project will result in eliminating a ARNI, and that no reasonable mitigation plan has been offered to compensate for the aquatic resource impacts, the Service continues to find the application substantially deficient regarding

NEPA compliance; that the impacts are significant; and that the FAA should be preparing an Environmental Impact Statement (EIS) and commence a scoping session with all interested Federal agencies that wish to participate in an EIS NEPA review.

Clean Water Act

Under the 404(b)(1) Guidelines of the CWA (Guidelines) no permits may be issued by the Corps unless the discharge is determined to be the least environmentally-damaging practicable alternative to achieve the basic project purpose. The FBO/PANYNJ proposals are non-water dependent as they do not require the siting of the projects in a wetland or water of the United States. Where an activity associated with a proposed wetland discharge does not require access or proximity to or siting in a special aquatic site (*i.e.,* wetland) to fulfill its project purpose (*i.e.,* is not water dependent), practicable alternatives that do not involve wetlands are presumed available, unless clearly demonstrated otherwise [40 CFR Part 230.10 (a) (3)]. The Project proponents have yet to present documentation that they have met the two principle requirements of the Guidelines (*i.e.,* water dependency and alternative analysis).

The Service considers the loss of one of the last remaining forested wetland in the Meadowlands as an immitigable impact. The Service has already determined that the wetlands proposed to be impacted are unique and rare. This position is supported by EPA and the Corps based on previous correspondence and conference calls.

To date, the applicant has offered to offset the impacted wetlands by purchasing contaminated wetlands located in a superfund study area, credits from the Kane Mitigation Bank (a bank only available to public transportation agencies), and a mitigation site adjacent to the Hackensack River whose sediments may be contaminated and whose water sources and control are questionable. They have also stated that the previous use of mitigatable property owned by a local land trust (where the applicant undertook a successful restoration pilot project) was not available (the Service understands that this property is available). The applicant also has stated that the preservation of the remaining wetlands at Teterboro (an action supported by the Corps, EPA, and the Service) would place an undue encumbrance on the airport property and was prohibited by FAA and the U.S. Department of Homeland Security safety and security specifications. A quick examination by the Service and EPA of other airport properties located across the United States identified the accommodation of encumbrances for wetlands preservation or endangered species protection, all the while meeting the needs of the aviation public (*e.g.,* Bryon Airport, Santa Barbara Airport, Sonoma Airport, Cecil Airport).

SUMMARY AND RECOMMENDATIONS

The proposed Project has generated sufficient comments to conclude that the impacts to the environment are significant warranting the preparation of an EIS pursuant to NEPA. Current deficiencies pursuant to NEPA and the CWA include project purpose and need, alternative analysis, reasonable foreseeable impacts, and mitigation. In addition, the project may impact a flood resilience investment project underway by HUD located immediately downstream of the proposed Project.

Thank you for the opportunity to commence coordination with the FAA on this Project. These comments are offered in the spirit of interagency cooperation and to assist the FAA in best serving the public interest. Please inform me of your actions regarding this matter as we are prepared to commence scoping coordination of the Project in accordance with NEPA.

We are available to meet with you at your convenience for further discussion. Please contact Steve Mars at 609-382-5267 should you have any question regarding the Service's review of this Project.

Sincerely,

Eric Schrading Digitally signed by Eric Schrading
Date: 2020.10.29 13:01:52 -04'00'

Field Supervisor
Eric Schrading

ENCLOSURES

Corps letter dated April 10, 2020
Service letters dated September 11, 2017 and September 13, 2019
EPA letter dated October 30, 2019
Corps letters dated May 14 and 19, 2020

cc:

Corps
USEPA
NMFS
FAA
NJSEA
NJDEP
PANYNJ
First Aviation

United States Department of the Interior
FISH AND WILDLIFE SERVICE
New Jersey Field Office
4 E. Jimmie Leeds Road, Suite 4
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Tel: 609/646 9310
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2017-CPA-0277a

SEP 13 2019

Stephan Ryba
Chief, Regulatory Branch
New York District, U.S. Army Corps of Engineers
Jacob K. Javits Federal Building
New York, New York 10278-0090

Subject: Public Notice Nos. NAN-2016-00513-WCA (First Aviation Services) and NAN-2015-013270-WCA (Signature Flight Support Corporation). To construct several jet parking facilities at the Port Authority of New York and New Jersey's Teterboro Airport, Boroughs of Moonachie and Teterboro, Bergen County, New Jersey.

Dear Mr. Ryba:

The U.S. Fish and Wildlife Service (Service) is in receipt of the U.S. Army Corps of Engineers New York District (Corps) letter dated July 19, 2019 which requested Service review of additional information received on the First Aviation Services (FAS) and Port Authority of New York and New Jersey (PA) permit application. The FAS and the PA propose to fill 7.18 acres of wetlands in the Hackensack Meadowlands (Meadowlands), Bergen County, New Jersey for the purpose of meeting the regional aviation needs of the metropolitan area and providing additional parking and hanger capacity for up to 38 commercial jet planes at Teterboro Airport (TEB), Boroughs of Moonachie and Teterboro, Bergen County, New Jersey. TEB is designated as a "general aviation reliever airport" for the business jet industry. Because of its close proximity to Manhattan, New York, TEB currently receives up to 69,000 flights on an annual basis (Langen letter dated October 16, 2018, page 7). FAS is a fixed-based-operator (FBO) who leases lands owned and managed by the PA at TEB. The Corps issued a public notice (PN) on August 14, 2017 for the proposed wetland fill (NAN-2016-00513-WCA) for which the Service provided comments on September 11, 2017.

The Corps' July 19, 2019 letter requested the Service review correspondence from the two FBOs and their agents dated October 16, 2018, February 14, 2019, May 17, 2019, and an undated letter from the PA to determine if the information contained in the four letters satisfactorily addressed the concerns raised in the Service's September 11, 2017 letter.

The Service previously recommended denial of the FAS/PA application, as the FAS/PA project would eliminate 7.18 of wetlands and associated flood protection values for the East and West Riser Ditches (EWRD), tributaries to Berry's Creek and the Hackensack River. Principle concerns raised by the Service included non-compliance with the National Environmental Policy

Act (NEPA) (83 Stat. 852; 42 U.S.C. 4321 *et seq.*) and the Clean Water Act (CWA) (33 U.S.C. 403). The FAS/PA project may increase the risk of contaminant exposure to fish and wildlife resources, and could reduce flood resilience benefits of a $150 million Housing and Urban Development (HUD) grant, currently being administered by the New Jersey Department of Environmental Protection (NJDEP).

In addition to the FAS/PA project, another FBO at TEB, Signature Flight Support Corporation (SFS) and the PA are also proposing an additional 4.51 acres of wetlands fill at TEB for the same purpose - to meet the general aviation needs for the New York-New Jersey metropolitan area and to increase parking and hanger capacity for an additional 13 commercial jet planes. The second hanger and parking lot project (SFS/PA) was advertised in a Corps' PN on September 12, 2017 (NAN-2015-01327-WCA). Based on the recent acknowledgement that both FBOs are owned by the same parent company (SFS) and that the project description of the SFS/PA application is essentially identical to that of the FAS/PA project (meeting the regions' aviation needs and adding hanger and parking space), pursuant to NEPA and 33 CFR Parts 325.1(d) (2), both applications should be reviewed as a single and complete project (additional justification follows).

Based on the information contained in each of the four referenced letters from the two FBOs, their agents, and the PA, the Service continues to maintain that there are available and practicable alternatives to the subject proposal that would not result in the elimination of nearly 12 acres of wetlands and associated flood storage benefits. The Service has determined that it is not in the public's interest to fill some of the last remaining forested wetlands in the Meadowlands for the parking of up to 38 additional business jet planes. The Service reiterates our initial recommendation that the Corps should deny the combined subject proposals.

As the wetlands throughout the project sites (Meadowlands) are considered an Aquatic Resource of National Importance (ARNI), should the Corps issue permits over our objections, the Service will continue invoking Part IV – Elevation of Individual Permit Decisions pursuant to our Memorandum of Agreement between the Department of the Interior and the Department of the Army, dated December 21, 1992 (CWA 404q).

AUTHORITY

The following comments are provided under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401; 16 U.S.C. 661 *et seq.*) (FWCA), NEPA, CWA, and the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) (ESA), as amended, and are consistent with the intent of the Service's Mitigation Policy (Federal Register, Vol. 46, No. 15, Jan. 23, 1981). The Service's Mitigation Policy emphasizes that avoidance and minimization precede compensation, which is to be considered for unavoidable adverse impacts to fish and wildlife resources and supporting ecosystems. These comments are intended for the protection of fish and wildlife and for use in determining compliance with the CWA Guidelines (40 CFR Part 230) and the Final Rule: Mitigation for Losses of Aquatic Resources (Federal Register 33 CFR 325 and 332, 73(70):19594-19705) (Mitigation Rule).

FEDERALLY LISTED SPECIES

The Service reaffirms our initial concurrence with the Corps' who determined that the proposed project will result in "no effect" to federally listed threatened or endangered species under Service jurisdiction or their critical habitats. No further consultation pursuant to Section 7 of the ESA is required by the Service. If project plans change or new information on federally listed threatened or endangered species becomes available, this determination may be reconsidered.

SERVICE REVIEW

1. National Environmental Policy Act

In general, the FBOs/PA have not fully addressed the Service's concerns regarding purpose and need, alternatives analysis, cumulative effects analysis, mitigation, or the identification of a less environmentally damaging alternative. The PA has not provided comment on the FBO applications regarding the FBO's purpose and need statements, their alternatives analysis, or efforts to avoid or minimize the size of the wetlands fills at TEB. Further, the FBOs did not adequately respond to the degree to which contaminants are known to occur on the two proposed "preservation" mitigation sites. Finally, based on the similarities and interrelationship of both FBOs (they are owned by the same company); the PA is co-applicant; the projects are essentially for the same purpose; the two FBO/PA projects are co-located in very close proximity to each other; the two FBO/PA projects are adversely affecting the same sub-watershed (EWRD); the Service requests the Corps combine both FBO/PA projects into a single and complete project and reissue a new PN. A new PN is also recommended as the projects' mitigation proposals have changed considerably, new information has been presented, and because significant time has elapsed since the projects were published for public comment.

The Service requests the Corps also determine if the Federal Aviation Administration (FAA) has a role in the review of the subject applications pursuant to NEPA [40 CFR Part 1501.7 *Scoping*]. The FAA has regulatory oversight over the PA, and as such, any of the alternatives discussed below may require additional review, investment, or approval by the FAA.

a. Purpose and Need

The PA has not provided information to support any of the statements made by the FBOs on the stated need for the two FBO/PA projects (accommodating an additional 38 planes at TEB and meeting the general aviation needs for New York and Northern New Jersey) or if any of the needs identified by the FBOs (parking and hanger space) can be accommodated elsewhere in the region. It is critical for the PA to verify the "need" issue, and verify all of the statements made by the FBOs and their agents (*i.e.*, can the need of parking an additional 38 jets and hanger space be met at any of the other regional airport facilities without the need to eliminate nearly 12 acres of wetlands at TEB). The PA should provide concurrence on the subject applications as they are the landowner and lease holder for each of the FBOs; they manage and oversee its operation and use; and are required by the FAA to ensure its safe operation. In addition, because TEB is designated as a "general aviation relief airport," the Service is requesting the Corps determine if any of the proposed FBO/PA expansions require review or approval from the FAA. The Service

requests the Corps obtain information from the PA to identify what the current and future aviation needs are for the metropolitan area and what role TEB plays with meeting this aviation need (*i.e.*, master plan). Absent a master plan governing the build-out of TEB (as stated in the SFC letter dated October 19, 2018), and without an independent aviation needs assessment from the PA, the Service cannot determine the geographic scope of alternatives that should be considered for the New York-New Jersey metropolitan area, including that at TEB (40 CFR part 1508.25 *Scope*). It is imperative that the Corps, the Service, U.S. Environmental Protection Agency (EPA) and the National Marine Fisheries Service (NMFS) also receive from the PA what, if any, land use restrictions currently exist that would prohibit future wetland impacts at TEB and whether additional wetland fill projects could be expected at TEB. This information is essential for the FBOs/PA to satisfy the requirements of NEPA and the CWA. Ultimately, the Service questions whether the needs of 38 planes and additional hanger space can be met at one or more of the other regional air facilities without eliminating more wetlands at TEB.

The responsibility of determining the regions' aviation needs for accommodating and expanding commercial jet traffic rests with the PA (not the FBOs). The PA owns, manages, and/or oversees much of the air traffic and associated infrastructure for the metropolitan area and is familiar with appropriate measures to meet the region's aviation needs. In addition, considering that the Regional Plan Association report (RPA) (2018) recommended accommodating the regional need at other area PA controlled air facilities and not at TEB, and considering that the report identified significant vulnerabilities with sea level rise at TEB (going so far as to consider the closing of TEB), it is essential for the PA to affirm the findings of the FBOs and their agents and provide information about regional aviation needs and accommodation. The Service recommends that the Corps hold in abeyance the issuance of any permit until the PA provides information about the regional aviation needs and accommodation.

The FBOs state that TEB is at 150% capacity (Bohler letter dated November 29, 2017, page 12), but omits a discussion as to whether the current proposals will eliminate the saturation capacity figure, or if they aware of further expansions being considered by themselves or by the other three TEB competing FBOs (Atlantic Aviation, Meridian Teterboro, and Jet Aviation). The Service requests clarification from the PA regarding potential future wetland fill proposals that are being considered. The Service also requests the PA provide a land use plan that would identify full build out of TEB, including any future capital improvements being considered.

b. Alternatives Analysis

The Service requests that the PA prepare its own alternatives analysis for the subject FBO proposals. This added alternatives analysis should include an increase in the geographic scope of alternatives to include all PA and non-PA airports in the region. This expansion meets the geographic area associated with determining the regional aviation needs [40 CFR Parts 1502.14, 1505.1(e), and Council on Environmental Quality (CEQ) Forty Most Asked Questions]. Currently, the FBO/PA alternatives included only that of TEB, Stewart International Airport (SWF), Westchester County Airport (HPN), and Morristown Municipal Airport (MMU). The Service requests the following air facilities also be considered in the applicant's alternative analysis: MacArthur – Islip (ISP), Trenton – Mercer (TTN), Newark (EWR), LaGuardia (LGA), and John F. Kennedy (JFK). Both the FBOs, and their parent company, maintain facilities and

lease lands at some of the above suggested alternative airport facilities that could meet the aviation needs of their clients, without the need to harm the aquatic environment. The latter three (EWR, LGA, and JFK) are especially relevant as an emerging new transportation alternative (*i.e.*, helicopter shuttles) is an alternative to ground transportation by providing affordable and fast helicopter service from all of the aforementioned air facilities to Manhattan.

Since the FBO's prepared their alternatives analysis statements (October 2016 [FAS] and November 29, 2017 [SFS]), the use of helicopter service has increased efficiencies in travel times from area airports into Manhattan (nine minutes from JFK to New York City's financial district). This alternative is making travel times from other area airport facilities that were previously discounted by the FBOs (due to their distance for ground transportation to travel to Manhattan) more competitive and practicable. The FBOs rejected SWF (60 miles away), HPN (34 miles away), and MMU (31 miles away) due to expected commutation delays associated with ground transportation. Helicopter services from area PA facilities, such as EWR, LGA, and JFK, are now being offered on an hourly basis from 7 AM to 7 PM for $195 (a near identical cost to car or limousine service from these same airports and TEB to New York City) (see https://blade.flyblade.com/). The use of a helicopter alternative from area airports would not require the filling of wetlands, meets the definition of practicability [40 CRF Part 230.10 (a) (2)] and could now be identified as the least environmental harmful alternative [*i.e.*, no wetland fill, 40 CFR Part 230.10(a)]. Additionally, the PA is encouraging the use of this emerging air transportation alternative to Manhattan that is far superior to the commuting times associated with traditional ground transportation. The Service recommends that the FBOs and the PA evaluate this alternative, which is being encouraged by the PA, and is a practicable alternative to the proposed FBO that eliminates delays associated with ground transportation.

The FBOs also state that during the early morning and late afternoons (rush hour) congestion and delays on the runways by "over an hour" are experienced by the business community at TEB. Combined with a drive to or from Manhattan during rush hour, it may take a commuter over two hours to reach their destination from TEB. It is interesting that the FBOs/PA did not similarly discount their preferred alternative for taking too much time for their clients to travel to and from Manhattan when the same hour's long delay was a reason to reject the use of SWF, HPN, or MMU as a viable alternative. The inconsistent application of commuting times to support the selection of the FBOs/PA preferred alternative requires additional substantiation before the Service can concur in its conclusion. An updated alternatives analysis should acknowledge that inconveniences in commuting in a metropolitan area during rush hour are similar for all area airports, that TEB offers little time advantage over the other alternative sites considered, and that the selection of their preferred alternative should not be overly weighted based on the 13-mile distance between Manhattan and TEB.

The FBO alternatives analysis indicates that the same commuters using TEB, often have their jets depart TEB (because TEB lacks sufficient capacity) and park at nearby aviation facilities. Based upon the above, it would appear more prudent that these same business users make the nearby aviation facilities their primary destination, continue parking their planes there (fuel savings), and utilize the faster helicopter alternative. Consideration of this combined commuting

alternative would likely result in efficiencies on-the-ground and in-the-air; reduce ferry flights to and from TEB; reduce ground congestion; reduce noise to the residents of TEB; increase fuel efficiencies; and reduce emissions, which are goals identified by the FBOs at TEB.

The Service has identified several reasonable and practicable alternatives that meet the project's purpose, while having little or no impact on the aquatic ecosystem. As such, the FBOs/PA should not be authorized to discharge fill material into wetlands because there are less environmental damaging alternatives that meet the projects purpose [40 CRF Part 230.10 (a)]. Both FBO/PA projects are non-water-dependent and as such there is a presumption that upland alternatives are available, unless clearly demonstrated otherwise. The purpose of the FBO/PA projects is to, in part, meet the general aviation needs for the metropolitan area and, as such, the scope of alternatives should at a minimum include all airport facilities in the metropolitan area. The applicant's scope of alternatives is currently constrained and should be expanded to include the other recommended area airports, including using other means of ground and air transportation to meet the needs of the business jet commuter.

The current preferred alternative is not the least environmentally damaging alternative and as such should be rejected by the Corps unless the FBOs/PA demonstrate that non-water dependent alternatives are not feasible or practicable to meet the general project purpose. The Service is requesting that the FBOs and PA further demonstrate how the helicopter commuting alternative from area airports cannot meet the needs of the general aviation community. In addition, due to the observed runway delays associated at TEB during rush hour and the likely hour long drive expected from TEB to Manhattan, the use of other area airports using similar modes of transportation also appear practicable and should be further revaluated by the FBOs/PA.

c. Cumulative Effects Analysis

Pursuant to 40 CFR Parts 1508.7 (NEPA) CEQ defines cumulative impacts as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions. CEQ further defines the "Effects" of a project to include the direct effects of an action and its indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.

(1) Direct and Indirect Effects of Action

The planned cumulative loss of approximately 12 acres of wetlands and waters by the FBOs/PA will further contribute to recent TEB wetland losses (over 18 acres since 2013); will result in additional lost ecological services; will likely result in the discharge of additional pollutants to an already impaired waterway; and will likely indirectly intensify and contribute to future flooding of TEB and the surrounding communities.

The Service requests that pursuant to NEPA, the FBOs/PA accurately reflect all of the wetland fill permits that have occurred at TEB and the surrounding area. The current cumulative analysis for the TEB projects is limited and only goes back to 2013 and does not reflect the true cumulative scope of wetlands lost at TEB or in the surrounding area. The applicant's cumulative impacts discussion omitted at least one other large wetland fill at TEB. On July 28, 1997, the

Corps issued a 23.3 acre wetland fill permit at TEB to Johnson Control World Services (Permit No. 87-0247) that permitted the construction two hangers and a jet parking facility that is now the current FAS operation facility. Another project in 2003, FD&P, resulted in the filling of over 53 acres of wetlands in Penhorn Creek, another tributary of the Hackensack River. The overall and encompassing assessment of cumulative impacts for TEB and the Meadowlands will give a broader perspective of the continued adverse effects that is associated with wetlands development, which the current cumulative effects analysis does not. Any further wetland development in the Meadowlands will continue to result in the loss of ecological services that wetlands provide. This includes the loss of habitat for the production of fish and wildlife resources, the loss of water quality filtering capabilities, the loss of sequestration of pollutants, and the loss of future flood protection.

Reasonably foreseeable effects

The PA stated in their undated letter, that they would decline to place any of the remaining wetlands in a Conservation Easement (CE) that could result in the protection of any of the remaining wetlands at TEB from future development. Therefore, the Service must conclude that there is a high potential that remaining wetlands will likely be lost at TEB. This is further supported by the fact that the Corps and NJDEP continue to issue wetland fill permits in the Meadowlands (a minimum of 94 acres have been filled since 1997). Adding the pending FBO/PA proposed wetlands losses of approximately 12 acre represents a significant threat to the aquatic environment.

Degradation effects of waters and wetlands in the Meadowlands

The continued degradation and loss of wetlands and floodplain in the Meadowlands has contributed to Berry's Creek and the Hackensack River (all downstream of TEB) being designated as an impaired waterway (New Jersey Department of Environmental Protection 2017) due to a number of persistent toxic contaminants, fish consumption advisories, and other water quality impairments (*e.g.*, dissolved oxygen, total phosphorus, fecal coliform bacteria) (U.S. Fish and Wildlife Service 2007). In addition, the cumulative losses of wetlands in the Meadowlands (more than 70 percent of the total 20,045 acres of wetlands since colonial times) has contributed to the current poor water quality of the Hackensack River and the current flood risk that exists for the businesses and residences of the Meadowlands. Further wetlands development by the FBOs/PA will further exacerbate the current poor condition of Berry's Creek and the Hackensack River.

Indirect effects of added flood waters to the East and West Riser Ditches

In the September 11, 2017 letter, the Service requested that FAS/PA consult with the HUD and NJDEP to ensure that the proposed projects do not impact or impede on any aspect of the HUD/NJDEP resilience project. A review of the FBO/PA proposals reflect that the cumulative effects of stormwater generated from the projects will not be mitigated on-site but rather be discharged directly into the EWRD, immediately upstream of the HUD/NJDEPs planned flood resilience project. These unmitigated flood waters will also occur upstream of numerous communities who suffered millions of dollars of property damage from flooding in association

with Hurricanes Irene (2011) and Sandy (2012) (Bergen County Office of Emergency Management 2015).

The action by the FBOs/PA of not providing on-site stormwater management is contrary to at least three recent wetland fill projects undertaken at TEB. The 23.3 acre wetland fill permit for Johnson Control World Services (now FAS) included the construction of a 1.2 acre on-site stormwater detention basin. On July 2, 2009 the NJDEP issued a permit to fill 4.2 acres of wetlands at TEB for the construction of an Engineered Material Arresting System (EMAS) (as required by the FAA) and the relocation of Redneck Avenue, with a requirement to install two subterranean cisterns to manage runoff. On November 9, 2012 the NJDEP issued a second wetland fill permit (4.55 acres) for another FAA required EMAS project at TEB. Again, the PA was required to provide on-site flood storage mitigation (*i.e.,* stormwater management facility) to compensate for the anticipated lost flood storage losses associated with the wetland fills. Both the 2009 and 2012 EMAS projects were also approved by the Corps.

It is unknown what the cumulative flooding effects will be to the EWRD, the HUD/NJDEP resilience project, or the municipalities downstream of the two FBO/PA projects, as the Service has yet to receive the requested information from the FBOs. The applicant stated that the issuance of the "... NJDEP permits confirms that the project will not result in flooding or water quality impacts." However, this statement is made without providing any hydrologic calculations to support their claim and is counter to the concerns raised by at least one municipality that adjoins TEB. In a letter dated September 8, 2017, the engineering firm representing Hasbrouck Heights concluded that the FAS/PA 7.18 acre wetland fill will displace over approximately 2.1 million cubic feet of flood storage into the EWRD. Considering that their calculations only used a 7 foot fill footprint (the FAS/PA project is designed at 9 feet) and that Hasbrouck's Township's engineer did not factor in the SFS/PA 4.51 acre wetland fill, it is reasonable to conclude that potentially 3 million cubic feet of additional flood storage waters (22.4 million gallons) will now enter the EWRD from TEB, without abatement.

It is imperative that the PA, NJDEP and HUD provide information to the Corps in determining what, if any, impacts from the FBO/PA projects will have on the EWRD, the HUD/NJDEP flood resilience project, the adjacent communities, and the surrounding environment. The Service requests that the Corps have the FBOs/PA obtain information from HUD and NJDEP regarding the subject proposals as it relates to the community flood resilience efforts currently being developed by HUD and NJDEP.

d. Mitigation

The CEQ has defines mitigation in a sequential way: avoiding impacts, minimizing impacts, rectifying impacts, reducing impacts over time, and compensating for impacts (40 CFR Part 1508.20). Section 1505.2(c) requires the Corps to adopt all practicable means to avoid and minimize environmental harm from the preferred alternative. It is important for the PA to provide information as to whether the FBO are providing regional public transportation needs. Although the Service is providing recommendations on the FBO/PA mitigation proposals, they have yet to demonstrate compliance with CEQ's mitigation sequencing or that the preferred alternative (filling of up to 12 acres of wetlands) is the least environmentally damaging

alternative [40 CFR Part 320.10 (a)]. As discussed below in the 404(b) (1) Guidelines assessment, the Service questions the use of two of the forms of mitigation compensation (*i.e.*, use of the Kane Mitigation Bank (KMB) by non-public transportation agency and the preservation of sites that may be highly contaminated and which are not under the threat of development). The Service requests the Corps ensure that appropriate and practicable mitigation for the two FBO/PA projects are identified, after fully considering the effects of the preferred alternative (eliminating up to 12 acres of wetlands) on the human environment [40 CFR Part 230.10 (d)]. The FBOs/PA project's impacts on public trust resources are currently not being adequately mitigated for and are resulting in a net loss of aquatic functions and acreage.

e. Scope and Single and Complete Project

Pursuant to NEPA, the CEQ states the best way to adequately assess the combined impacts of similar actions is to treat them in a single impact statement (*e.g.*, environmental assessment) [40 CFR Part 1508.25 (a) (3)]. The U.S. Army Corps of Engineers permitting regulations also states that a single and complete project is all of the activities for which the applicant plans to undertake, which are reasonably related to the same project, and for which a Department of the Army individual permit (IP) would be required [33 CFR Part 325.1(d) (2)]. The U.S Army Corps of Engineers Nationwide Permit Program emphasizes regulating similar projects as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers [33 CFR 330.2 (i)].

The Corps must remain consistent with NEPA and 33 CFR Parts 320-330, and regulate both projects as a single and complete project. The Service further supports this recommendation based on SFS being the parent company for FAS and thus the same applicant for both FBO projects; the PA is a co-applicant for both FBO projects; the stated project purpose for both FBO/PA projects are essentially the same; the PA owns, controls, and manages TEB and other nearby airports; the PA maintains lease agreements for each of the FBOs and approves all FBO operations and actions; and the FAA provides oversight of the PA operations and approves Airport Layout Plans for the PA [49 U.S.C. Section 47107 *et seq.*], which could affect the determination of a least environmental harmful alternative.

2. Clean Water Act

a. 404(b)(1) Guidelines

The 404(b) (1) Guidelines (Guidelines) (40 CFR Pat 230) are the federal regulations that govern the issuance of permits to discharge fill into "waters of the United States". Under the Guidelines no permits may be issued unless the discharge is determined to be the least environmentally-damaging practicable alternative to achieve the basic project purpose. The FBO/PA proposals are non-water dependent as they do not require the siting of the projects in a wetland or water of the United States. Where an activity associated with a proposed wetland discharge does not require access or proximity to or siting in a special aquatic site (*i.e.*, wetland) to fulfill its project purpose (*i.e.*, is not water dependent), practicable alternatives that do not involve wetlands are presumed available, unless clearly demonstrated otherwise [40 CFR Part 230.10 (a) (3)].

The basic project purpose of the FBO/PA proposals is to provide relief for the general aviation needs for the region, with TEB presumably playing a role in meeting some of this need. As discussed above, the Service is requesting the Corps to require the PA, as a co-applicant, and more importantly as the regulatory steward for managing much of the metropolitan airspace for New York City and northern New Jersey (with oversight by the FAA), to determine where and how the regional aviation needs of the region should be met. The PA's undated letter to the Corps does not address the general aviation needs for the metropolitan area or what, if any role, TEB will play in meeting those needs. It is also unclear how the FBOs are establishing how or where the regional need should be met, as their analysis may be unduly biased to favor expansion of their FBOs at TEB, rather than advocating the use of another airport facility that may result in a reduction of use of TEB. The Service notes that the PA and the FAA are the principle government agencies that manage and control the airspace of the greater metropolitan area, and as such it should be the PA/FAA that determines the overall air transportation needs for the New York-New Jersey area. An independent PA analysis will aid the Corps in determining if it is in the public interest to eliminate approximately 12 acres of the aquatic environment. In addition, the Service reiterates our request that the geographic scope of alternatives be expanded to include other PA managed and unmanaged airports located in the metropolitan area. This analysis should also discuss how the PA's current support of transportation alternatives (*i.e.*, helicopter shuttles) could accommodate the general aviation needs of the region.

b. Wetlands and Mitigation

The Service has determined that the current mitigation proposal does not meet the fundamental objective for compensatory mitigation - which is to offset the environmental losses in association with unavoidable impacts and to compensate for the aquatic resource functions that will be lost (33 CFR Part 332.3 *General compensatory mitigation requirements*)

In a letter dated February 14, 2019, attorney's representing the FBOs/PA offered several forms of mitigation to compensate for the expected loss of nearly 12 acres of wetlands proposed by the FBOs/PA. The mitigation proposals are identified below.

(1) First Aviation Services

FAS proposes to fill 7.18 acres of non-tidal wetlands (6.66 acres of emergent and 0.52 acre of forested/scrub shrub). FAS proposes to use 6.66 tidal credits (out-of-kind) previously purchased by the PA from the KMB to mitigate for the 6.66 acres of wetlands. The FAS also proposes to purchase 8.2 acres of land for preservation purposes (7.55 acres of tidal wetlands and 0.66 acre of uplands) that is also out-of-kind compensation, for the expected loss of the 0.52 acre of forested scrub/shrub wetlands.

The use of the KMB by a non-public agency project (FAS) is not appropriate. The KMB was approved by an Interagency Review Team (IRT) (Corps, Service, EPA, NMFS, and New Jersey Sports and Exposition Authority [NJSEA, formally the New Jersey Meadowlands Commission]) for the expressed purpose of meeting the needs of four State public transportation agencies (New Jersey Department of Transportation, New Jersey Transit Authority, the New Jersey Turnpike Authority and the PA). Its use (debiting of mitigation credits from the KMB) is for the express

purpose of mitigating for transportation agency projects that benefit the general public (not for the expansion of two private FBO facilities). The Service questions if the loss of approximately 7.18 acres of wetlands associated with the FAS/PA project meets the intent of a public transportation project, especially when the only apparent benefactor for the filling of wetlands is the FBO and the 38 commercial jet owners. The Service requests the Corps convene the IRT to discuss the appropriateness of using the KMB by a non-transportation agency [40 CFR Part 230.98 (s) *IRT concerns with use of credits*] and until the IRT agrees to its use, the transfer of PA KMB credits to FAS should not be authorized.

The Service has determined that the use of the KMB and the purchase of lands for preservation to offset the proposed 7.18 acres of wetland losses will result in a net loss of aquatic resource functions and acreage in the Meadowlands. Prior to becoming a bank, the KMB site was considered a jurisdictional wetland and was already providing many valuable ecological services for the human environment. They included: providing flood storage, sequestering contaminants, filtering runoff, and providing fish and wildlife habitat. The restoration of the KMB site resulted in a biological uplift for fish and wildlife habitat, but it did not result in an increase in waters of the United States or provide any measurable flood storage increases. Its use by the FAS/PA, combined with the 8.2 acre preservation site, will result in a net loss of aquatic functions and values and further contribute to the continued loss of aquatic acreage in the Meadowlands. The net loss of wetlands is non-compliant with the CWA and is counter to the last four administration policies of ensuring that the administration of the US Army Corps of Engineers' Regulatory Program would result in a "No Net Loss of Wetlands" in the United States.

The FAS/PA are proposing the purchase 8.2 acres of preserved lands to offset 0.66 acre of forested scrub/shrub wetlands. The purchase of lands for preservation purposes will offer no gain in aquatic function or resource area and does not meet the site selection criteria as discussed in the Mitigation Rule [33 CFR Part 332.3(d) *Site selection*]. The amount of lands being purchased for preservation represents a deviation to the mitigation standard ratio of 27:1 for New Jersey. The Service requests that the FAS/PA increase their preservation proposal utilizing the 27:1 industry standard and identify 17.82 acres (0.66 x 27) of non-tidal wetlands to compensate for the proposed 0.66 acre non-tidal wetland fill. The Service requests that the Meadowlands Interagency Mitigation Advisory Committee (MIMAC), which is made up with the same members of the IRT, convene to discuss the appropriateness of accepting out-of-kind mitigation and a reduced industry ratio for preservation mitigation, in addition to determining if the preservation site provides the desired aquatic resource functions [33 CFR Part 332.3 (h)(1)(i) *Preservation*].

The FBOs/PA should provide additional documentation to support their conclusion that the proposed preservation parcels are under "development threat" as required by the Mitigation Rule [40 CFR Part 230.93(h) *Preservation*]. The mere publication of a parcel of land for sale (as submitted by the FBO/PA) does not equate to a bon-a-fide development threat. A real threat to the development of wetlands in the Meadowlands lies adjacent to the FBOs that are currently proposed for elimination. The FBOs/PA should pursue the preservation of lands that are under a bon-a-fide development threat and that are also in-kind (*e.g.*, forested non-tidal wetland impacts should be replaced with forested non-tidal wetlands). All preservation sites should also identify

the party or steward responsible for its long-term management [40 CFR Part 230.93 (l) *Party responsible for compensatory mitigation*].

As discussed above, the Service is concerned with the precedent-setting nature of proposing out-of-kind tidal and upland mitigation for destroying non-tidal forested wetlands. The Service requests consideration of expanding the non-tidal forested wetland pilot restoration project that was undertaken by the PA off of Commerce Blvd., Town of Secaucus, Bergen County, New Jersey (NAN-2015-00033-WCA) to potentially meet some if not all of their non-tidal wetland mitigation needs. It appears the enhancement of these pilot project areas were successful and should be expanded to meet the mitigation needs associated with the FBO/PA proposals.

(2) Signature Flight Services

SFS is proposing the filling of 4.51 acres of non-tidal wetlands (3 acres scrub/shrub and 1.51 acres of forested wetland impacts). FAS proposes to purchase tidal credits from the MRI 3 mitigation bank to address the 3 acres of scrub/shrub impacts. The SFS is also proposing out-of-kind mitigation for the proposed 1.51 acres of forested wetland losses by purchasing 36.56 acres of land for preservation purposes. The Service requests clarification as to the total acreage of the proposed preservation sites. In the body of the SFS February 14, 2019 report, the applicant states that they are proposing to preserve 36.56 acres of wetlands and 4.21 acres of uplands (page 3 of Exhibit B). However, the agent's letter dated February 14, 2019 states that the forested impacts will only be addressed by the purchase and permanent preservation of approximately 36.56 acres of land. In addition, the Service requests confirmation that Block 231, Lot 7 is included in the compensatory mitigation proposal. It is referenced in the Figures Section (Key #9A) but is omitted in the body of the February 2019 report (page 3 of Exhibit B). In addition, a map for Block 219, Lot 66.03 is missing and should be provided. Also, it appears that Block 219.03, Lot 72.04 is a landlocked property and absent a hydrological connection and should be rejected by the Corps [40 CFR Part 230.93 (d) (i)]. Further, the Service requests that any preservation acreage proposed for the SFS/PA project be increased to a total 40.77 acres in order to meet the industry ratio standard for preservation mitigation at 27:1.

As discussed above, the use of a mitigation bank (MRI-3) combined with the proposed purchase of 36.56 acres for preservation purposes will also result in a net loss of aquatic functions and a loss of wetland acreage in the Meadowlands. The Service requests the convening of the MIMAC to discuss the proposed out-of-kind replacement of non-tidal wetland impacts with tidal wetland mitigation banking credits and to discuss the deviation of the preservation ration of 27:1. Finally, the use of preservation mitigation must be under the threat of development [40 CFR Part 230.93(h)]; which was not adequately documented by the applicant.

The use of the remaining wetlands at TEB for preservation purposes, as recommended by the Service, was discussed in an undated letter from the PA. In their letter, the PA rejected the use of preserving lands at TEB (herein referred to as Teterboro Woods) because it would "... significantly undermine the PA's ability to operate and control its facilities..." and "... meet FAA and Department of Homeland Security (DHS) safety and security specifications." The Service requests that the FBO/PA provide additional documentation from the FAA and DHS to support this claim. It is unclear why placing a CE would prevent vegetation management or

prohibit the implementation of FAA or DHS safety or security protocols. The Service requests again that the PA consider placing Teterboro Woods into a CE so that it is permanently protected from future FBO or other development. Due to the current trends of issuing wetland fill permits at TEB and the current threat by the PA and its FBOs to fill approximately 12 acres of wetlands, the "development threshold" as referenced in the CWA Mitigation Rule is met, thus qualifying the remaining wetlands at TEB as an ideal candidate for preservation mitigation. The preservation of Teterboro Woods would perpetually maintain the many ecological services those wetlands perform, including providing fish and wildlife habitat, and the much needed flood storage for the surrounding communities of TEB.

c. Contaminants

(1) Preservation sites

In our letter dated September 11, 2017, the Service requested that the applicant determine the degree to which the project would "introduce, relocate, or increase contaminants in the aquatic environment" (40 CFR Part 230.11 (d) Contaminant determinations). On a conference call conducted with the Corps on April 8, 2019, it was confirmed that the FBOs did not perform the requested chemical characterization of sediments in the two proposed FBO/PA preservation sites. As the Corps is aware, both of the FBO/PA preservation sites are located in the EPA-identified Berry's Creek Superfund Study Area (BCSA). The BCSA is highly contaminated, containing chemicals of concern (COC) at levels that pose risk to humans and the aquatic environment. The Service requests that the FBOs assess the levels of on-site contamination using NJDEP's ecological screening benchmarks (ESBs) to determine the potential for ecological impacts.

In letters dated May 17, 2019, and June 11, 2019, the applicant offered excerpts from an EPA website (https://www.berryscreekstudyarea.com/document-library) detailing information that is already known by the Service; *i.e.*, that COCs (including mercury, polychlorinated biphenyls [PCBs] and other hazardous substances) in marsh sediments are highest in the upper, northern reaches of the Berry's Creek system and lowest in the lower reaches of the BCSA (which includes the proposed mitigation sites). The applicant's reports further document that concentrations of COCs in sediment from the lower reaches of the BCSA "...were similar to the three reference sites located elsewhere in the Meadowlands District..." Unfortunately, this statement provides the Corps and the Service with little information regarding whether the proposed preservation sites pose an ecological risk; the FBO/PA response does not provide numeric concentrations of any on-site contaminants. The Corps should direct the FBOs and the PA to provide chemical characterization data for the preservation sites and compare those data against NJDEPs ecological screening benchmarks to evaluate the potential for ecological risk [40 CFR Part 230.93 (d) Site selection]. Until such data are obtained, the FBOs/PA should not be authorized to use these sites for preservation compensation. The use of potentially contaminated sites located in a highly contaminated waterway for mitigation purposes does not meet the intent or requirements of the CWA, does not offset environmental losses and should be rejected [40 CFR Part 230.93 (a) General considerations].

The Service recommends that prior to conducting any chemical characterization of the preservation sites, the FBOs and PA pre-coordinate a sampling plan with the Corps, NJDEP, and the Service to ensure the overall adequacy of the sampling plan for evaluating ecological risk and meeting the requirements of the CWA. The Service can assist the FBOs and the PA in the development of a site characterization sampling plan, if necessary.

(2) East and West Riser Ditches

As discussed above, the Service has learned that all of the storm water leaving the two proposed FBP/PA project areas will be discharged, without abatement, into the EWRD. The volumes and velocities of these discharges are currently unknown and should be calculated to determine if they have the potential to re-suspend sediments containing COCs in the EWRD. The NJDEP is conducting an extensive characterization of the East Riser Ditch (ERD) as part of its HUD resilience project to determine what, if any, COCs are in those sediments. Should COCs be found during that characterization, it will be necessary for the HUD/NJDEP project to ensure that those COCs will not be released into the aquatic environment. The FBOs/PA projects should be held to the same CWA standard, and determine if the FBO/PA projects could introduce, relocate, or increase chemical contamination of the aquatic environment (40 CFR Part 230.11 (d) Contaminant determinations). The velocities and volumes of stormwater entering the EWRD (estimated at 3 million cubic feet) from the FBO/PA projects could potentially mobilize currently uncharacterized sediments, causing ecological harm. Thus, the Service recommends that the sediments downstream of the FBO discharge points be characterized, and if COCs are encountered, that the project incorporate protections to prevent them from being released into the aquatic environment. The Service also recommends that the FBOs and the PA coordinate with the NJDEP and HUD on characterization efforts of the ERD in determining what additional characterization efforts may be necessary for the EWRD.

Without knowing if the additional stormwater leaving the project sites via the EWRD poses a risk to the aquatic environment, the Corps and the Service cannot determine if the project is in compliance with many of the requirements of the CWA, or if the National goals to restore the physical, chemical, and biological integrity of our Nation's waters are being met.

SUMMARY AND RECOMMENDATIONS

Based on the new information contained in the administration record to date, it does not appear that issuance of Corps' permits is in the public's interest. A general question remains unanswered - what is the general aviation need for the metropolitan area and what is TEBs role in meeting this need. It is imperative that the PA, HUD, NJDEP, and possibly the FAA evaluate the viability of these projects going forward, as each of these agencies have regulatory oversight over TEB and the FBOs, and could identify viable alternatives to meet project needs. Until the following actions are resolved, the Service recommends the Corps hold in abeyance any permit decisions associated with the two FBO/PA projects.

To summarize the Service's concerns the following information is required so that we can fulfill our shared responsibilities pursuant to NEPA and the CWA.

National Environmental Policy Act

- Combine both FBO/PA projects into a single and complete project and reissue a new PN.
- Determine if the FAA has a shared role in any NEPA document being prepared by the Corps.
- Require the PA to identify the current and future aviation needs for the metropolitan area and what role TEB will play in meeting this need.
- Consider the recommendations made in the 2018 RPA report when determining the current and future aviation needs for the metropolitan area, including TEB.
- Determine what, if any, land use restrictions currently exist at TEB and whether additional wetland fill projects can be expected at TEB.
- Receive a determination from the PA that the FBO proposals will reduce the current congestion and safety needs at TEB.
- Have the PA provide a land use or master plan to meet the region's current and future aviation needs, including TEB.
- Obtain an alternatives analysis from the PA that increases the geographic scope of alternatives considered to include all PA and non-PA airports in the region (ISP, TTN, EWR, LGA, and JFK).
- Obtain an evaluation from the PA that discusses the alternative use of helicopters from area airports to meet the general aviation needs of the public that reduces the need for expanding the FBO facilities.
- Accurately reflect all of the wetland fill permits that have occurred at TEB, including the surrounding area.
- Obtain information from HUD and NJDEP regarding the subject proposals and their resultant stormwater, as it relates to the community flood resilience efforts currently under development in the Meadowlands.

Clean Water Act

- Require the applicants to supplement their mitigation proposals to result in a no-net-loss of wetland acreage and aquatic functions in the Meadowlands.
- Reject the use of the KMB, as the FAS FBO project is not a State-sponsored public transportation agency project.
- Convene the IRT/MIMAC to discuss the appropriateness of using the KMB by a non-public transportation agency, the appropriateness of utilizing out-of-kind mitigation compensation, and to determine if the proposed preservation parcels are under "development threat" as required by the Mitigation Rule.
- Utilize the standard industry ratio of 27:1 for any preservation mitigation proposed by the FBOs/PA.
- Pursue the purchase of wetlands for preservation that are in-kind and under a bon-a-fide threat of development, including consideration of the preservation of Teterboro Woods at TEB, and that are important to restoring the physical, chemical, and biologically integrity of the Meadowlands.
- Clarify the total acreage of wetlands being offered for preservation compensation.

- Consider expanding the PA's non-tidal wetland pilot restoration project located in Secaucus, New Jersey to meet the non-tidal wetland mitigation needs for the proposed FBO/PA projects.
- Provide additional documentation from the FAA and DHS that the preservation of Teterboro Woods, via a conservation easement, would be contrary to FAA and DHS safety and security mandates.
- Provide characterization data (relative to the NJDEP's ecological risk criteria) for each of the FBO/PA preservation sites.
- Pre-coordinate any sampling characterization plan with the Corps, NJDEP, and the Service, prior to it being implemented.
- Reject any impaired site for compensatory mitigation.
- Determine if the expected stormwater discharge into the EWRD may release COCs into the aquatic environment. If the discharge may release COCs, the project should incorporate protections to prevent that from occuring (e.g., removal or capping).
- Conduct a sediment characterization investigation of the EWRD, to determine if the projects may introduce, relocate, or increase chemical contamination of the aquatic environment.

The Service requests that the Corps not issue any permits for the FBOs/PA projects as currently proposed. As the wetlands of the Meadowlands are considered an ARNI, should the Corps issue a permit over our objection, the Service will invoke Part IV – Elevation of Individual Permit Decisions pursuant to our Memorandum of Agreement between the Department of the Interior and the Department of the Army dated December 21, 1992.

Thank you for the opportunity to comment on this Project. These comments are offered in the spirit of interagency cooperation and to assist the Corps in best serving the public interest. Please inform me of your actions regarding this matter. We are available to meet with you at your convenience for further discussion. Please contact Steve Mars at 609-382-5267 should you have any question regarding the Service's review of this Project.

Sincerely,

Field Supervisor
Eric Schrading

REFERENCES

Bergen County Office of Emergency Management. 2015. Bergen County Multi-Jurisdictional All-Hazards Mitigation Plan. Bergen County Department of Public Safety, Division of Emergency Management, Mahwah, New Jersey. 711 pps, including figures.

New Jersey Department of Environmental Protection. 2017. 2014 New Jersey Integrated Water Quality Assessment Report. New Jersey Department of Environmental Protection, Water Assessment Team, Trenton, New Jersey. 771 pp., including Appendices.

U.S. Fish and Wildlife Service. 2007. The Hackensack Meadowlands Initiative. Preliminary Conservation Planning for the Hackensack Meadowlands. U.S. Department of Interior, Fish and Wildlife Service, New Jersey Field Office, Pleasantville, New Jersey. 422pp.

Regional Plan Association. 2018. Upgrading to World Class. The future of the Regiona's Airports Revisited. http://library.rpa.org/pdf/RPA-Upgrading-to-World-Class-Revisited.pdf

cc:

R5 – ARD (Phifer)
USDOI (Titler, Raddant)
Corps (Miranda, Cannon)
USEPA (Lopez, Montella, Montgomerie, Knutson, Tomchuk)
NOAA (Greene)
HUD (Chang-Cimino, Beha, Mahon)
FAA (Knoesel, Palm)
DHS
NJDEP (Kopkash, Dow, Fisher, Lockwood, McEvoy)
NJSEA (Bragen, Doss)
Port Authority of New York and New Jersey (Malione, Helman)
Boroughs of South Secaucus, Moonachie, Little Ferry, Hasbrouck Heights, and Teterboro
Bohler Engineering (Cahill)
Langan Engineering (McCormick)
CSG (Toft)

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Jersey Field Office
4 E. Jimmie Leeds Road, Suite 4
Galloway, New Jersey 08205
Tel: 609/646 9310
www.fws.gov/northeast/njfieldoffice/

2017-CPA-0277

Colonel Thomas D. Asbery
District Engineer
New York District, U.S. Army Corps of Engineers
Jacob K. Javits Federal Building
New York, New York 10278-0090

SEP 11 2017

Subject: Public Notice No. NAN-2016-00513-WCA. First Aviation Services and the Port Authority of New York and New Jersey, Boroughs of Moonachie and Teterboro, Bergen County, New Jersey.

Dear Colonel Asbery,

The U.S. Fish and Wildlife Service (Service) has reviewed the New York District, U.S Army Corps of Engineers' (Corps) Public Notice (PN) dated August 14, 2017, regarding the proposed construction of two new aircraft hangers with associated office space and a new access road (Project) at the Port Authority of New York and New Jersey's (PA) Teterboro Airport located in the Boroughs of Moonachie and Teterboro, Bergen County, New Jersey. Both First Aviation Services (FA) and the PA are identified as co-applicants for the subject Project that involves the filling of 7.18 acres of waters of the United States, including wetlands.

The Project is being evaluated by the Corps for consideration of a permit pursuant to Section 404 of the Clean Water Act (CWA) (33 U.S.C. 403) and Section 10 of the Rivers and Harbors Act (33 U.S.C. 1344). The Project must also be consistent with the Final Rule: Mitigation for Losses of Aquatic Resources (Federal Register 33 CFR 325 and 332, 73(70):19594-19705) (Mitigation Rule). Based on the reasons set forth below, the Service recommends that the Corps deny the subject permit application.

As the wetlands throughout the project site (Meadowlands) are considered an Aquatic Resource of National Importance (ARNI), should the Corps issue a permit over our objection, the Service will invoke Part IV – Elevation of Individual Permit Decisions pursuant to our Memorandum of Agreement between the Department of the Interior and the Department of the Army dated December 21, 1992 (CWA 404q).

AUTHORITY

The following comments are provided under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401; 16 U.S.C. 661 *et seq.*), National Environmental Policy Act of 1969 (83 Stat. 852; 42 U.S.C. 4321 *et seq.*) (NEPA), and the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) (ESA), as amended, and are consistent with the intent of the

Service's Mitigation Policy (Federal Register, Vol. 46, No. 15, Jan. 23, 1981). The Service's Mitigation Policy emphasizes that avoidance and minimization precede compensation, which is to be considered for unavoidable adverse impacts to fish and wildlife resources and supporting ecosystems. These comments are intended for the protection of fish and wildlife and for use in determining compliance with the CWA Guidelines (40 CFR Part 230) and the Mitigation Rule.

FEDERALLY LISTED SPECIES

The Service concurs with the Corps' determination that the proposed project will result in "no effect" to federally listed threatened or endangered species under Service jurisdiction or their critical habitats. No further consultation pursuant to Section 7 of the ESA is required by the Service. If project plans change or new information on federally listed threatened or endangered species becomes available, this determination may be reconsidered.

SERVICE REVIEW

National Environmental Policy Act

One of the goals of NEPA is to reduce adverse impacts to the environment, including cumulative impacts and to take actions that protect, restore, and enhance the environment (40 CFR Parts 1500 to 1508). The proposed filling of wetlands by the co-applicants is counter to the goals of NEPA. The Meadowlands is significantly degraded and is comprised of a patchwork of functionally-challenged wetlands and waterways that historically measured over 21,000 acres. More than 70 percent of the total wetlands that once existed in the Hackensack Meadowlands District (HMD) have been destroyed by human activities (U.S. Fish and Wildlife Service 2007). Any additional losses of wetlands should be deemed significant and may warrant the preparation of an Environmental Impact Statement (EIS) in accordance with NEPA (40 CFR Part 1500 – 1508).

The Council of Environmental Quality states (40 CFR Part 1508.25) that a range of actions, alternatives, and impacts shall be considered in a NEPA document. For a proposed action or any reasonable alternative, the Federal action agency should determine the geographic area that will be affected. In 1989 the U.S. Environmental Protection Agency (EPA) defined the geographic scope for an alternative analysis to "...include all areas that would be reasonable to consider in the industry." and that "...the basic project purpose will generally determine the appropriate geographical scope." To date the Service has not been provided an alternative analysis to assess the applicant's geographic scope of potential sites considered for the Project. The Service recommends that any NEPA alternative analysis be forwarded to the environmental resource agencies for review prior to any permit issuance.

The basic purpose of the Project (as discussed in the Corps PN) is to provide for added parking capacity for aviation users of Teterboro Airport in the New York/New Jersey metropolitan region. At a minimum an alternative analysis for the Project should evaluate who the users are, what their final destinations are, what other existing facilities were considered to meet the added demand for jet parking at Teterboro Airport, and what the long-term vision is for Teterboro airport, including plans for the remaining wetlands. All other future aviation parking needs or expansions that are reasonable to predict and that could result in added losses of wetlands should also be discussed in the co-applicant's alternative analysis. The alternative analysis should

include the use of other mass transportation alternatives (car, rail, bus, water) in conjunction with other PA properties (Newark, LaGuardia, or John F. Kennedy International Airports) or other non-PA airport properties in the New York/New Jersey metropolitan area that could meet the needs of the co-applicant's without the loss of ARNI wetlands.

The co-applicants are reminded that the addition of non-pervious surfaces in association with 7.18 acres of wetland fill could exacerbate an already stressed storm water infrastructure system. Many communities downstream of Teterboro Airport suffered losses to property and human life during Superstorm Sandy - due to an 11 to 13 foot surge in flood waters. The co-applicants alternative analysis should address how the loss of 7.18 acres of wetlands will affect, if any, the downstream effect of flood waters on any downstream communities.

The Project is non-water dependent and as such practicable alternatives that do not involve special aquatic sites are presumed to be available, unless clearly demonstrated otherwise. In addition, where a discharge is proposed for a special aquatic site, all practicable alternatives to the proposed discharge, which do not involve a discharge into a special aquatic site are presumed to have less adverse impact on the aquatic ecosystem, unless clearly demonstrated otherwise [40 CFR 230.1 0(a)(3)]. As such, non-aquatic alternative sites are presumed available in the metropolitan region unless the applicant has demonstrated otherwise. The co-applicants have not provided an alternative analysis for the Service to determine compliance with this regulatory requirement. The co-applicants are reminded that alternative sites not currently zoned for the proposed use or that are not currently available for purchase or are in control by the co-applicants (i.e., Stewart International Airport) should be investigated in order to provide for a robust assessment of potential non-wetland alternatives.

The Service recommends that the applicant provide additional information to establish the conclusion that less environmentally damaging practicable alternatives for the proposed discharge do not exist [40 CFR Part 230.10(a)].

Clean Water Act

Mitigation – The Service is a member of the Meadowlands Interagency Mitigation Advisory Committee (MIMAC), and is aware that there are very limited opportunities for mitigation in the Meadowlands. The applicant has stated that they propose to compensate for any wetlands losses by purchasing 6.6 mitigation credits from the federally approved Richard P. Kane Wetland Mitigation Bank and thru the enhancement of 1.56 acres of wetlands along the Oradell Reservoir in the Borough of Closter, Bergen County, New Jersey. The use of the Oradell site does not share the same long-term protection needs of a federally approved mitigation bank and as such will require additional review by the MIMAC, prior to the Corps approving the Project's mitigation plan.

In accordance with Paragraph III (Duties and Responsibilities of the MIMAC – see 1997 Interagency Agreement) "The MIMAC will review and seek consensus on banking instruments and on final plans for the restoration, creation, enhancement, and/or preservation of wetlands and other aquatic resources". As such the Service requests that the Corps hold in abeyance any permit action for the subject project until the MIMAC has approved the applicant's mitigation proposal, if they appropriately address the alternatives analysis.

Guidelines – The 404(b)(1) Guidelines of the CWA do not exclude the consideration of sites that, while not currently owned by the permit applicant, could reasonably be obtained to satisfy the project purpose. In addition, the principle behind the Guidelines is that discharges of dredged or fill material in waters of the United States, including wetlands, should not occur unless it can be demonstrated that such discharges, either individually or cumulatively, will not result in unacceptable adverse effects on the aquatic ecosystem. The Meadowlands has suffered from large wetland losses due to past human activities (including residential and commercial development) and that any future wetland losses will result in additional adverse impacts to a watershed that is already impaired (*i.e.*, poor water quality, fish consumption advisories, and contamination). The intent of the CWA is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. The Service considers that any additional losses of wetlands or waters in the Meadowlands as significant and as such should be denied unless the applicant demonstrates that their Project is meeting the CWA's intent to restore our Nation's waters. In addition, considering that additional wetland impacts are under consideration by the Corps for activities in the Meadowlands (Teterboro Airport, East Rutherford Housing Development, New Jersey Transit, PSE&G), the cumulative effects of these actions should be considered when determining compliance with the CWA.

Contaminants – The Project site is within the Berry's Creek watershed, one of the most heavily polluted waterways in our Nation and is also subject to a Superfund investigation (Berry's Creek Superfund Study Area) by the EPA, of which the PA has been named as a potential responsibility party. The Project area has the potential to further degrade the watershed and the adjacent marsh plain and as such, the applicant must determine the degree to which the Project will "introduce, relocate, or increase contaminants to the aquatic environment" (40 CFR Part 230.11 (d) Contaminant determinations). The applicant should characterize the fill material and underlying sediments prior to construction to determine the level of risk the Project site poses on the aquatic environment. The Project proponent will have to demonstrate that the proposed Project will be sufficiently protective of fish and wildlife resources once constructed and be consistent with the Superfund work under consideration by the EPA.

OTHER CONCERNS

The U.S. Department of Housing and Urban Development (HUD) and the New Jersey Department of Environmental Protection (NJDEP) are currently developing a Rebuild by Design (RBD) project for the Meadowlands. The RBD project is in response to the flooding of residents and businesses, due in part to the historical loss of wetlands in the Meadowlands region. Additional filling of wetlands as proposed by the applicant, will likely exacerbate a known flooding condition for the local communities and the Meadowlands in general. Several mitigation banks in the Meadowlands were constructed from degraded marshes and did not result in added flood attenuation benefits. The use of one of these banks to offset Project impacts may result in a net loss of flood protection for the region. The RBD is considering the purchasing of lands that are located in 100-year floodplain of the Meadowlands to minimize future damages and loss of life, of which the Project site is located. It is recommended that the applicant determine if their Project will result in a net loss for flood protection. In addition, the applicant should consult with the HUD and NJDEP to ensure that the proposed Project does not impact or impede any aspect of the RBD project.

SUMMARY AND RECOMMENDATIONS

- The Corps should consider preparing an EIS pursuant to 40 CRR Part 1500-1508, as Project related wetland losses are deemed significant.
- The Corps should request the applicant to prepare an alternatives analysis and assess if the applicant's geographic scope (*i.e.*, the metropolitan area) of alternative sites complies with 40 CFR Part 1508.25. The NEPA alternative analysis should be forwarded to the environmental resource agencies for additional review.
- The applicant should include in their alternatives analysis further discussion on rezoning alternatives, the use of other mass transportation alternatives, and alternative sites that are owned or leased by the co-applicant's or lands that are not currently owned or leased by the co-applicant's that could meet the project purpose.
- The applicant should determine if their Project will result in a net loss of flood protection for the region.
- The applicant should present their mitigation proposal to the MIMAC, including the use of the Oradell site for approval in accordance with the 1997 Interagency Agreement.
- The Corps should consider the cumulative effects of other projects in the Meadowlands in their final NEPA document for the Project.
- The applicant should characterize the fill material and underlying sediments to determine the level of risk the Project site poses on the aquatic environment, and the applicant must demonstrate that the proposed Project will be sufficiently protective of fish and wildlife resources and be consistent with the Superfund work under consideration by the EPA.
- The applicant should consult with the HUD and NJDEP to ensure that the proposed Project does not impact or impede any aspect of the RBD project.

The Service requests that the Corps not issue any permits for the Project as currently proposed. As the wetlands of the Meadowlands are considered an ARNI, should the Corps issue a permit over our objection, the Service will invoke Part IV – Elevation of Individual Permit Decisions pursuant to our Memorandum of Agreement between the Department of the Interior and the Department of the Army dated December 21, 1992.

Thank you for the opportunity to comment on this Project. These comments are offered in the spirit of interagency cooperation and to assist the Corps in best serving the public interest. Please inform me of your actions regarding this matter. We are available to meet with you at your convenience for further discussion. Please contact Steve Mars at 609-382-5267 should you have any question regarding the Service's review of this Project.

Sincerely,

Field Supervisor
Eric Schrading

REFERENCES

U.S. Fish and Wildlife Service. 2007. The Hackensack Meadowlands Initiative. Preliminary Conservation Planning for the Hackensack Meadowlands. U.S. Department of Interior, Fish and Wildlife Service, New Jersey Field Office, Pleasantville, New Jersey. 422pp.

cc: NMFS (Greene)
USEPA (Montella, Tomchuk)
USACE (Cannon)
NJDEP (Aspinwall)
NJSEA (Feltes)
HUD (Chang-Cimino)

APPENDIX H.5

New Jersey Department of Environmental Protection Coordination

State of New Jersey
MAIL CODE 501-04
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE PARKS, FORESTS & HISTORIC SITES
OFFICE OF NATURAL LANDS MANAGEMENT
501 East State Street
P.O. Box 420, Mail Code 501-04
Trenton, NJ 08625-0420
Tel. (609) 984-1339 • Fax (609) 984-0427

PHILIP D. MURPHY
Governor

SHEILA Y. OLIVER
Lt. Governor

SHAWN M. LATOURETTE
Commissioner

June 9, 2023

Emily Bjorhus
Princeton Hydro, LLC
P.O. Box 3689
Trenton, NJ 08629

Re: Proposed Hangar and Buildings - Signature East
Block(s) - 203, Lot(s) - 1, 1.02
Teterboro Borough, Bergen County

Dear Emily Bjorhus:

Thank you for your data request regarding rare species information for the above referenced project site.

Searches of the Natural Heritage Database and the Landscape Project (Version 3.3) are based on a representation of the boundaries of your project site in our Geographic Information System (GIS). We make every effort to accurately transfer your project bounds from the map(s) submitted with the Natural Heritage Data Request Form into our GIS. We do not typically verify that your project bounds are accurate, or check them against other sources.

We have checked the Landscape Project habitat mapping and the Biotics Database for occurrences of any rare wildlife species or wildlife habitat on the referenced site. The Natural Heritage Database was searched for occurrences of rare plant species or ecological communities that may be on the project site. Please refer to Table 1 (attached) to determine if any rare plant species, ecological communities, or rare wildlife species or wildlife habitat are documented on site. A detailed report is provided for each category coded as 'Yes' in Table 1.

We have also checked the Landscape Project habitat mapping and Biotics Database for occurrences of rare wildlife species or wildlife habitat in the immediate vicinity (within ¼ mile) of the referenced site. Additionally, the Natural Heritage Database was checked for occurrences of rare plant species or ecological communities within ¼ mile of the site. Please refer to Table 2 (attached) to determine if any rare plant species, ecological communities, or rare wildlife species or wildlife habitat are documented within the immediate vicinity of the site. Detailed reports are provided for all categories coded as 'Yes' in Table 2. These reports may include species that have also been documented on the project site.

We have also checked the Landscape Project habitat mapping and Biotics Database for all occurrences of rare wildlife species or wildlife habitat within one mile of the referenced site. Please refer to Table 3 (attached) to determine if any rare wildlife species or wildlife habitat is documented within one mile of the project site. Detailed reports are provided for each category coded as 'Yes' in Table 3. These reports may include species that have also been documented on the project site.

For requests submitted in order to make a riparian zone width determination as part of a Flood Hazard Area Control Act (FHACA) rule application, we report records for all rare plant species and ecological communities tracked by the Natural Heritage Program that may be on, or in the immediate vicinity of, your project site. A subset of these plant species is also covered by the FHACA rules when the records are located within one mile of the project site. One-mile searches for FHACA plant species will only report precisely located occurrences for those wetland plant species identified under the FHACA regulations as being critically dependent on the watercourse. Please refer to Table 3 (attached) to determine if any precisely located rare wetland plant species covered by the FHACA rules have been documented. Detailed reports are

provided for each category coded as 'Yes' in Table 3. These reports may include species that have also been documented on, or in the immediate vicinity of, the project site.

The Natural Heritage Program reviews its data periodically to identify priority sites for natural diversity in the State. Included as priority sites are some of the State's best habitats for rare and endangered species and ecological communities. Please refer to Tables 1, 2 and 3 (attached) to determine if any priority sites are located on, in the immediate vicinity, or within one mile of the project site.

A list of rare plant species and ecological communities that have been documented from the county (or counties), referenced above, can be downloaded from https://nj.gov/dep/parksandforests/natural/heritage/database.html. If suitable habitat is present at the project site, the species in that list have potential to be present.

Status and rank codes used in the tables and lists are defined in EXPLANATION OF CODES USED IN NATURAL HERITAGE REPORTS, which can be downloaded from https://nj.gov/dep/parksandforests/natural/docs/nhpcodes_2010.pdf.

Beginning May 9, 2017, the Natural Heritage Program reports for wildlife species will utilize data from Landscape Project Version 3.3. If you have questions concerning the wildlife records or wildlife species mentioned in this response, we recommend that you visit the interactive web application at the following URL, https://njdep.maps.arcgis.com/apps/webappviewer/index.html?id=0e6a44098c524ed99bf739953cb4d4c7, or contact the Division of Fish and Wildlife, Endangered and Nongame Species Program at (609) 292-9400.

For additional information regarding any Federally listed plant or animal species, please contact the U.S. Fish & Wildlife Service, New Jersey Field Office at http://www.fws.gov/northeast/njfieldoffice/endangered/consultation.html.

Information supplied by the Natural Heritage Program summarizes existing data known to the program at the time of the request regarding the biological elements (species and/or ecological communities) or their locations. They should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments.

Thank you for consulting the Natural Heritage Program. The attached invoice details the payment due for processing this data request. Feel free to contact us again regarding any future data requests.

Sincerely,



Robert J. Cartica
Administrator

c: NHP File No. 23-4007471-27857

Table 1: On Site Data Request Search Results (6 Possible Reports)

Report Name	**Included**	**Number of Pages**
1. Possibly on Project Site Based on Search of Natural Heritage Database: Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database	No	0 pages included
2. Natural Heritage Priority Sites On Site	No	0 pages included
3. Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.3 Species Based Patches	Yes	1 page(s) included
4. Vernal Pool Habitat on the Project Site Based on Search of Landscape Project 3.3	No	0 pages included
5. Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.3 Stream Habitat File	No	0 pages included
6. Other Animal Species On the Project Site Based on Additional Species Tracked by Endangered and Nongame Species Program	No	0 pages included

Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.3 Species Based Patches

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Srank
Aves								
	Glossy Ibis	Plegadis falcinellus	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Snowy Egret	Egretta thula	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Yellow-crowned Night-heron	Nyctanassa violacea	Foraging	3	NA	State Threatened	G5	S2B,S2N

Table 2: Vicinity Data Request Search Results (6 possible reports)

Report Name	**Included**	**Number of Pages**
1. Immediate Vicinity of the Project Site Based on Search of Natural Heritage Database: Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database	No	0 pages included
2. Natural Heritage Priority Sites within the Immediate Vicinity	No	0 pages included
3. Rare Wildlife Species or Wildlife Habitat Within the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.3 Species Based Patches	Yes	1 page(s) included
4. Vernal Pool Habitat In the Immediate Vicinity of Project Site Based on Search of Landscape Project 3.3	No	0 pages included
5. Rare Wildlife Species or Wildlife Habitat In the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.3 Stream Habitat File	No	0 pages included
6. Other Animal Species In the Immediate Vicinity of the Project Site Based on Additional Species Tracked by Endangered and Nongame Species Program	No	0 pages included

Rare Wildlife Species or Wildlife Habitat Within the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.3 Species Based Patches

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Srank
Aves								
	Glossy Ibis	Plegadis falcinellus	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Snowy Egret	Egretta thula	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Yellow-crowned Night-heron	Nyctanassa violacea	Foraging	3	NA	State Threatened	G5	S2B,S2N

Table 3: Within 1 Mile for Riparian Zone Width Determination
(6 possible reports)

Report Name	**Included**	**Number of Pages**
1. Rare Plant Species Occurrences for Riparian Zone Width Determination (Flood Hazard Area Control Act Rule Appplication) - Within One Mile of the Project Site Based on Search of Natural Heritage Database	No	0 pages included
2. Natural Heritage Priority Sites for Riparian Zone Width Determination - Within One Mile of the Project Site	No	0 pages included
3. Rare Wildlife Species or Wildlife Habitat for Riparian Zone Width Determination - Within One Mile of the Project Site Based on Search of Landscape Project 3.3 Species Based Patches	Yes	1 page(s) included
4. Vernal Pool Habitat for Riparian Zone Width Determination - Within One Mile of the Project Site Based on Search of Landscape Project 3.3	No	0 pages included
5. Rare Wildlife Species or Wildlife Habitat for Riparian Zone Width Determination - Within One Mile of the Project Site Based on Search of Landscape Project 3.3 Stream Habitat File	No	0 pages included
6. Other Animal Species for Riparian Zone Width Determination - Within One Mile of the Project Site Based on Additional Species Tracked by Endangered and Nongame Species Program	No	0 pages included

Rare Wildlife Species or Wildlife Habitat for Riparian Zone Width Determination
Within One Mile of the Project Site
Based on Search of Landscape Project 3.3 Species Based Patches

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Srank
Aves								
	Bald Eagle	Haliaeetus leucocephalus	Foraging	4	NA	State Endangered	G5	S1B,S2N
	Barred Owl	Strix varia	Non-breeding Sighting	3	NA	State Threatened	G5	S2B,S2N
	Black-throated Blue Warbler	Dendroica caerulescens	Breeding Sighting	2	NA	Special Concern	G5	S3B,S4N
	Brown Thrasher	Toxostoma rufum	Breeding Sighting	2	NA	Special Concern	G5	S3B,S4N
	Common Nighthawk	Chordeiles minor	Breeding Sighting	2	NA	Special Concern	G5	S3B,S3N
	Glossy Ibis	Plegadis falcinellus	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Little Blue Heron	Egretta caerulea	Foraging	2	NA	Special Concern	G5	S3B,S3N
	Snowy Egret	Egretta thula	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Wood Thrush	Hylocichla mustelina	Breeding Sighting	2	NA	Special Concern	G4	S3B,S4N
	Yellow-crowned Night-heron	Nyctanassa violacea	Foraging	3	NA	State Threatened	G5	S2B,S2N
	Yellow-crowned Night-heron	Nyctanassa violacea	Nesting Colony	3	NA	State Threatened	G5	S2B,S2N