

Appendix C

Biological Resources

Final Environmental Assessment
Proposed Airport Traffic Control Tower and Associated Improvements at BWI Marshall Airport

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APPENDIX C:

Biological Resources

The following attachments are included in this appendix to support the biological resources analysis:

- Attachment 1: USFWS Letter with Official Species List, October 10, 2023.
- Attachment 2: USFWS Determination for the Northern Long-Eared Bat, October 10, 2023.
- Attachment 3: MDNR WHS Environmental Review Request Letter, September 29, 2023.
- Attachment 4: MDNR WHS Response, November 8, 2023.
- Attachment 5: MDNR Aquatic Resources Screening Tool Map, November 13, 2023.
- Attachment 6: Forest Conservation Worksheets for Mitigation Requirements.
- Attachment 7: Updated Forest Stand Delineation for Direct Study Area, CRI, December 2023.

Attachment 1:

USFWS Letter with Official Species List

October 10, 2023



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
Phone: (410) 573-4599 Fax: (410) 266-9127

In Reply Refer To:
Project Code: 2024-0002873
Project Name: BWI ATCT EA Tree Removal

February 14, 2024

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: <https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see [Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service \(fws.gov\)](#).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Chesapeake Bay Ecological Services Field Office

177 Admiral Cochrane Drive

Annapolis, MD 21401-7307

(410) 573-4599

PROJECT SUMMARY

Project Code: 2024-0002873

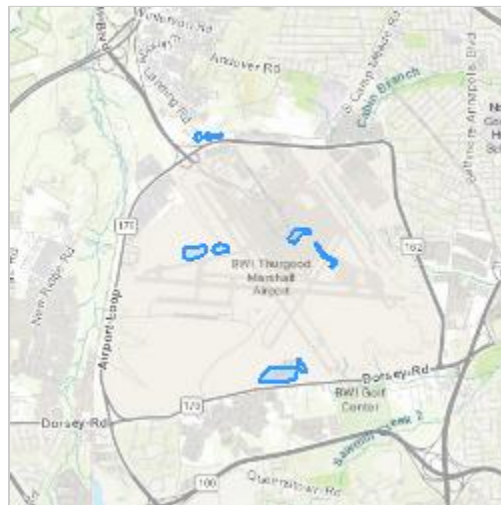
Project Name: BWI ATCT EA Tree Removal

Project Type: Airport - Maintenance/Modification

Project Description: The Maryland Aviation Administration (MAA) is preparing an Environmental Assessment (EA) to assist the Federal Aviation Administration (FAA) in evaluating potential environmental effects resulting from a new Airport Traffic Control Tower (ATCT) and associated improvements at BWI Marshall Airport. The Proposed Action consists of the construction of a new air traffic control tower (ATCT), operational spaces for FAA staffing offices, a new hotel, removal of adjacent line of sight obstructions associated with the new ATCT and between the existing ATCT and future taxiway, upgrades to the ramp control tower so it can function as a supplemental ATCT during construction, and construction of a duct bank to supply power to the new ATCT. The project study area consists of approximately 9 acres of currently paved terminal area, 13 acres of mature mixed forest, and 24 acres of potential staging area which is currently paved/impervious.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@39.1644119,-76.66945557759335,14z>



Counties: Anne Arundel County, Maryland

ENDANGERED SPECIES ACT SPECIES

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [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.

MAMMALS

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Federal Aviation Administration

Name: Genevieve Walker

Address: 13783 Park Center Road, Suite 490S

City: Herndon

State: VA

Zip: 20171

Email: genevieve.j.walker@faa.gov

Phone: 7034873979

Attachment 2:

USFWS Determination for the Northern Long-Eared Bat

October 10, 2023



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
Phone: (410) 573-4599 Fax: (410) 266-9127

In Reply Refer To:
Project code: 2024-0002873
Project Name: BWI ATCT EA Tree Removal

October 10, 2023

Federal Nexus: yes
Federal Action Agency (if applicable): Federal Aviation Administration

Subject: Federal agency coordination under the Endangered Species Act, Section 7 for 'BWI ATCT EA Tree Removal'

Dear Genevieve Walker:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on October 10, 2023, for 'BWI ATCT EA Tree Removal' (here forward, Project). This project has been assigned Project Code 2024-0002873 and all future correspondence should clearly reference this number. **Please carefully review this letter. Your Endangered Species Act (Act) requirements may not be complete.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project.

Failure to accurately represent or implement the Project as detailed in IPaC or the Northern Long-eared Bat Rangewide Determination Key (DKey), invalidates this letter. ***Answers to certain questions in the DKey commit the project proponent to implementation of conservation measures that must be followed for the ESA determination to remain valid.***

Determination for the Northern Long-Eared Bat

Based upon your IPaC submission and a standing analysis completed by the Service, your project has reached the determination of "May Affect, Not Likely to Adversely Affect" the northern long-eared bat. Unless the Service advises you within 15 days of the date of this letter that your

IPaC-assisted determination was incorrect, this letter verifies that consultation on the Action is complete and no further action is necessary unless either of the following occurs:

- new information reveals effects of the action that may affect the northern long-eared bat in a manner or to an extent not previously considered; or,
- the identified action is subsequently modified in a manner that causes an effect to the northern long-eared bat that was not considered when completing the determination key.

15-Day Review Period

As indicated above, the Service will notify you within 15 calendar days if we determine that this proposed Action does not meet the criteria for a “may affect, not likely to adversely affect” (NLAA) determination for the northern long-eared bat. If we do not notify you within that timeframe, you may proceed with the Action under the terms of the NLAA concurrence provided here. This verification period allows the identified Ecological Services Field Office to apply local knowledge to evaluation of the Action, as we may identify a small subset of actions having impacts that we did not anticipate when developing the key. In such cases, the identified Ecological Services Field Office may request additional information to verify the effects determination reached through the Northern Long-eared Bat DKey.

You have indicated that you must remove a hazard tree in order to prevent imminent loss of human life. Be advised that the Act’s implementing regulations (50 CFR part 17) include a take exemption pursuant to the defense of human life (for endangered species, see 50 CFR 17.21(c) (2)): “any person may take endangered [or threatened] wildlife in defense of his own life or the lives of others.”). The regulations at 50 CFR 17.21(c)(4) require that any person taking, including killing, listed wildlife in defense of human life under this exception must notify our headquarters Office of Law Enforcement, at the address provided at 50 CFR 2.1(b), in writing, within 5 days. In addition, section 11 of the Act enumerates the penalties and enforcement of the Act. In regard to civil penalties, section 11(a)(3) of the Act states, “Notwithstanding any other provision of this [Act], no civil penalty shall be imposed if it can be shown by a preponderance of the evidence that the defendant committed an act based on a good faith belief that he was acting to protect himself or herself, a member of his or her family, or any other individual from bodily harm, from any endangered or threatened species” (16 U.S.C. 1540(a)(3)). Section 11(b) (3) of the Act contains similar language in regard to criminal violations (see 16 U.S.C. 1540(b) (3)). If you think incidental take of listed bats was reasonably certain to have occurred as a result of your hazard tree removal, we advise you to contact the Office of Law Enforcement as outlined above. In the future, we recommend planning ahead so that tree removal of potentially hazardous trees does not become an emergency. If you determine an emergency exists, however, and human life is in imminent danger, do not delay action. Also do not delay action if removal of the hazard tree is part of a federal response to a situation involving an act of God, disaster, casualty, national defense or security emergency, etc. - coordinate with the local USFWS field office as soon as practicable after the emergency is under control.

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination for the northern long-eared bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Monarch Butterfly *Danaus plexippus* Candidate

You may coordinate with our Office to determine whether the Action may affect the species and/or critical habitat listed above. Note that reinitiation of consultation would be necessary if a new species is listed or critical habitat designated that may be affected by the identified action before it is complete.

If you have any questions regarding this letter or need further assistance, please contact the Chesapeake Bay Ecological Services Field Office and reference Project Code 2024-0002873 associated with this Project.

Action Description

You provided to IPaC the following name and description for the subject Action.

1. Name

BWI ATCT EA Tree Removal

2. Description

The following description was provided for the project 'BWI ATCT EA Tree Removal':

The Maryland Aviation Administration (MAA) is preparing an Environmental Assessment (EA) to assist the Federal Aviation Administration (FAA) in evaluating potential environmental effects resulting from a new Airport Traffic Control Tower (ATCT) and associated improvements at BWI Marshall Airport. The Proposed Action consists of the construction of a new air traffic control tower (ATCT), operational spaces for FAA staffing offices, a new hotel, removal of adjacent line of sight obstructions associated with the new ATCT and between the existing ATCT and future taxiway, upgrades to the ramp control tower so it can function as a supplemental ATCT during construction, and construction of a duct bank to supply power to the new ATCT. The project study area consists of approximately 9 acres of currently paved terminal area, 13 acres of mature mixed forest, and 24 acres of potential staging area which is currently paved/impervious.

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@39.1644189,-76.66944287198986,14z>



DETERMINATION KEY RESULT

Based on the answers provided, the proposed Action is consistent with a determination of “may affect, but not likely to adversely affect” for the Endangered northern long-eared bat (*Myotis septentrionalis*).

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of the northern long-eared bat or any other listed species?

Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

No

2. The proposed action does not intersect an area where the northern long-eared bat is likely to occur, based on the information available to U.S. Fish and Wildlife Service as of the most recent update of this key. If you have data that indicates that northern long-eared bats are likely to be present in the action area, answer "NO" and continue through the key.

Do you want to make a no effect determination?

No

3. The action area does not overlap with an area for which U.S. Fish and Wildlife Service currently has data to support the presumption that the northern long-eared bat is present. Are you aware of other data that indicates that northern long-eared bats (NLEB) are likely to be present in the action area?

Bat occurrence data may include identification of NLEBs in hibernacula, capture of NLEBs, tracking of NLEBs to roost trees, or confirmed NLEB acoustic detections. Data on captures, roost tree use, and acoustic detections should post-date the year when white-nose syndrome was detected in the relevant state. With this question, we are looking for data that, for some reason, may have not yet been made available to U.S. Fish and Wildlife Service.

No

4. Does any component of the action involve construction or operation of wind turbines?

Note: For federal actions, answer ‘yes’ if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

No

5. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

Yes

6. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

No

7. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

Note: This key may be used for federal actions and for non-federal actions to facilitate section 7 consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

Yes

8. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part?

No

9. Is the lead federal action agency the Federal Energy Regulatory Commission (FERC)?

No

10. Have you determined that your proposed action will have no effect on the northern long-eared bat? Remember to consider the [effects of any activities](#) that would not occur but for the proposed action.

If you think that the northern long-eared bat may be affected by your project or if you would like assistance in deciding, answer “No” below and continue through the key. If you have determined that the northern long-eared bat does not occur in your project’s action area and/or that your project will have no effects whatsoever on the species despite the potential for it to occur in the action area, you may make a “no effect” determination for the northern long-eared bat.

Note: Federal agencies (or their designated non-federal representatives) must consult with USFWS on federal agency actions that may affect listed species [50 CFR 402.14(a)]. Consultation is not required for actions that will not affect listed species or critical habitat. Therefore, this determination key will not provide a consistency or verification letter for actions that will not affect listed species. If you believe that the northern long-eared bat may be affected by your project or if you would like assistance in deciding, please answer “No” and continue through the key. Remember that this key addresses only effects to the northern long-eared bat. Consultation with USFWS would be required if your action may affect another listed species or critical habitat. The definition of [Effects of the Action](#) can be found here: <https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions>

No

11. [Semantic] Is the action area located within 0.5 miles of a known northern long-eared bat hibernaculum?

Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

Automatically answered

No

12. Does the action area contain any caves (or associated sinkholes, fissures, or other karst features), mines, rocky outcroppings, or tunnels that could provide habitat for hibernating northern long-eared bats?

No

13. Is suitable summer habitat for the northern long-eared bat present within 1000 feet of project activities?
(If unsure, answer "Yes.")

Note: If there are trees within the action area that are of a sufficient size to be potential roosts for bats (i.e., live trees and/or snags ≥ 3 inches (12.7 centimeter) dbh), answer "Yes". If unsure, additional information defining suitable summer habitat for the northern long-eared bat can be found at: <https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions>

Yes

14. Will the action cause effects to a bridge?

No

15. Will the action result in effects to a culvert or tunnel?

No

16. Does the action include the intentional exclusion of northern long-eared bats from a building or structure?

Note: Exclusion is conducted to deny bats' entry or reentry into a building. To be effective and to avoid harming bats, it should be done according to established standards. If your action includes bat exclusion and you are unsure whether northern long-eared bats are present, answer "Yes." Answer "No" if there are no signs of bat use in the building/structure. If unsure, contact your local U.S. Fish and Wildlife Services Ecological Services Field Office to help assess whether northern long-eared bats may be present. Contact a Nuisance Wildlife Control Operator (NWCO) for help in how to exclude bats from a structure safely without causing harm to the bats (to find a NWCO certified in bat standards, search the Internet using the search term "National Wildlife Control Operators Association bats"). Also see the White-Nose Syndrome Response Team's guide for bat control in structures

No

17. Does the action involve removal, modification, or maintenance of a human-made structure (barn, house, or other building) **known or suspected to contain roosting bats**?

No

18. Will the action cause construction of one or more new roads open to the public?

For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

No

19. Will the action include or cause any construction or other activity that is reasonably certain to increase average daily traffic on one or more existing roads?

Note: For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

No

20. Will the action include or cause any construction or other activity that is reasonably certain to increase the number of travel lanes on an existing thoroughfare?

For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

No

21. Will the proposed action involve the creation of a new water-borne contaminant source (e.g., leachate pond pits containing chemicals that are not NSF/ANSI 60 compliant)?

No

22. Will the proposed action involve the creation of a new point source discharge from a facility other than a water treatment plant or storm water system?

No

23. Will the action include drilling or blasting?

Yes

24. Will the drilling or blasting affect known or potentially suitable hibernacula, summer habitat, or active year-round habitat (where applicable) for the northern long-eared bat?

Note: In addition to direct impacts to hibernacula, consider impacts to hydrology or air flow that may impact the suitability of hibernacula. Additional information defining suitable summer habitat for the northern long-eared bat can be found at: <https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions>

No

25. Will the action involve military training (e.g., smoke operations, obscurant operations, exploding munitions, artillery fire, range use, helicopter or fixed wing aircraft use)?

No

26. Will the proposed action involve the use of herbicides or pesticides other than herbicides (e.g., fungicides, insecticides, or rodenticides)?

No

27. Will the action include or cause activities that are reasonably certain to cause chronic nighttime noise in suitable summer habitat for the northern long-eared bat? Chronic noise is noise that is continuous or occurs repeatedly again and again for a long time.

Note: Additional information defining suitable summer habitat for the northern long-eared bat can be found at: <https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions>

No

28. Does the action include, or is it reasonably certain to cause, the use of artificial lighting within 1000 feet of suitable northern long-eared bat roosting habitat?

Note: Additional information defining suitable roosting habitat for the northern long-eared bat can be found at: <https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions>

No

29. Will the action include tree cutting or other means of knocking down or bringing down trees, tree topping, or tree trimming?

Yes

30. Has a presence/probable absence summer bat survey targeting the northern long-eared bat following the Service's [Range-wide Indiana Bat and Northern Long-Eared Bat Survey Guidelines](#) been conducted within the project area? If unsure, answer "No."

No

31. Does the action include emergency cutting or trimming of hazard trees in order to remove an imminent threat to human safety or property? See hazard tree note at the bottom of the key for text that will be added to response letters

Note: A "hazard tree" is a tree that is an immediate threat to lives, public health and safety, or improved property and has a diameter breast height of six inches or greater.

Yes

32. Are any of the trees proposed for cutting or other means of knocking down, bringing down, topping, or trimming suitable for northern long-eared bat roosting (i.e., live trees and/or snags ≥ 3 inches dbh that have exfoliating bark, cracks, crevices, and/or cavities)?

Yes

33. [Semantic] Does your project intersect a known sensitive area for the northern long-eared bat?

Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your [state agency or USFWS field office](#)

Automatically answered

No

34. Will all tree cutting/trimming or other knocking or bringing down of trees be restricted to the inactive season for the northern long-eared bat?

Note: Inactive Season dates for summer habitat outside of staging and swarming areas can be found here: <https://www.fws.gov/media/inactive-season-dates-swarming-and-staging-areas>.

No

PROJECT QUESTIONNAIRE

Enter the extent of the action area (in acres) from which trees will be removed - round up to the nearest tenth of an acre. For this question, include the entire area where tree removal will take place, even if some live or dead trees will be left standing.

13.35

In what extent of the area (in acres) will trees be cut, knocked down, or trimmed during the inactive (hibernation) season for northern long-eared bat? **Note:** Inactive Season dates for spring staging/fall swarming areas can be found here: <https://www.fws.gov/media/inactive-season-dates-swarming-and-staging-areas>

13.35

In what extent of the area (in acres) will trees be cut, knocked down, or trimmed during the active (non-hibernation) season for northern long-eared bat? **Note:** Inactive Season dates for spring staging/fall swarming areas can be found here: <https://www.fws.gov/media/inactive-season-dates-swarming-and-staging-areas>

13.35

Will all potential northern long-eared bat (NLEB) roost trees (trees ≥ 3 inches diameter at breast height, dbh) be cut, knocked, or brought down from any portion of the action area greater than or equal to 0.1 acre? If all NLEB roost trees will be removed from multiple areas, select 'Yes' if the cumulative extent of those areas meets or exceeds 0.1 acre.

Yes

Enter the extent of the action area (in acres) from which all potential NLEB roost trees will be removed. If all NLEB roost trees will be removed from multiple areas, entire the total extent of those areas. Round up to the nearest tenth of an acre.

13.35

For the area from which all potential northern long-eared bat (NLEB) roost trees will be removed, on how many acres (round to the nearest tenth of an acre) will trees be allowed to regrow? Enter '0' if the entire area from which all potential NLEB roost trees are removed will be developed or otherwise converted to non-forest for the foreseeable future.

0

Will any snags (standing dead trees) ≥ 3 inches dbh be left standing in the area(s) in which all northern long-eared bat roost trees will be cut, knocked down, or otherwise brought down?

No

Will all project activities be completed by April 1, 2024?

No

IPAC USER CONTACT INFORMATION

Agency: Federal Aviation Administration

Name: Genevieve Walker

Address: 13783 Park Center Road, Suite 490S

City: Herndon

State: VA

Zip: 20171

Email: genevieve.j.walker@faa.gov

Phone: 7034873979

Attachment 3:

MDNR WHS Environmental Review Request Letter

September 29, 2023



**COASTAL
RESOURCES INC.**
Ecological Consultants

Via Email:
lori.byrne@maryland.gov

September 29, 2023

Ms. Lori Byrne
Maryland Department of Natural Resources Wildlife and Heritage
Service Tawes State Office Bldg., E-1
580 Taylor Avenue
Annapolis, MD 21401

Subject: Environmental Review Request: Rare, Threatened, and/or Endangered Species
ATCT Environmental Assessment at Baltimore Washington International (BWI)
Thurgood Marshall Airport

Dear Ms. Byrne:

The Maryland Aviation Administration (MAA) is preparing an Environmental Assessment (EA) to assist the Federal Aviation Administration (FAA) in evaluating potential environmental effects resulting from a new Airport Traffic Control Tower (ATCT) and associated improvements at BWI Marshall Airport. The Proposed Action consists of the construction of a new air traffic control tower (ATCT), operational spaces for FAA staffing offices, a new hotel, removal of adjacent line of sight obstructions associated with the new ATCT and between the existing ATCT and future taxiway, upgrades to the ramp control tower so it can function as a supplemental ATCT during construction, and construction of a duct bank to supply power to the new ATCT. The project study area consists of approximately 9 acres of currently paved terminal area, 13 acres of mature mixed forest, and 24 acres of potential staging area which is currently paved/impervious. A vicinity map of the proposed project is included as **Attachment 1**.

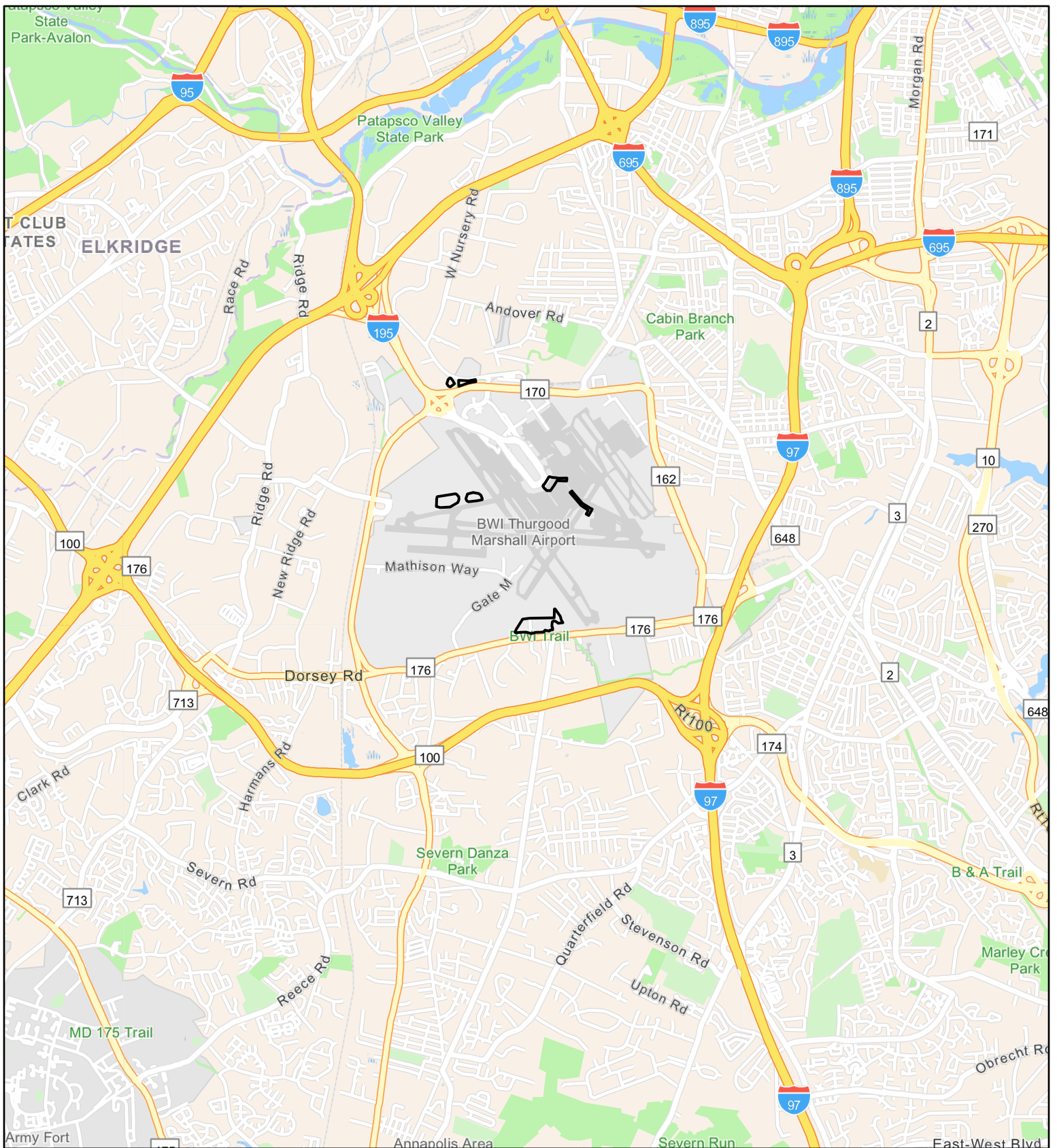
The purpose of this letter is to request information and comments from the Maryland Department of Natural Resources (DNR) Wildlife and Heritage Service regarding the potential for impacts to rare, threatened, and endangered (RTE) species within the project study area. In addition to this letter, we have also used the DNR Environmental Review Program (ERP) Aquatic Resources Screening Tool online to assess potential project impacts to fisheries and other aquatic resources.

If you have any questions or concerns regarding this letter, please feel free to contact me at 717-433-3519 or emmab@cri.biz.

Sincerely,

Emma C. Beck
Environmental Scientist

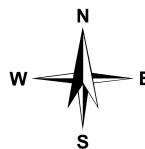
Enclosure: Attachment 1 – Vicinity Map



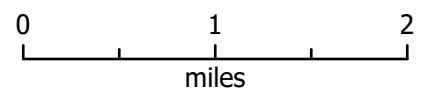
**Baltimore/Washington International
Thurgood Marshall Airport
ATCT Environmental Assessment**

**Attachment 1:
Vicinity Map**

Anne Arundel County, Maryland
September 2023



 Study Areas



Attachment 4:

MDNR WHS Response

November 8, 2023



Wes Moore, Governor
Aruna Miller, Lt. Governor
Josh Kurtz, Secretary
David Goshorn, Deputy Secretary

November 8, 2023

Ms. Emma C. Beck
Coastal Resources, Inc.
25 Old Solomons Island Road
Annapolis, MD 21401

RE: Environmental Review for New Air Traffic Control Tower at BWI Marshall Airport and Associated Improvements, Anne Arundel County, Maryland.

Dear Ms. Beck:

The Wildlife and Heritage Service has no official records for State or Federal listed, candidate, proposed, or rare plant or animal species within the project area shown on the map provided. As a result, we have no specific concerns regarding potential impacts to such species or recommendations for protection measures at this time. If the project changes in the future such that the limits of proposed disturbance or overall site boundaries are modified, please provide us with revised project maps and we will provide you with an updated evaluation.

Thank you for allowing us the opportunity to review this project. If you should have any further questions regarding this information, please contact me at lori.byrne@maryland.gov or at (410) 260-8573.

Sincerely,

A handwritten signature in black ink that reads "Lori A. Byrne".

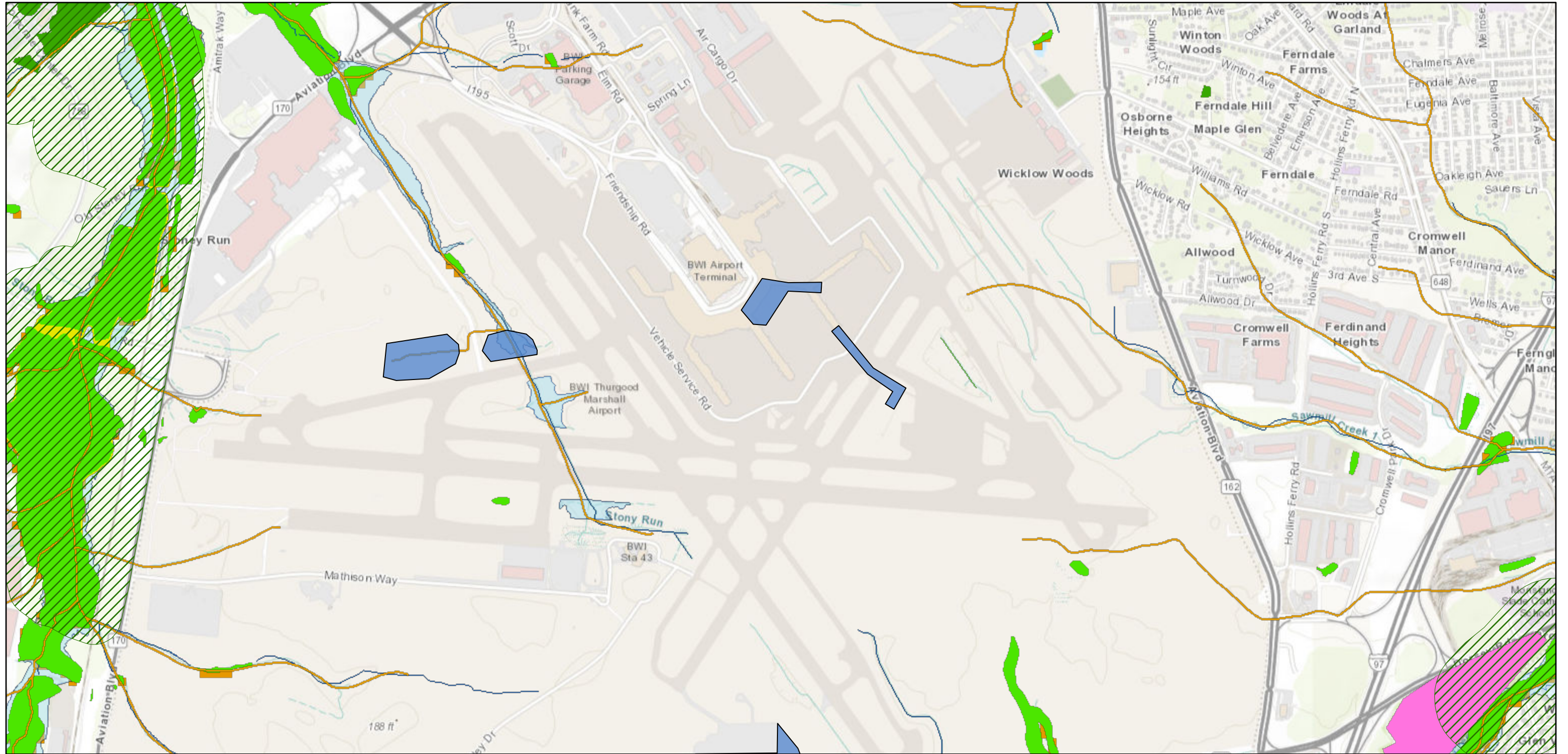
Lori A. Byrne,
Environmental Review Coordinator
Wildlife and Heritage Service
MD Dept. of Natural Resources

ER# 2023.1522.aa

Attachment 5:

MDNR Aquatic Resources Screening Tool Map

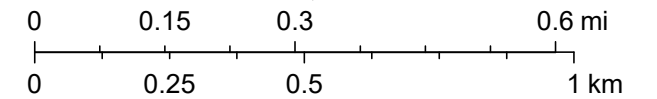
November 13, 2023



11/13/2023, 3:05:50 PM

1:18,056

- | | | | | | | |
|---|---|---|---|---|--|---|
| <ul style="list-style-type: none"> Preliminary FEMA Floodplain 100 Year Floodplain (1% Chance) 500 Year Floodplain (0.2% Chance) Floodway (1% Chance) Upland (Zone X) Effective FEMA Floodplain 100 Year Floodplain (1% Chance) 500 Year Floodplain (0.2% Chance) Floodway (1% Chance) Upland (Zone X) Sea Level Rise Wetland Adaptation Areas High | <ul style="list-style-type: none"> Low Medium BWI_ATCT_StudyArea Sensitive Species Project Review Areas Clupeid White Perch Yellow Perch Brown or Rainbow Trout Present Brook Trout Present Tier II Catchments 2016 Assimilative Capacity Remaining | <ul style="list-style-type: none"> No Assimilative Capacity Remaining Tier II Stream Segments 2016 Tier II Baseline Stations 2016 Tidal Waters II II-P Lakes and Reservoirs I I-P II II-P III III-P IV IV-P | <ul style="list-style-type: none"> III-P IV IV-P Rivers and Streams I I-P II II-P III III-P IV IV-P | <ul style="list-style-type: none"> Transfer Development Rights Purchase Development Rights Protected Federal Lands Private Conservation Lands Coastal and Estuarine Land Conservation Program Local Protected Lands MD Agricultural Land Preservation Foundation Easements Forest Conservation Act Easements MD Environmental Trust Easements Rural Legacy Properties | <ul style="list-style-type: none"> DNR Owned Lands and Conservation Easements DNR Owned Properties DNR Owned Properties - Submerged Conservation Reserve Enhancement Program Forest Legacy Wetlands - Linear - Special State Concern Wetlands - Polygon - Special State Concern Wetlands - National Wetlands Inventory Estuarine Lacustrine Marine | <ul style="list-style-type: none"> Palustrine Riverine Wetlands - Polygon - Department of Natural Resources Estuarine Lacustrine Marine Palustrine Riverine Wetlands - Linear - Department of Natural Resources Estuarine Palustrine Riverine |
|---|---|---|---|---|--|---|



MDE, WSA, County of Anne Arundel, VITA, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA, MD iMAP, DNR, MD iMAP, MDP, MDA, MD iMAP, DNR, USFW, Creator: Maryland Department of the Environment, Water and Science Administration (MDE WSA), Maryland DNR, Fishing and Boating Services and

Web AppBuilder for ArcGIS

Attachment 6:

Forest Conservation Worksheets for Mitigation Requirements

December 2023

Forest Conservation Worksheet

ATCT and C-D Connector Program (including hotel and FAA offices)

Net Tract Area

A.	Total Tract Area	A =	<u>2.50</u>
B.	Deductions	B =	<u>0.00</u>
C.	Net Tract Area	C =	<u>2.50</u>

Land Use Category

Input the number "1" under the appropriate land use zoning, and limit to only one entry

ARA	MDR	IDA	HDR	MPD	CIA
0	0	1	0	0	0

D.	Afforestation Threshold (Net Tract Area x 15%)	D =	<u>0.38</u>
E.	Conservation Threshold (Net Tract Area x 20%)	E =	<u>0.50</u>

Existing Forest Cover

F.	Existing Forest Cover within the Net Tract Area	F =	<u>0.00</u>
G.	Area of Forest Above Conservation Threshold	G =	<u>0.00</u>

Break Even Point

H.	Break Even Point	H =	<u>0.00</u>
I.	Forest Clearing Permitted Without Mitigation	I =	<u>0.00</u>

Proposed Forest Clearing

J.	Total Area of Forest to be Cleared	J =	<u>0.00</u>
K.	Total Area of Forest to be Retained	K =	<u>0.00</u>

Planting Requirements

L.	Reforestation for Clearing Above the Conservation Threshold	L =	<u>0.00</u>
M.	Reforestation for Clearing Below the Conservation Threshold	M =	<u>0.00</u>
N.	Credit for Retention above the Conservation Threshold	N =	<u>0.00</u>
P.	Total Reforestation Required	P =	<u>0.00</u>
Q.	Total Afforestation Required	Q =	<u>0.38</u>
R.	Total Planting Requirement	R =	<u>0.38</u>

Sq. Ft.	16,335.00
Acres	0.38
PIL	\$1,633.50

Forest Conservation Worksheet

Proposed Action Alternative - Existing & Proposed ATCT LOS Obstructions

Net Tract Area

A.	Total Tract Area	A =	<u>9.09</u>
B.	Deductions	B =	<u>1.09</u>
C.	Net Tract Area	C =	<u>8.00</u>

Land Use Category

Input the number "1" under the appropriate land use zoning, and limit to only one entry

ARA	MDR	IDA	HDR	MPD	CIA
0	0	1	0	0	0

D.	Afforestation Threshold (Net Tract Area x 15%)	D =	<u>1.20</u>
E.	Conservation Threshold (Net Tract Area x 20%)	E =	<u>1.60</u>

Existing Forest Cover

F.	Existing Forest Cover within the Net Tract Area	F =	<u>8.00</u>
G.	Area of Forest Above Conservation Threshold	G =	<u>6.40</u>

Break Even Point

H.	Break Even Point	H =	<u>2.88</u>
I.	Forest Clearing Permitted Without Mitigation	I =	<u>5.12</u>

Proposed Forest Clearing

J.	Total Area of Forest to be Cleared	J =	<u>8.00</u>
K.	Total Area of Forest to be Retained	K =	<u>0.00</u>

Planting Requirements

L.	Reforestation for Clearing Above the Conservation Threshold	L =	<u>1.60</u>
M.	Reforestation for Clearing Below the Conservation Threshold	M =	<u>3.20</u>
N.	Credit for Retention above the Conservation Threshold	N =	<u>0.00</u>
P.	Total Reforestation Required	P =	<u>4.80</u>
Q.	Total Afforestation Required	Q =	<u>0.00</u>
R.	Total Planting Requirement	R =	<u>4.80</u>

Sq. Ft.	209,088.00
Acres	4.80
PIL	\$20,908.80

Forest Conservation Worksheet

No Action Alternative - Existing ATCT LOS Obstructions

Net Tract Area

A.	Total Tract Area	A =	<u>9.09</u>
B.	Deductions	B =	<u>3.40</u>
C.	Net Tract Area	C =	<u>5.69</u>

Land Use Category

Input the number "1" under the appropriate land use zoning, and limit to only one entry

ARA	MDR	IDA	HDR	MPD	CIA
0	0	1	0	0	0

D.	Afforestation Threshold (Net Tract Area x 15%)	D =	<u>0.85</u>
E.	Conservation Threshold (Net Tract Area x 20%)	E =	<u>1.14</u>

Existing Forest Cover

F.	Existing Forest Cover within the Net Tract Area	F =	<u>5.69</u>
G.	Area of Forest Above Conservation Threshold	G =	<u>4.55</u>

Break Even Point

H.	Break Even Point	H =	<u>2.05</u>
I.	Forest Clearing Permitted Without Mitigation	I =	<u>3.64</u>

Proposed Forest Clearing

J.	Total Area of Forest to be Cleared	J =	<u>5.69</u>
K.	Total Area of Forest to be Retained	K =	<u>0.00</u>

Planting Requirements

L.	Reforestation for Clearing Above the Conservation Threshold	L =	<u>1.14</u>
M.	Reforestation for Clearing Below the Conservation Threshold	M =	<u>2.28</u>
N.	Credit for Retention above the Conservation Threshold	N =	<u>0.00</u>
P.	Total Reforestation Required	P =	<u>3.41</u>
Q.	Total Afforestation Required	Q =	<u>0.00</u>
R.	Total Planting Requirement	R =	<u>3.41</u>

Sq. Ft.	148,713.84
Acres	3.41
PIL	\$14,871.38

Attachment 7:

Updated Forest Stand Delineation for Direct Study Area

CRI

December 2023



MEMORANDUM

DATE: December 22, 2023

TO: Dan Hinder, Maryland Aviation Administration

FROM: Emma Beck, Coastal Resources Inc.

CC: Kim Hughes, HNTB
Sean Sipple, Coastal Resources, Inc.

SUBJECT: Baltimore/Washington International Thurgood Marshall Airport Air Traffic Control Tower (ATCT) Environmental Assessment Forest Stand Delineation

1.0 Introduction

Coastal Resources, Inc. (CRI), sub-consultant to HNTB Corporation (HNTB), under contract to the Maryland Department of Transportation Maryland Aviation Administration (MAA), delineated and characterized forest stands and identified specimen trees within the Air Traffic Control Tower (ATCT) and associated improvements Environmental Assessment (EA) Study Area. The Study Area consists of two forested areas north of Taxiway F where MAA is proposing to remove trees that have been identified as either obstructions to the Federal Aviation Regulations (FAR) Part 77 airspace protective surfaces or will impede line-of-sight (LOS) from the existing/future Air Traffic Control Tower to the future Taxiway F end (**See Appendix A – Forest Stand Delineation Map**).

2.0 Methodology

A forest stand delineation and specimen tree survey were conducted within the study area, in accordance with the State Forest Conservation Technical Manual (Third Edition, 1997). For this survey, specimen trees measuring 30 inches or greater in diameter at breast height (DBH) were identified. All trees were measured using a DBH tape at 4.5 feet above the ground. The species, size, and condition of all identified trees were recorded. All specimen trees were tagged and numbered. Forest stand boundaries were delineated on project mapping and stand characteristics were recorded on datasheets. Information collected for each identified forest stand included successional stage, dominant and co-dominant species, common understory and herbaceous species, percent canopy closure, prevalence of downed woody debris, presence of invasive species, and basal area. Each forest stand was photographed.



3.0 Results

Forest Stand Characterization

A total of three forest stands were identified within the study area. The location of the forest stands is displayed on the Forest Stand Delineation Map in **Appendix A**. The identified forest stands are described below and datasheets are included in **Appendix B**. Photographs of each stand are included in **Appendix C**.

Stand A is a Virginia pine and southern red oak forest occurring north of Taxiway F and east and west of Taxiway W. The canopy of this early to mid-successional forest is dominated by Virginia Pine (*Pinus virginiana*) ranging from 6-24" DBH and southern red oak (*Quercus falcata*) ranging from 2-10" DBH. Co-dominant species include black cherry (*Prunus serotina*) in the 6-16" DBH range, red maple (*Acer rubrum*) in the 3-12" DBH range, tuliptree (*Liriodendron tulipifera*) in the 1-10" DBH range, and black oak (*Quercus velutina*) in the 1-8" DBH range. No specimen trees were identified within this stand and canopy closure is approximately 70 percent. The understory contains Japanese honeysuckle (*Lonicera japonica*), horsebrier (*Smilax rotundifolia*), southern arrow wood (*Viburnum dentatum*), highbush blueberry (*Vaccinium corymbosum*), and America holly (*Ilex opaca*) resulting in approximately 10 percent of the understory being comprised of invasive species. Dominant herbaceous species includes southern ground cedar (*Diphasiastrum digitatum*) and Japanese honeysuckle acting as groundcover, resulting in approximately 60 percent of the herbaceous layer being comprised of invasive species. Downed woody debris is common throughout the stand. Overall, Stand A is in good condition, as the canopy is diverse, with most trees in good health, and low invasive species presence in the canopy and understory.

Stand B is a red maple forest occurring north of Stand A, east and west of Taxiway W. The canopy of this early to mid-successional forest is dominated by red maple ranging from 8-31" DBH. Co-dominant species include sweet gum (*Liquidambar styraciflua*) in the 1-6" DBH range, tuliptree in the 1-16" DBH range, and black gum (*Nyssa sylvatica*) in the 1-12" DBH range. Three specimen trees were identified within this stand and canopy closure is approximately 80 percent. The understory contains horsebrier, highbush blueberry, American holly, Japanese honeysuckle, rambler rose (*Rosa multiflora*), southern arrow wood, and Asian bittersweet (*Celastrus orbiculatus*), resulting in 50 percent of the understory being comprised on invasive species. Dominant herbaceous species includes southern ground cedar, English ivy (*Hedra helix*), and netted chain fern (*Woodwardia areolate*), resulting in approximately 40 percent of the groundcover being comprised of invasive species. Downed woody debris is common throughout the stand. Overall, Stand B is in fair condition with low species diversity, most trees are in fair health, and moderate invasive species presence in the understory and herbaceous layers.

Stand C is a mixed deciduous forest occurring east of Kitten Branch. The canopy of this early successional forest is dominated by black willow (*Salix nigra*) ranging from 4-10" DBH, tuliptree in the 2-14" DBH range, American sycamore (*Platanus occidentalis*) in the 2-12" DBH range, common persimmon (*Diospyros virginiana*) in the 3-6" DBH range, red maple in the 6-14" DBH range, and black locust (*Robinia pseudoacacia*) in the 1-4" DBH range. No specimen trees were identified within this stand and canopy closure is 60 percent. The understory contains Japanese honeysuckle, northern spicebush (*Lindera benzoin*), Chinese privet (*Ligustrum sinense*), Pennsylvania blackberry (*Rubus pensilvanicus*), and rambler

rose, resulting in approximately 60 percent of the understory being comprised of invasive species. Common herbaceous species includes common reed (*Phragmites australis*), resulting in approximately 30 percent of the herbaceous layer being comprised of invasive species. Downed woody debris is rare throughout this stand. Overall, Stand C is in poor condition, as many trees appear to be in fair or poor health, with many invasive species and vines in the canopy.

Specimen Tree Survey

A total of 3 specimen trees were identified within the study area. The locations of these trees are included on the maps in **Appendix B**. Information regarding the species, size, and condition of each identified specimen tree is included in **Table 1**.

Table 1. Specimen Tree Table

Tree No.	Species Name	Common Name	DBH (inches)	Condition
1	<i>Acer rubrum</i>	Red maple	30	Good
2	<i>Acer rubrum</i>	Red maple	31	Good, few vines
3	<i>Liriodendron tulipifera</i>	Tuliptree	31.5	Good, few vines

4.0 Conclusions

A total of three forest stands and three specimen trees were identified within the study area. Impacts to these forest stands and/or specimen trees may require authorization from Maryland Department of Natural Resources (MDNR). Agency coordination with DNR, United States Fish and Wildlife Service (USFWS), and the National Marine Fisheries Service (NMFS) regarding rare, threatened, and endangered (RTE) and other sensitive species has been completed. Based on the results of federal and state agency coordination, there are no anticipated impacts to listed species and no additional consultation is required. RTE coordination can be found in **Appendix D**.

5.0 References

Maryland Department of Natural Resources. 3rd Edition, 1997. *State Forest Conservation Technical Manual*.

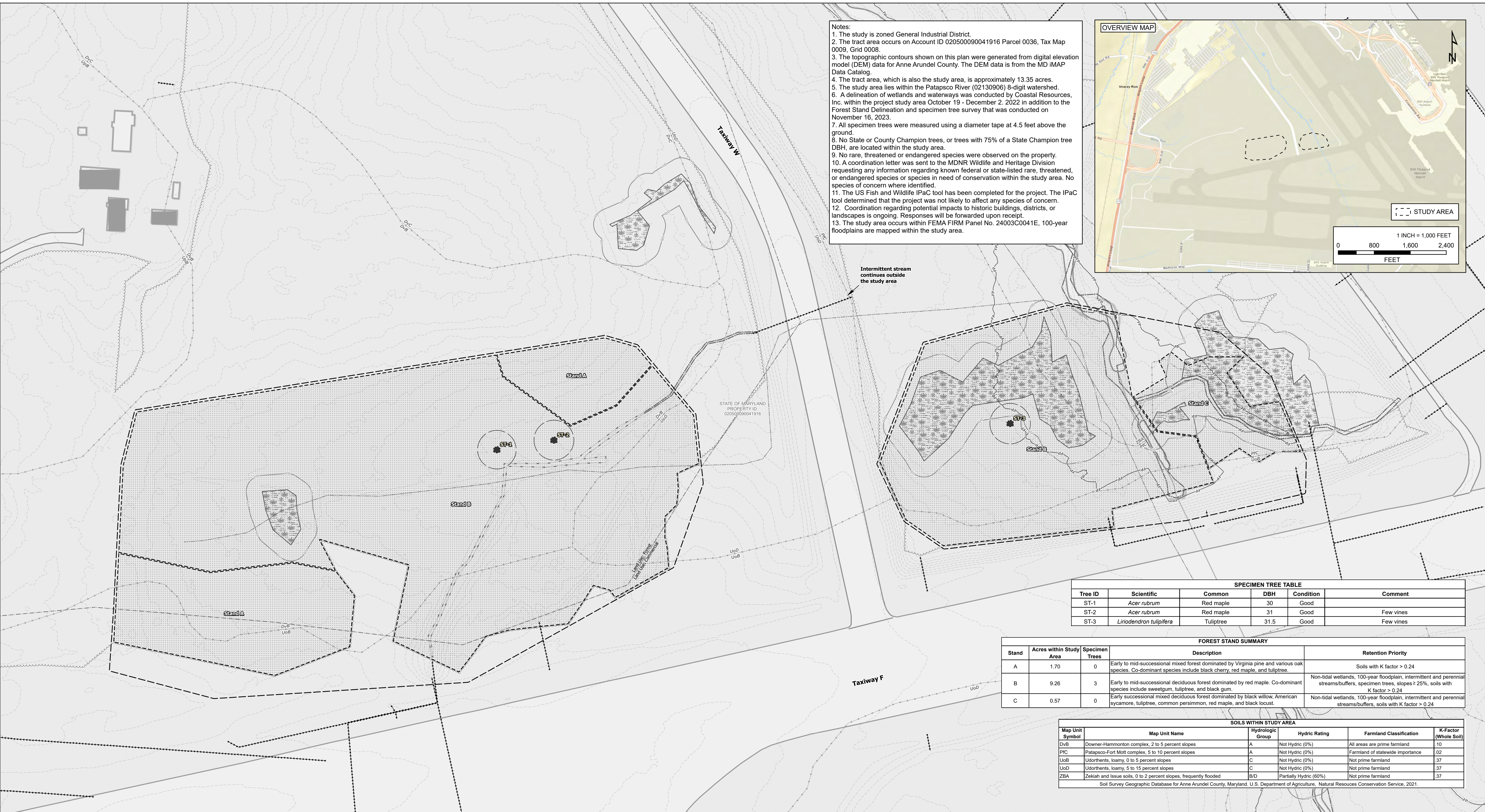
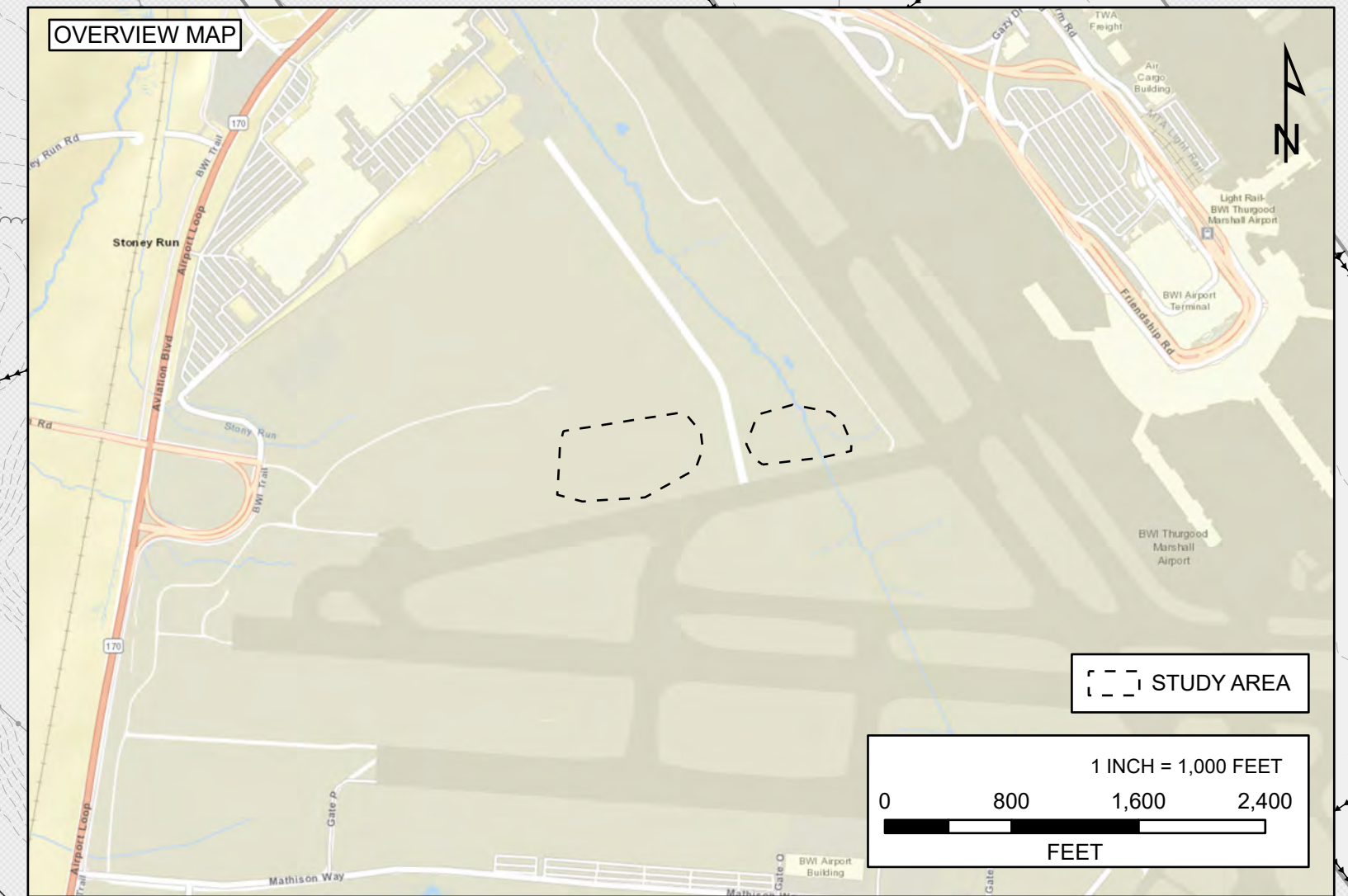


APPENDIX A: FOREST STAND DELINEATION MAP



Notes:

1. The study is zoned General Industrial District.
2. The tract area occurs on Account ID 020500090041916 Parcel 0036, Tax Map 0009, Grid 0008.
3. The topographic contours shown on this plan were generated from digital elevation model (DEM) data for Anne Arundel County. The DEM data is from the MD IMAP Data Catalog.
4. The tract area, which is also the study area, is approximately 13.35 acres.
5. The study area lies within the Patapsco River (02130906) 8-digit watershed.
6. A delineation of wetlands and waterways was conducted by Coastal Resources, Inc. within the project study area October 19 - December 2, 2022 in addition to the Forest Stand Delineation and specimen tree survey that was conducted on November 16, 2023.
7. All specimen trees were measured using a diameter tape at 4.5 feet above the ground.
8. No State or County Champion trees, or trees with 75% of a State Champion tree DBH, are located within the study area.
9. No rare, threatened or endangered species were observed on the property.
10. A coordination letter was sent to the MDNR Wildlife and Heritage Division requesting any information regarding known federal or state-listed rare, threatened, or endangered species or species in need of conservation within the study area. No species of concern were identified.
11. The US Fish and Wildlife IPaC tool has been completed for the project. The IPaC tool determined that the project was not likely to affect any species of concern.
12. Coordination regarding potential impacts to historic buildings, districts, or landscapes is ongoing. Responses will be forwarded upon receipt.
13. The study area occurs within FEMA FIRM Panel No. 24003C0041E, 100-year floodplains are mapped within the study area.



SPECIMEN TREE TABLE					
Tree ID	Scientific	Common	DBH	Condition	Comment
ST-1	<i>Acer rubrum</i>	Red maple	30	Good	
ST-2	<i>Acer rubrum</i>	Red maple	31	Good	Few vines
ST-3	<i>Liriodendron tulipifera</i>	Tuliptree	31.5	Good	Few vines

FOREST STAND SUMMARY				
Stand	Acres within Study Area	Specimen Trees	Description	Retention Priority
A	1.70	0	Early to mid-successional mixed forest dominated by Virginia pine and various oak species. Co-dominant species include black cherry, red maple, and tuliptree.	Soils with K factor > 0.24
B	9.26	3	Early to mid-successional deciduous forest dominated by red maple. Co-dominant species include sweetgum, tuliptree, and black gum.	Non-tidal wetlands, 100-year floodplain, intermittent and perennial streams/buffers, specimen trees, slopes ≥ 25%, soils with K factor > 0.24
C	0.57	0	Early successional mixed deciduous forest dominated by black willow, American sycamore, tuliptree, common persimmon, red maple, and black locust.	Non-tidal wetlands, 100-year floodplain, intermittent and perennial streams/buffers, soils with K factor > 0.24

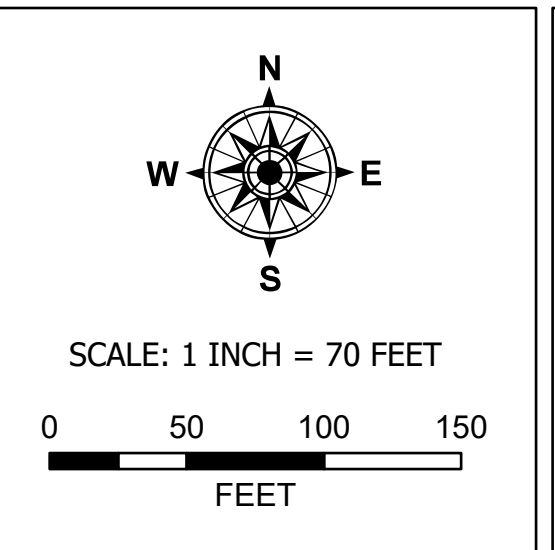
SOILS WITHIN STUDY AREA					
Map Unit Symbol	Map Unit Name	Hydrologic Group	Hydric Rating	Farmland Classification	K-Factor (Whole Soil)
DvB	Downer-Hammonton complex, 2 to 5 percent slopes	A	Not Hydric (0%)	All areas are prime farmland	.10
PIC	Patapsco-Fort Mott complex, 5 to 10 percent slopes	A	Not Hydric (0%)	Farmland of statewide importance	.02
UoB	Udorthents, loamy, 0 to 5 percent slopes	C	Not Hydric (0%)	Not prime farmland	.37
UoD	Udorthents, loamy, 5 to 15 percent slopes	C	Not Hydric (0%)	Not prime farmland	.37
ZBA	Zekiah and Issue soils, 0 to 2 percent slopes, frequently flooded	B/D	Partially Hydric (60%)	Not prime farmland	.37

Soil Survey Geographic Database for Anne Arundel County, Maryland. U.S. Department of Agriculture, Natural Resources Conservation Service, 2021.

THIS PLAN WAS PREPARED BY:
EMMA BECK
MARYLAND DEPARTMENT OF NATURAL RESOURCES
QUALIFIED PROFESSIONAL STATUS 2023

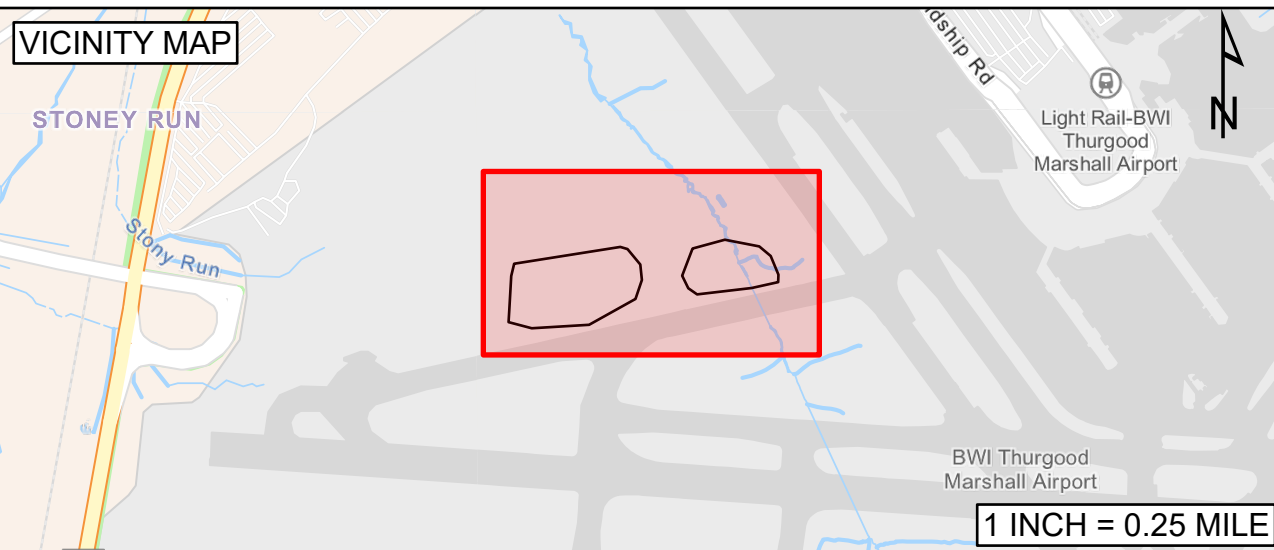
MEGAN NIEHAUS
COASTAL RESOURCES, INC.
25 OLD SOLOMONS ISLAND ROAD, ANNAPOLIS, MD 21401

DATE: 12/15/2023



<ul style="list-style-type: none"> STUDY AREA SPECIMEN TREE (≥30" DBH) FOREST STAND CRITICAL ZONE LAND USE ‡ STORMWATER PIPE 	<ul style="list-style-type: none"> DELINEATED WETLAND DELINEATED EPHEMERAL STREAM DELINEATED INTERMITTENT/PERENNIAL STREAM WETLAND BUFFER FEMA 100-YEAR FLOODPLAIN NHD/MD-MAAPPED STREAM 	<ul style="list-style-type: none"> BUILDING FOOTPRINT † CANOPY COVER ‡ SOIL BOUNDARY SOILS WITH K FACTOR >0.24 	<ul style="list-style-type: none"> 2' CONTOUR SLOPE, ≥25%
--	--	---	---

† PARCEL DATA FROM THE MD DEPT. OF PLANNING.
 ‡ IMPERVIOUS SURFACE DATA FROM CHESAPEAKE BAY PROGRAM LAND USE/LAND COVER DATA PROJECT (2018).
 † BUILDING FOOTPRINTS FROM MD IMAP DEPT. OF INFORMATION TECHNOLOGY.
 ‡ LAND USE DATA FROM MD IMAP DEPT. OF PLANNING.
 ‡ TREE CANOPY DATA OUTSIDE OF STUDY AREA DRAWN FROM CHESAPEAKE BAY PROGRAM LAND COVER DATA (2017-18).



BALTIMORE/WASHINGTON INTERNATIONAL THURGOOD MARSHALL AIRPORT

FOREST STAND DELINEATION

SHEET 1 OF 1
ANNE ARUNDEL COUNTY, MARYLAND
DECEMBER 2023

APPENDIX B: FOREST STAND CHARACTERIZATION SHEETS



Forest Characterization Field Datasheet

Project Area: BW1 ATCT

Date: 11/16/23

Stand ID: A

Investigators: EB, LP

Location: North of Taxiway F, E+W of Taxiway W

Photos: 1-S; 4-N

Forest Association: Virginia pine - Oak species

Successional Stage: Early - Mid

Slope/Aspect: 5% / N

Average DBH Size Class (in): 2-5.9 6-11.9 12-19.9 20-29.9 ≥30

Condition: good fair poor Explain: Good diversity, low invasive presence, trees in good health

Retention Potential: good fair poor Explain: Within LOD clearing + grading area

Transplant and Regenerative Potential: good fair poor Explain: Project will likely prevent regeneration

Dominant and Co-dominant Tree Species	Most Common DBH (in)	DBH Range	Approximate % of Dominant Species	
			Canopy	Understory
1. <u>Pinus virginiana</u>	<u>18</u>	<u>6-24</u>	<u>30</u>	<u>0</u>
2. <u>Quercus falcata</u>	<u>6</u>	<u>2-10</u>	<u>15</u>	<u>10</u>
3. <u>Pinus serotina</u>	<u>10</u>	<u>6-16</u>	<u>5</u>	<u>3</u>
4. <u>Acer rubrum</u>	<u>8</u>	<u>3-12</u>	<u>5</u>	<u>2</u>
5. <u>Liriodendron tulipifera</u>	<u>6</u>	<u>1-10</u>	<u>3</u>	<u>3</u>
6. <u>Quercus velutina</u>	<u>3</u>	<u>1-8</u>	<u>2</u>	<u>5</u>
7. _____	_____	_____	_____	_____

Other Common Tree Species: Quercus spp., PIV1

Common Regenerating Species: _____

Common Shrub and Vine Species	Average Height (ft)	Approx. % Cover	Common Herbaceous Species	Approx. % Cover
1. <u>Viburnum dentatum</u>	<u>5</u>	<u>3</u>	1. <u>Diphysastrum digitatum</u>	<u>60</u>
2. <u>Smilax rotundifolia</u>	<u>8</u>	<u>30</u>	2. _____	_____
3. <u>Lonicera japonica</u>	<u>1</u>	<u>15</u>	3. _____	_____
4. <u>Vaccinium corymbosum</u>	<u>6</u>	<u>3</u>	4. _____	_____
5. <u>Ilex opaca</u>	<u>15</u>	<u>10</u>	5. _____	_____
6. _____	_____	_____	6. _____	_____
7. _____	_____	_____	7. _____	_____
8. _____	_____	_____	8. _____	_____

Estimate total % cover of exotic invasive plants (include "*" next to invasives listed above):

Canopy: 0 Understory: 10 Ground Cover: 50

Approximate % Cover:

Canopy: 70 Understory: 90 Herbaceous: 60

Basal Area (ft² – taken in two locations with 10x prism): 1. 80 2. 80

Downed Woody Debris (≥6" DBH): rare common abundant

Additional Notes: _____

Forest Characterization Field Datasheet

Project Area: BWI ATCT

Date: 11/16/23

Stand ID: B

Investigators: EB, LP

Location: N of Stand A, E+W of Taxiway W

Photos: 2-N', 3-SE

Forest Association: Red maple

Successional Stage: Early-Mid

Slope/Aspect: 5% / N

Average DBH Size Class (in): 2-5.9 6-11.9 12-19.9 20-29.9 ≥30

Condition: good fair poor Explain: Low diversity, trees in fair health moderate invasive presence in understory + herb layer

Retention Potential: good fair poor Explain: within clearing/grading LOD prevent

Transplant and Regenerative Potential: good fair poor Explain: Project will likely prevent regeneration

Dominant and Co-dominant Tree Species	Most Common DBH (in)	DBH Range	Approximate % of Dominant Species	
			Canopy	Understory
1. <u>Acer rubrum</u>	<u>12</u>	<u>8-31</u>	<u>70</u>	<u>10</u>
2. <u>Liquidambar styraciflua</u>	<u>3</u>	<u>1-6</u>	<u>1</u>	<u>5</u>
3. <u>Liriodendron tulipifera</u>	<u>6</u>	<u>1-16</u>	<u>10</u>	<u>15</u>
4. <u>Nyssa sylvatica</u>	<u>5</u>	<u>1-12</u>	<u>2</u>	<u>8</u>
5. _____	_____	_____	_____	_____
6. _____	_____	_____	_____	_____
7. _____	_____	_____	_____	_____

Other Common Tree Species: DIVI, QUPH, PRSE, PIVI, QUAL, QUPA2

Common Regenerating Species: LITU, LIST

Common Shrub and Vine Species	Average Height (ft)	Approx. % Cover	Common Herbaceous Species	Approx. % Cover
1. <u>Smilax rotundifolia</u>	<u>8'</u>	<u>65</u>	1. <u>Diphasiastrum digitatum</u>	<u>60</u>
2. <u>Vaccinium corymbosum</u>	<u>5</u>	<u>5</u>	2. <u>Hedera helix</u>	<u>20</u>
3. <u>Ilex opaca</u>	<u>10</u>	<u>8</u>	3. <u>Woodwardia aerolata</u>	<u>5</u>
4. <u>Lonicera japonica</u>	<u>10</u>	<u>60</u>	4. _____	_____
5. <u>Rosa multiflora</u>	<u>6</u>	<u>10</u>	5. _____	_____
6. <u>Viburnum dentatum</u>	<u>5</u>	<u>3</u>	6. _____	_____
7. <u>Celastrus orbiculatus</u>	<u>5</u>	<u>10</u>	7. _____	_____
8. _____	_____	_____	8. _____	_____

Estimate total % cover of exotic invasive plants (include "*" next to invasives listed above):
 Canopy: 0 Understory: 50 Ground Cover: 40

Approximate % Cover:
 Canopy: 80 Understory: 90 Herbaceous: 70

Basal Area (ft² – taken in two locations with 10x prism): 1. 50 2. 60

Downed Woody Debris (≥6" DBH): rare common abundant

Additional Notes: _____

Forest Characterization Field Datasheet

Project Area: BWI ATCT

Date: 11/16/23

Stand ID: C

Investigators: EB, LP

Location: E of Kitten Branch

Photos: 5-W; 6-E

Forest Association: Mixed Deciduous

Successional Stage: Early

Slope/Aspect: 5% / W

Average DBH Size Class (in): 2-5.9 6-11.9 12-19.9 20-29.9 ≥30

Condition: good fair poor Explain: Many invasives & vines in canopy. Trees are in fair to poor health.

Retention Potential: good fair poor Explain: Only select trees will be removed

Transplant and Regenerative Potential: good fair poor Explain: Few healthy trees to provide seed source, invasives likely to prevent germination

Dominant and Co-dominant Tree Species	Most Common DBH (in)	DBH Range	Approximate % of Dominant Species	
			Canopy	Understory
1. <u>Salix nigra</u>	<u>6</u>	<u>4-10</u>	<u>15</u>	<u>5</u>
2. <u>Platanus occidentalis</u>	<u>4</u>	<u>2-12</u>	<u>5</u>	<u>10</u>
3. <u>Liriodendron tulipifera</u>	<u>8</u>	<u>2-14</u>	<u>8</u>	<u>5</u>
4. <u>Diospyros virginiana</u>	<u>4</u>	<u>3-6</u>	<u>3</u>	<u>5</u>
5. <u>Acer rubrum</u>	<u>8</u>	<u>6-14</u>	<u>10</u>	<u>3</u>
6. <u>Robinia pseudoacacia</u>	<u>2</u>	<u>1-4</u>	<u>0</u>	<u>3</u>
7. _____	_____	_____	_____	_____

Other Common Tree Species: _____

Common Regenerating Species: _____

Common Shrub and Vine Species	Average Height (ft)	Approx. % Cover	Common Herbaceous Species	Approx. % Cover
1. <u>Lonicera japonica</u>	<u>5</u>	<u>40</u>	1. <u>Phragmites australis</u>	<u>30</u>
2. <u>Ligustrum sinense</u>	<u>8</u>	<u>15</u>	2. _____	_____
3. <u>Lonicera benzoin</u>	<u>6</u>	<u>5</u>	3. _____	_____
4. <u>Rubus pennsylvanicus</u>	<u>4</u>	<u>20</u>	4. _____	_____
5. <u>Rosa multiflora</u>	<u>6</u>	<u>5</u>	5. _____	_____
6. _____	_____	_____	6. _____	_____
7. _____	_____	_____	7. _____	_____
8. _____	_____	_____	8. _____	_____

Estimate total % cover of exotic invasive plants (include "*" next to invasives listed above):

Canopy: 15 Understory: 60 Ground Cover: 30

Approximate % Cover:

Canopy: 60 Understory: 95 Herbaceous: 30

Basal Area (ft² – taken in two locations with 10x prism): 1. 70 2. 40

Downed Woody Debris (≥6" DBH): rare common abundant

Additional Notes: _____

APPENDIX C: PHOTOGRAPH LOG



**Appendix C: BWI – Thurgood Marshall ATCT EA
Forest Stand Delineation Photograph Log**



Photo 1. Looking south at Stand A



Photo 2. Looking north at Stand A

**Appendix C: BWI – Thurgood Marshall ATCT EA
Forest Stand Delineation Photograph Log**



Photo 3. Looking north at Stand B



Photo 4. Looking southeast at Stand B

**Appendix C: BWI – Thurgood Marshall ATCT EA
Forest Stand Delineation Photograph Log**



Photo 5. Looking west towards Stand C



Photo 6. Looking east towards Stand C

APPENDIX D: RTE COORDINATION





Wes Moore, Governor
Aruna Miller, Lt. Governor
Josh Kurtz, Secretary
David Goshorn, Deputy Secretary

November 8, 2023

Ms. Emma C. Beck
Coastal Resources, Inc.
25 Old Solomons Island Road
Annapolis, MD 21401

RE: Environmental Review for New Air Traffic Control Tower at BWI Marshall Airport and Associated Improvements, Anne Arundel County, Maryland.

Dear Ms. Beck:

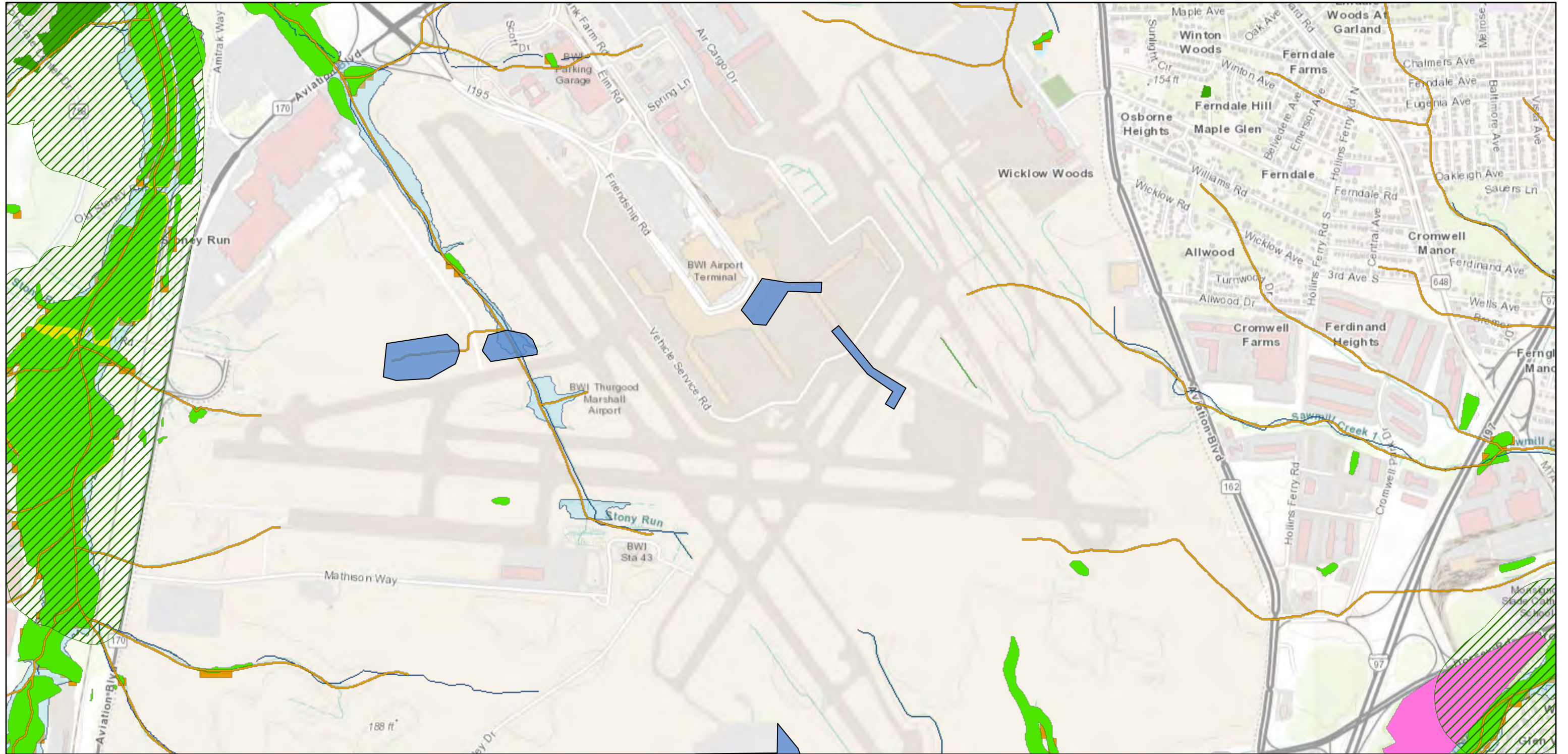
The Wildlife and Heritage Service has no official records for State or Federal listed, candidate, proposed, or rare plant or animal species within the project area shown on the map provided. As a result, we have no specific concerns regarding potential impacts to such species or recommendations for protection measures at this time. If the project changes in the future such that the limits of proposed disturbance or overall site boundaries are modified, please provide us with revised project maps and we will provide you with an updated evaluation.

Thank you for allowing us the opportunity to review this project. If you should have any further questions regarding this information, please contact me at lori.byrne@maryland.gov or at (410) 260-8573.

Sincerely,

Lori A. Byrne,
Environmental Review Coordinator
Wildlife and Heritage Service
MD Dept. of Natural Resources

ER# 2023.1522.aa



11/13/2023, 3:05:50 PM

1:18,056

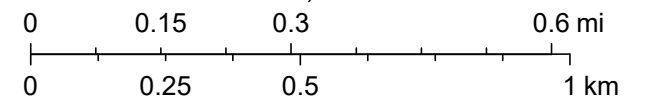
- Preliminary FEMA Floodplain
- 100 Year Floodplain (1% Chance)
- 500 Year Floodplain (0.2% Chance)
- Floodway (1% Chance)
- Upland (Zone X)
- Effective FEMA Floodplain
- 100 Year Floodplain (1% Chance)
- 500 Year Floodplain (0.2% Chance)
- Floodway (1% Chance)
- Upland (Zone X)
- Sea Level Rise Wetland Adaptation Areas
- High

- Low
- Medium
- BWI_ATCT_StudyArea
- Sensitive Species Project Review Areas
- Clupeid
- White Perch
- Yellow Perch
- Brown or Rainbow Trout Present
- Brook Trout Present
- Assimilative Capacity Remaining
- No Assimilative Capacity Remaining
- Tier II Stream Segments 2016
- Tier II Baseline Stations 2016
- Tidal Waters
- II
- II-P
- Lakes and Reservoirs
- I
- I-P
- II
- II-P
- II
- II-P
- III
- III-P
- IV
- IV-P

- Transfer Development Rights and Purchase Development Rights
- Transfer Development Rights
- Purchase Development Rights
- Protected Federal Lands
- Private Conservation Lands
- Coastal and Estuarine Land Conservation Program
- Local Protected Lands
- MD Agricultural Land Preservation Foundation Easements
- Forest Conservation Act Easements
- MD Environmental Trust Easements
- Rural Legacy Properties
- III-P
- IV
- IV-P

- DNR Owned Lands and Conservation Easements
- DNR Owned Properties
- DNR Owned Properties - Submerged
- Conservation Reserve Enhancement Program
- Forest Legacy
- Other
- Wetlands - Linear - Special State Concern
- Wetlands - Polygon - Special State Concern
- Wetlands - National Wetlands Inventory
- Estuarine
- Lacustrine
- Marine

- Palustrine
- Riverine
- Wetlands - Polygon - Department of Natural Resources
- Estuarine
- Lacustrine
- Marine
- Palustrine
- Riverine
- Wetlands - Linear - Department of Natural Resources
- Estuarine
- Palustrine
- Riverine



MDE, WSA, County of Anne Arundel, VITA, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA, MD iMAP, DNR, MD iMAP, MDP, MDA, MD iMAP, DNR, USFW, Creator: Maryland Department of the Environment, Water and Science Administration (MDE WSA), Maryland DNR, Fishing and Boating Services and

Web AppBuilder for ArcGIS



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
Phone: (410) 573-4599 Fax: (410) 266-9127

In Reply Refer To:
Project code: 2024-0002873
Project Name: BWI ATCT EA Tree Removal

October 10, 2023

Federal Nexus: yes
Federal Action Agency (if applicable): Federal Aviation Administration

Subject: Federal agency coordination under the Endangered Species Act, Section 7 for 'BWI ATCT EA Tree Removal'

Dear Genevieve Walker:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on October 10, 2023, for 'BWI ATCT EA Tree Removal' (here forward, Project). This project has been assigned Project Code 2024-0002873 and all future correspondence should clearly reference this number. **Please carefully review this letter. Your Endangered Species Act (Act) requirements may not be complete.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project.

Failure to accurately represent or implement the Project as detailed in IPaC or the Northern Long-eared Bat Rangewide Determination Key (DKey), invalidates this letter. ***Answers to certain questions in the DKey commit the project proponent to implementation of conservation measures that must be followed for the ESA determination to remain valid.***

Determination for the Northern Long-Eared Bat

Based upon your IPaC submission and a standing analysis completed by the Service, your project has reached the determination of "May Affect, Not Likely to Adversely Affect" the northern long-eared bat. Unless the Service advises you within 15 days of the date of this letter that your

IPaC-assisted determination was incorrect, this letter verifies that consultation on the Action is complete and no further action is necessary unless either of the following occurs:

- new information reveals effects of the action that may affect the northern long-eared bat in a manner or to an extent not previously considered; or,
- the identified action is subsequently modified in a manner that causes an effect to the northern long-eared bat that was not considered when completing the determination key.

15-Day Review Period

As indicated above, the Service will notify you within 15 calendar days if we determine that this proposed Action does not meet the criteria for a “may affect, not likely to adversely affect” (NLAA) determination for the northern long-eared bat. If we do not notify you within that timeframe, you may proceed with the Action under the terms of the NLAA concurrence provided here. This verification period allows the identified Ecological Services Field Office to apply local knowledge to evaluation of the Action, as we may identify a small subset of actions having impacts that we did not anticipate when developing the key. In such cases, the identified Ecological Services Field Office may request additional information to verify the effects determination reached through the Northern Long-eared Bat DKey.

You have indicated that you must remove a hazard tree in order to prevent imminent loss of human life. Be advised that the Act’s implementing regulations (50 CFR part 17) include a take exemption pursuant to the defense of human life (for endangered species, see 50 CFR 17.21(c) (2)): “any person may take endangered [or threatened] wildlife in defense of his own life or the lives of others.”). The regulations at 50 CFR 17.21(c)(4) require that any person taking, including killing, listed wildlife in defense of human life under this exception must notify our headquarters Office of Law Enforcement, at the address provided at 50 CFR 2.1(b), in writing, within 5 days. In addition, section 11 of the Act enumerates the penalties and enforcement of the Act. In regard to civil penalties, section 11(a)(3) of the Act states, “Notwithstanding any other provision of this [Act], no civil penalty shall be imposed if it can be shown by a preponderance of the evidence that the defendant committed an act based on a good faith belief that he was acting to protect himself or herself, a member of his or her family, or any other individual from bodily harm, from any endangered or threatened species” (16 U.S.C. 1540(a)(3)). Section 11(b) (3) of the Act contains similar language in regard to criminal violations (see 16 U.S.C. 1540(b) (3)). If you think incidental take of listed bats was reasonably certain to have occurred as a result of your hazard tree removal, we advise you to contact the Office of Law Enforcement as outlined above. In the future, we recommend planning ahead so that tree removal of potentially hazardous trees does not become an emergency. If you determine an emergency exists, however, and human life is in imminent danger, do not delay action. Also do not delay action if removal of the hazard tree is part of a federal response to a situation involving an act of God, disaster, casualty, national defense or security emergency, etc. - coordinate with the local USFWS field office as soon as practicable after the emergency is under control.

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination for the northern long-eared bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Monarch Butterfly *Danaus plexippus* Candidate

You may coordinate with our Office to determine whether the Action may affect the species and/or critical habitat listed above. Note that reinitiation of consultation would be necessary if a new species is listed or critical habitat designated that may be affected by the identified action before it is complete.

If you have any questions regarding this letter or need further assistance, please contact the Chesapeake Bay Ecological Services Field Office and reference Project Code 2024-0002873 associated with this Project.

Action Description

You provided to IPaC the following name and description for the subject Action.

1. Name

BWI ATCT EA Tree Removal

2. Description

The following description was provided for the project 'BWI ATCT EA Tree Removal':

The Maryland Aviation Administration (MAA) is preparing an Environmental Assessment (EA) to assist the Federal Aviation Administration (FAA) in evaluating potential environmental effects resulting from a new Airport Traffic Control Tower (ATCT) and associated improvements at BWI Marshall Airport. The Proposed Action consists of the construction of a new air traffic control tower (ATCT), operational spaces for FAA staffing offices, a new hotel, removal of adjacent line of sight obstructions associated with the new ATCT and between the existing ATCT and future taxiway, upgrades to the ramp control tower so it can function as a supplemental ATCT during construction, and construction of a duct bank to supply power to the new ATCT. The project study area consists of approximately 9 acres of currently paved terminal area, 13 acres of mature mixed forest, and 24 acres of potential staging area which is currently paved/impervious.

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@39.1644189,-76.66944287198986,14z>



DETERMINATION KEY RESULT

Based on the answers provided, the proposed Action is consistent with a determination of “may affect, but not likely to adversely affect” for the Endangered northern long-eared bat (*Myotis septentrionalis*).

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of the northern long-eared bat or any other listed species?

Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

No

2. The proposed action does not intersect an area where the northern long-eared bat is likely to occur, based on the information available to U.S. Fish and Wildlife Service as of the most recent update of this key. If you have data that indicates that northern long-eared bats are likely to be present in the action area, answer "NO" and continue through the key.

Do you want to make a no effect determination?

No

3. The action area does not overlap with an area for which U.S. Fish and Wildlife Service currently has data to support the presumption that the northern long-eared bat is present. Are you aware of other data that indicates that northern long-eared bats (NLEB) are likely to be present in the action area?

Bat occurrence data may include identification of NLEBs in hibernacula, capture of NLEBs, tracking of NLEBs to roost trees, or confirmed NLEB acoustic detections. Data on captures, roost tree use, and acoustic detections should post-date the year when white-nose syndrome was detected in the relevant state. With this question, we are looking for data that, for some reason, may have not yet been made available to U.S. Fish and Wildlife Service.

No

4. Does any component of the action involve construction or operation of wind turbines?

Note: For federal actions, answer ‘yes’ if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

No

5. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

Yes

6. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

No

7. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

Note: This key may be used for federal actions and for non-federal actions to facilitate section 7 consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

Yes

8. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part?

No

9. Is the lead federal action agency the Federal Energy Regulatory Commission (FERC)?

No

10. Have you determined that your proposed action will have no effect on the northern long-eared bat? Remember to consider the [effects of any activities](#) that would not occur but for the proposed action.

If you think that the northern long-eared bat may be affected by your project or if you would like assistance in deciding, answer “No” below and continue through the key. If you have determined that the northern long-eared bat does not occur in your project’s action area and/or that your project will have no effects whatsoever on the species despite the potential for it to occur in the action area, you may make a “no effect” determination for the northern long-eared bat.

Note: Federal agencies (or their designated non-federal representatives) must consult with USFWS on federal agency actions that may affect listed species [50 CFR 402.14(a)]. Consultation is not required for actions that will not affect listed species or critical habitat. Therefore, this determination key will not provide a consistency or verification letter for actions that will not affect listed species. If you believe that the northern long-eared bat may be affected by your project or if you would like assistance in deciding, please answer “No” and continue through the key. Remember that this key addresses only effects to the northern long-eared bat. Consultation with USFWS would be required if your action may affect another listed species or critical habitat. The definition of [Effects of the Action](#) can be found here: <https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions>

No

11. [Semantic] Is the action area located within 0.5 miles of a known northern long-eared bat hibernaculum?

Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

Automatically answered

No

12. Does the action area contain any caves (or associated sinkholes, fissures, or other karst features), mines, rocky outcroppings, or tunnels that could provide habitat for hibernating northern long-eared bats?

No

13. Is suitable summer habitat for the northern long-eared bat present within 1000 feet of project activities?
(If unsure, answer "Yes.")

Note: If there are trees within the action area that are of a sufficient size to be potential roosts for bats (i.e., live trees and/or snags ≥ 3 inches (12.7 centimeter) dbh), answer "Yes". If unsure, additional information defining suitable summer habitat for the northern long-eared bat can be found at: <https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions>

Yes

14. Will the action cause effects to a bridge?

No

15. Will the action result in effects to a culvert or tunnel?

No

16. Does the action include the intentional exclusion of northern long-eared bats from a building or structure?

Note: Exclusion is conducted to deny bats' entry or reentry into a building. To be effective and to avoid harming bats, it should be done according to established standards. If your action includes bat exclusion and you are unsure whether northern long-eared bats are present, answer "Yes." Answer "No" if there are no signs of bat use in the building/structure. If unsure, contact your local U.S. Fish and Wildlife Services Ecological Services Field Office to help assess whether northern long-eared bats may be present. Contact a Nuisance Wildlife Control Operator (NWCO) for help in how to exclude bats from a structure safely without causing harm to the bats (to find a NWCO certified in bat standards, search the Internet using the search term "National Wildlife Control Operators Association bats"). Also see the White-Nose Syndrome Response Team's guide for bat control in structures

No

17. Does the action involve removal, modification, or maintenance of a human-made structure (barn, house, or other building) **known or suspected to contain roosting bats**?

No

18. Will the action cause construction of one or more new roads open to the public?

For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

No

19. Will the action include or cause any construction or other activity that is reasonably certain to increase average daily traffic on one or more existing roads?

Note: For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

No

20. Will the action include or cause any construction or other activity that is reasonably certain to increase the number of travel lanes on an existing thoroughfare?

For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

No

21. Will the proposed action involve the creation of a new water-borne contaminant source (e.g., leachate pond pits containing chemicals that are not NSF/ANSI 60 compliant)?

No

22. Will the proposed action involve the creation of a new point source discharge from a facility other than a water treatment plant or storm water system?

No

23. Will the action include drilling or blasting?

Yes

24. Will the drilling or blasting affect known or potentially suitable hibernacula, summer habitat, or active year-round habitat (where applicable) for the northern long-eared bat?

Note: In addition to direct impacts to hibernacula, consider impacts to hydrology or air flow that may impact the suitability of hibernacula. Additional information defining suitable summer habitat for the northern long-eared bat can be found at: <https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions>

No

25. Will the action involve military training (e.g., smoke operations, obscurant operations, exploding munitions, artillery fire, range use, helicopter or fixed wing aircraft use)?

No

26. Will the proposed action involve the use of herbicides or pesticides other than herbicides (e.g., fungicides, insecticides, or rodenticides)?

No

27. Will the action include or cause activities that are reasonably certain to cause chronic nighttime noise in suitable summer habitat for the northern long-eared bat? Chronic noise is noise that is continuous or occurs repeatedly again and again for a long time.

Note: Additional information defining suitable summer habitat for the northern long-eared bat can be found at: <https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions>

No

28. Does the action include, or is it reasonably certain to cause, the use of artificial lighting within 1000 feet of suitable northern long-eared bat roosting habitat?

Note: Additional information defining suitable roosting habitat for the northern long-eared bat can be found at: <https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions>

No

29. Will the action include tree cutting or other means of knocking down or bringing down trees, tree topping, or tree trimming?

Yes

30. Has a presence/probable absence summer bat survey targeting the northern long-eared bat following the Service's [Range-wide Indiana Bat and Northern Long-Eared Bat Survey Guidelines](#) been conducted within the project area? If unsure, answer "No."

No

31. Does the action include emergency cutting or trimming of hazard trees in order to remove an imminent threat to human safety or property? See hazard tree note at the bottom of the key for text that will be added to response letters

Note: A "hazard tree" is a tree that is an immediate threat to lives, public health and safety, or improved property and has a diameter breast height of six inches or greater.

Yes

32. Are any of the trees proposed for cutting or other means of knocking down, bringing down, topping, or trimming suitable for northern long-eared bat roosting (i.e., live trees and/or snags ≥ 3 inches dbh that have exfoliating bark, cracks, crevices, and/or cavities)?

Yes

33. [Semantic] Does your project intersect a known sensitive area for the northern long-eared bat?

Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your [state agency or USFWS field office](#)

Automatically answered

No

34. Will all tree cutting/trimming or other knocking or bringing down of trees be restricted to the inactive season for the northern long-eared bat?

Note: Inactive Season dates for summer habitat outside of staging and swarming areas can be found here: <https://www.fws.gov/media/inactive-season-dates-swarming-and-staging-areas>.

No

PROJECT QUESTIONNAIRE

Enter the extent of the action area (in acres) from which trees will be removed - round up to the nearest tenth of an acre. For this question, include the entire area where tree removal will take place, even if some live or dead trees will be left standing.

13.35

In what extent of the area (in acres) will trees be cut, knocked down, or trimmed during the inactive (hibernation) season for northern long-eared bat? **Note:** Inactive Season dates for spring staging/fall swarming areas can be found here: <https://www.fws.gov/media/inactive-season-dates-swarming-and-staging-areas>

13.35

In what extent of the area (in acres) will trees be cut, knocked down, or trimmed during the active (non-hibernation) season for northern long-eared bat? **Note:** Inactive Season dates for spring staging/fall swarming areas can be found here: <https://www.fws.gov/media/inactive-season-dates-swarming-and-staging-areas>

13.35

Will all potential northern long-eared bat (NLEB) roost trees (trees ≥ 3 inches diameter at breast height, dbh) be cut, knocked, or brought down from any portion of the action area greater than or equal to 0.1 acre? If all NLEB roost trees will be removed from multiple areas, select 'Yes' if the cumulative extent of those areas meets or exceeds 0.1 acre.

Yes

Enter the extent of the action area (in acres) from which all potential NLEB roost trees will be removed. If all NLEB roost trees will be removed from multiple areas, entire the total extent of those areas. Round up to the nearest tenth of an acre.

13.35

For the area from which all potential northern long-eared bat (NLEB) roost trees will be removed, on how many acres (round to the nearest tenth of an acre) will trees be allowed to regrow? Enter '0' if the entire area from which all potential NLEB roost trees are removed will be developed or otherwise converted to non-forest for the foreseeable future.

0

Will any snags (standing dead trees) ≥ 3 inches dbh be left standing in the area(s) in which all northern long-eared bat roost trees will be cut, knocked down, or otherwise brought down?

No

Will all project activities be completed by April 1, 2024?

No

IPAC USER CONTACT INFORMATION

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United States Department of the Interior



FISH AND WILDLIFE SERVICE
Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
Phone: (410) 573-4599 Fax: (410) 266-9127

In Reply Refer To:
Project Code: 2024-0002873
Project Name: BWI ATCT EA Tree Removal

October 10, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see <https://www.fws.gov/program/migratory-bird-permit/what-we-do>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
(410) 573-4599

PROJECT SUMMARY

Project Code: 2024-0002873
Project Name: BWI ATCT EA Tree Removal
Project Type: Airport - Maintenance/Modification
Project Description: The Maryland Aviation Administration (MAA) is preparing an Environmental Assessment (EA) to assist the Federal Aviation Administration (FAA) in evaluating potential environmental effects resulting from a new Airport Traffic Control Tower (ATCT) and associated improvements at BWI Marshall Airport. The Proposed Action consists of the construction of a new air traffic control tower (ATCT), operational spaces for FAA staffing offices, a new hotel, removal of adjacent line of sight obstructions associated with the new ATCT and between the existing ATCT and future taxiway, upgrades to the ramp control tower so it can function as a supplemental ATCT during construction, and construction of a duct bank to supply power to the new ATCT. The project study area consists of approximately 9 acres of currently paved terminal area, 13 acres of mature mixed forest, and 24 acres of potential staging area which is currently paved/impervious.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@39.1644189,-76.66944287198986,14z>



Counties: Anne Arundel County, Maryland

ENDANGERED SPECIES ACT SPECIES

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [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.

MAMMALS

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

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 OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

WETLANDS

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](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

WETLAND INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED.
PLEASE VISIT [HTTPS://WWW.FWS.GOV/WETLANDS/DATA/MAPPER.HTML](https://www.fws.gov/wetlands/data/mapper.html) OR CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

IPAC USER CONTACT INFORMATION

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