

NASA Causeway Bridge Replacement Project
Environmental Assessment

Appendix F

Endangered Species Act Section 7
Information and Coordination

Section 7 ESA Coordination Package
Submitted to USFWS from FHWA
December 2022

Project NASA 1(9) Wallops Island Causeway Bridge Replacement, Accomack County, Virginia

Date: December 20 2022

CONSULTATION CODE: **2023-0012907**; USFWS Virginia Field Office Project Review Documentation

Step 1: Description of Action- The National Aeronautics and Space Administration (NASA) and the Federal Highway Administration (FHWA) propose to replace the Wallops Island Causeway Bridge over Cat Creek at Goddard Space Flight Center's Wallops Flight Facility, in Accomack County, VA. The existing bridge was constructed in 1959 and is approaching the end of its anticipated service life. It is 1,284 feet long, 27 feet wide, and has a cast-in-place concrete deck supported by four prestressed concrete beams on concrete piers. The bridge is located on the two-mile long Causeway Road connecting the mainland with Wallops Island. The proposed project would address structural deficiencies and improve safety by meeting current roadway and bridge design standards. The new bridge would be 40' wide and would be constructed parallel to the existing structure. The causeway approaches would be realigned at each end of the new bridge. The existing bridge would remain in use during construction but would be demolished when the new bridge is completed. Temporary bridges and/or barges would be needed to allow construction of the new bridge and demolition of the existing bridge. Construction of the new bridge would likely begin in 2025 and continue for two or more years.

Step 2: Action Area- The project area has been mapped in the IPaC system and is depicted on the enclosed map. The action area includes the footprints of the new bridge, realigned causeway approaches, and temporary bridges. Habitats include tidal wetlands, tidal mud flats, open water, causeway embankment, and the bridge structure.

Latitude/Longitude: 37.8522, -75.490206

Step 3a: Official Species List: An official species was downloaded from IPaC and is attached (**Consultation Code 2023-0012907, 12/20/22**). A species determination table is provided below. The list of federally regulated species subject to Section 7 consultation includes: the Northern Long-Eared Bat (NLEB, endangered), Eastern Black Rail (threatened), Piping Plover (threatened), Red Knot (threatened), Green Sea Turtle (threatened), Hawksbill Sea Turtle (endangered), Kemp's Ridley Sea Turtle (endangered), Leatherback Sea Turtle (endangered), and Loggerhead Sea Turtle (threatened).

This Project Review Documentation package includes conferencing information and determinations for three additional species: Tricolored Bat (proposed endangered), Little Brown Bat (species of special concern and state endangered) and Monarch Butterfly (candidate).

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Step 3b: NLEB- FHWA has discontinued use of the assisted determination key for NLEB 4(d) rule because of the endangered status of the species. The project will include limited tree trimming/removal and the removal of a bridge that could provide suitable habitat for NLEB or other bat species. A habitat assessment and presence/absence survey will be conducted during the 2023 active season including acoustic and emergence surveys. Data from these surveys, in coordination with USFWS, will inform time of work and other mitigations required to perform the bridge replacement during the proposed construction period, 2024-2027. The survey will use the “USFWS Range-wide Indiana bat and NLEB survey guidelines”. A review of the Virginia Department of Wildlife Resources (VDWR) NLEB Winter Habitat and Roost Tree on-line mapping tool did not identify any nearby sites. The area is not within mapped karst geology.

Step 3c: Critical Habitat: There are no critical habitats at this location

Step 4: Suitable Habitat- An assessment of suitable habitat is provided in the table below. The project is being coordinated with NASA, the Virginia Marine Resources Commission, the Virginia Institute of Marine Science, and the National Ocean and Atmospheric Administration (NOAA). FHWA provided determinations of Not likely to Adversely Affect (NLAA) or no effect for all marine species regulated by the NOAA Section 7 program. A copy of the NOAA Section 7 concurrence is enclosed. Consultation with the NOAA Fisheries program related to essential fish habitat is ongoing. The VDWR Fish and Wildlife Information Service (FWIS) was used to obtain NLEB winter/summer habitat maps, in addition to USFWS species profiles and information (ECOS). US Geological Survey and Virginia Department of Geology and Mineral Resource (DGMR) maps confirmed that Karst geology is not present on or near the site. The site consists of marsh and intertidal mud deposits. Data was obtained from the Virginia Division of Natural Heritage Biotics Data System and the VDWR Fish and Wildlife Information Service. The VDWR Time of Year restriction guidance document was also referenced.

Step 5: Determinations- Section 7 determinations for each species are provided in the table below.

Step 6: Project Review Package- A determination of Not likely to adversely Affect (NLAA) or No effect was reached for all species. An online Section 7 project review certification letter is attached. The project review package will be sent to the Virginia Field Office for Review.

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Species Determination Table:

Species / Resource Name	Species/Habitat Presence in Action Area	Sources of Info	ESA Section 7 Determination	Project Elements that support determination
Critical Habitat	Not present	VAFO CH MAP TOOL	No effect	There are no documented critical habitats at this location
Northern Long-eared Bat <i>Myotis septentrionalis</i> (endangered)	Suitable habitat present, no current survey conducted; There are trees and shrubs with a diameter greater than 3” growing along the causeway embankment at the edge of the tidal marsh. The bridge structure may also be suitable habitat for bats	USFWS, FWIS, DGMR (not karst area), site photos, site inspections	Not Likely to Adversely Affect (NLAA);	Habitat assessments and presence/absence surveys will be conducted within the project footprint during the 2023 active season. Acoustic and emergence surveys will be conducted by approved wildlife biologists using the following guidelines and forms: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines https://www.fws.gov/sites/default/files/documents/appendix-d-bridge-culvert-bat-assessment-form-april-2020.pdf Data from these surveys, in coordination with USFWS, will inform time of work and other mitigations required to perform the bridge replacement during the proposed construction period, 2025-2027.
Tricolored Bat <i>Perimyotis subflavus</i> (proposed endangered)	Suitable habitat present, no current survey conducted	USFWS, FWIS	NLAA	Habitat assessment and presence/absence surveys will be conducted as outlined above. Data from these surveys, in coordination with USFWS, will inform time of work and other mitigations required to perform the bridge replacement during the proposed construction period, 2025-2027.

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Little Brown Bat <i>Myotis lucifugus</i> (species of special concern)	Suitable habitat present, no current survey conducted	USFWS, FWIS	NLAA	Habitat assessment and presence/absence surveys will be conducted as outlined above. Data from these surveys, in coordination with USFWS, will inform time of work and other mitigations required to perform the bridge replacement during the proposed construction period, 2024-2027.
Eastern Black rail <i>Laterallus jamaicensis ssp. jamaicensis</i> (threatened)	Suitable habitat present, species not present	USFWS, FWIS, survey report (2022)	No effect	NASA completed three rounds of surveys from May 1 – June 6, 2022, to capture peak potential eastern black rail auditory activity during the breeding season. No visual or auditory observations of eastern black rails were recorded during surveys. The report was previously transmitted to USFWS by NASA
Piping Plover <i>Charadrius melodus</i> (endangered)	Suitable habitat not present	USFWS, NASA, FWIS	No Effect	Suitable habitat exists several thousand feet to the east; work will not impact nesting or foraging grounds;
Red knot <i>Calidris canutus rufa</i> (threatened)	Suitable habitat not present	USFWS, NASA, FWIS	No Effect	Forages on Wallops Island during migration; The work would not impact nesting grounds or impact available foraging habitat; work will occur several thousand feet from nearest beach foraging area.
Green sea turtle <i>Chelonia mydas</i> (threatened)	Suitable habitat present, species not present	USFWS, NOAA, NASA	No effect	NOAA data indicates species not present; The project will not impact nesting grounds which are farther to the south;
Hawksbill sea turtle <i>Eretmochelys imbricata</i> (endangered)	Suitable habitat present, species present	USFWS, NOAA, NASA	NLAA	No known Occurrences at Wallops Island; The project will not impact nesting grounds which are farther to the south; Construction crews will not perform work if turtles are present in the work zone. Turtle monitors will be present during pile driving, vessel movement, and other potential stressor activities. See NOAA Section 7 consultation for additional conservation measures

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Kemp's Ridley sea turtle (<i>Lepidochelys kempii</i>) (endangered)	Suitable habitat present, species present	USFWS, NOAA, NASA	NLAA	The limited footprint would not significantly impact available foraging habitat. Construction crews will not perform work if turtles are present in the work zone. Turtle monitors will be present during pile driving, vessel movement, and other potential stressor activities. See NOAA Section 7 consultation for additional conservation measures
Leatherback sea turtle (<i>Dermochelys coriacea</i>) (endangered)	Suitable habitat present, species present	USFWS, NOAA, NASA	NLAA	The limited footprint would not significantly impact available foraging habitat. Construction crews will not perform work if turtles are present in the work zone. Turtle monitors will be present during pile driving, vessel movement, and other potential stressor activities. See NOAA Section 7 consultation for additional conservation measures
Loggerhead sea turtle (<i>Caretta caretta</i>) (threatened)	Suitable habitat present, species present	USFWS, NOAA, NASA	NLAA	The limited footprint would not significantly impact available foraging habitat. Construction crews will not perform work if turtles are present in the work zone. Turtle monitors will be present during pile driving, vessel movement, and other potential stressor activities. See NOAA Section 7 consultation for additional conservation measures
Monarch Butterfly <i>Danaus plexippus</i> (Candidate)	No suitable habitat present	The project area does not contain areas with milkweed, meadows, etc.	No effect	N/A

ATTACHMENTS

- A) Maps and photos**
- B) Preliminary plans**
- C) Official Species list**
- D) NOAA Sec 7 consultation (signed version on file)**
- E) Online verification Letter**

Please note that Attachment A and B to the December 20, 2022 letter from NASA to USFWS, which provides maps and photos of the project, is already included in Appendix A to the NASA Causeway Bridge Replacement Project Environmental Assessment and is not included here to reduce paperwork.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032

In Reply Refer To:
Project Code: 2023-0012907
Project Name: Wallops Island Causeway Bridge Replacement

December 20, 2022

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

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 ECOS-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 ECOS-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:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.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/birds/policies-and-regulations.php>.

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/birds/bird-enthusiasts/threats-to-birds.php>.

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/birds/policies-and-regulations/executive-orders/e0-13186.php>.

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 Project 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
- Migratory Birds

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:

Virginia Ecological Services Field Office

6669 Short Lane

Gloucester, VA 23061-4410

(804) 693-6694

Project Summary

Project Code: 2023-0012907

Project Name: Wallops Island Causeway Bridge Replacement

Project Type: Bridge - Replacement

Project Description: Replace existing bridge with a new bridge. The new bridge will be located immediately north/parallel to the existing. Minor realignment of the causeway at the approaches will occur. The existing bridge will be demolished. Temporary bridges and/or barges will be used for construction and demolition.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@37.85198815,-75.48994793729457,14z>



Counties: Accomack County, Virginia

Endangered Species Act Species

There is a total of 9 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.

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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

Birds

NAME	STATUS
Eastern Black Rail <i>Laterallus jamaicensis ssp. jamaicensis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10477	Threatened
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot <i>Calidris canutus rufa</i> There is proposed critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

Reptiles

NAME	STATUS
<p>Green Sea Turtle <i>Chelonia mydas</i></p> <p>Population: North Atlantic DPS</p> <p>There is final critical habitat for this species. Your location does not overlap the critical habitat.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/6199</p>	Threatened
<p>Hawksbill Sea Turtle <i>Eretmochelys imbricata</i></p> <p>There is final critical habitat for this species. Your location does not overlap the critical habitat.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/3656</p>	Endangered
<p>Kemp's Ridley Sea Turtle <i>Lepidochelys kempii</i></p> <p>There is proposed critical habitat for this species.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/5523</p>	Endangered
<p>Leatherback Sea Turtle <i>Dermochelys coriacea</i></p> <p>There is final critical habitat for this species. Your location does not overlap the critical habitat.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/1493</p>	Endangered
<p>Loggerhead Sea Turtle <i>Caretta caretta</i></p> <p>Population: Northwest Atlantic Ocean DPS</p> <p>There is final critical habitat for this species. Your location does not overlap the critical habitat.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/1110</p>	Threatened

Critical habitats

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

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.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

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1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\) list](#) or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Oystercatcher <i>Haematopus palliatus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8935	Breeds Apr 15 to Aug 31
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Oct 15 to Aug 31

NAME	BREEDING SEASON
<p>Black Skimmer <i>Rynchops niger</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234</p>	Breeds May 20 to Sep 15
<p>Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Mar 15 to Aug 25
<p>Gull-billed Tern <i>Gelochelidon nilotica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9501</p>	Breeds May 1 to Jul 31
<p>King Rail <i>Rallus elegans</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8936</p>	Breeds May 1 to Sep 5
<p>Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679</p>	Breeds elsewhere
<p>Prairie Warbler <i>Dendroica discolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 1 to Jul 31
<p>Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 10 to Sep 10
<p>Ruddy Turnstone <i>Arenaria interpres morinella</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds elsewhere
<p>Rusty Blackbird <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds elsewhere
<p>Short-billed Dowitcher <i>Limnodromus griseus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480</p>	Breeds elsewhere
<p>Willet <i>Tringa semipalmata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Apr 20 to Aug 5

Probability Of Presence Summary

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

Probability of Presence (■)

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

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

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

Breeding Season (■)

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

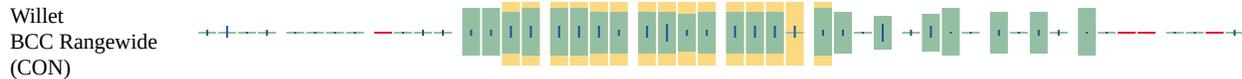
Survey Effort (|)

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

No Data (-)

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

Survey Timeframe



Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

Migratory Birds FAQ

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

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

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

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

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

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

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

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

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

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

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

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

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

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

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

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

IPaC User Contact Information

Agency: Federal Highway Administration
Name: Ryan Kimberley
Address: 22001 Loudoun County Parkway
Address Line 2: Building E2, Suite 200
City: Ashburn
State: VA
Zip: 20147
Email: ryan.kimberley@dot.gov
Phone: 7034046240



United States Department of the Interior

FISH AND WILDLIFE SERVICE



Virginia Field Office
6669 Short Lane
Gloucester, VA 23061

Date: 12/20/2022

Self-Certification Letter

Project Name: FHWA NASA 1(9) Wallops Island Causeway Bridge Replacement, Accomack County, Virginia

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA conclusions. These conclusions resulted in:

- “no effect” determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR § 17.40(o) [as determined through the Information, Planning, and Consultation System (IPaC) northern long-eared bat assisted determination key]; and/or
- “may affect, not likely to adversely affect” determinations for proposed/listed species and/or proposed/designated critical habitat.

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the “no effect” or “may affect, not likely to adversely affect” determinations for proposed and listed species and proposed and designated critical habitat. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat becomes available, this determination may be reconsidered. This certification letter is valid for 1 year.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,

A handwritten signature in blue ink that reads "Cynthia A. Schulz". The signature is written in a cursive style and is placed on a light blue rectangular background.

Cindy Schulz
Field Supervisor
Virginia Ecological Services

Enclosures - project review package

VaFWIS Initial Project Assessment Report Compiled on 2/21/2023, 11:28:29 AM

Known or likely to occur within a **2 mile radius around point 37.8520000 -75.4899998**
in **001 Accomack County, VA**

566 Known or Likely Species ordered by Status Concern for Conservation
(displaying first 40) (40 species with Status* or Tier I** or Tier II**)

<u>BOVA Code</u>	<u>Status*</u>	<u>Tier**</u>	<u>Common Name</u>	<u>Scientific Name</u>	<u>Confirmed</u>	<u>Database(s)</u>
010031	FESE	Ia	Sturgeon, shortnose	Acipenser brevirostrum		BOVA
030074	FESE	Ia	Turtle, Kemp's ridley sea	Lepidochelys kempii	Yes	BOVA,SppObs
010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus		BOVA
120006	FESE	Ib	Whale, humpback	Megaptera novaeangliae		BOVA
030075	FESE	Ic	Turtle, leatherback sea	Dermochelys coriacea	Yes	BOVA,SppObs
030073	FESE		Turtle, Hawksbill Sea	Eretmochelys imbricata		BOVA
040183	FESE		Tern, roseate	Sterna dougallii dougallii		BOVA,Habitat
030071	FTST	Ia	Turtle, loggerhead sea	Caretta caretta	Yes	BOVA,Habitat,SppObs
040144	FTST	Ia	Knot, red	Calidris canutus rufa		BOVA
040110	FTSE	Ia	Rail, eastern black	Laterallus jamaicensis jamaicensis		BOVA
050022	FTST	Ia	Bat, northern long-eared	Myotis septentrionalis		BOVA
030072	FTST	Ib	Turtle, green sea	Chelonia mydas		BOVA
040120	FTST	IIa	Plover, piping	Charadrius melodus	Yes	BOVA,Habitat,SppObs
100361	FTST	IIa	Beetle, northeastern beach tiger	Cicindela dorsalis dorsalis		BOVA
040118	SE	Ia	Plover, Wilson's	Charadrius wilsonia	Yes	BOVA,Habitat,SppObs
050020	SE	Ia	Bat, little brown	Myotis lucifugus		BOVA
050027	FPSE	Ia	Bat, tri-colored	Perimyotis subflavus		BOVA
040096	ST	Ia	Falcon, peregrine	Falco peregrinus		BOVA
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus		BOVA
040379	ST	Ia	Sparrow, Henslow's	Centronyx henslowii		BOVA
040179	ST	Ia	Tern, gull-billed	Gelochelidon nilotica	Yes	BOVA,Habitat,SppObs
040403	ST		Falcon, Arctic peregrine	Falco peregrinus tundrius		BOVA
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
100079	FC	IIIa	Butterfly, monarch	Danaus plexippus		BOVA
030067	CC	IIa	Terrapin, northern diamond-backed	Malaclemys terrapin terrapin	Yes	BOVA,Habitat,SppObs
030063	CC	IIIa	Turtle, spotted	Clemmys guttata		BOVA
040040		Ia	Ibis, glossy	Plegadis falcinellus		BOVA
040213		Ic	Owl, northern saw-whet	Aegolius acadicus		BOVA
040052		IIa	Duck, American black	Anas rubripes		BOVA
040033		IIa	Egret, snowy	Egretta thula		BOVA
040029		IIa	Heron, little blue	Egretta caerulea caerulea		BOVA,Habitat
040036		IIa	Night-heron, yellow-crowned	Nyctanassa violacea violacea		BOVA
040114		IIa	Oystercatcher, American	Haematopus palliatus		BOVA,Habitat
040192		IIa	Skimmer, black	Rynchops niger		BOVA,Habitat
040181		IIa	Tern, common	Sterna hirundo	Yes	BOVA,SppObs
040320		IIa	Warbler, cerulean	Setophaga cerulea		BOVA
040140		IIa	Woodcock, American	Scolopax minor		BOVA
040203		IIb	Cuckoo, black-billed	Coccyzus erythrophthalmus		BOVA
040105		IIb	Rail, king	Rallus elegans		BOVA,Habitat
050062		IIc	Squirrel, Delmarva Peninsula fox	Sciurus niger cinereus		BOVA

To view **All 566 species** [View 566](#)

*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candidate; CC=Collection Concern

**I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need;
III=VA Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need
Virginia Wildlife Action Plan Conservation Opportunity Ranking:
a - On the ground management strategies/actions exist and can be feasibly implemented.;

b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.;
 c - No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

Bat Colonies or Hibernacula: **Not Known**

Anadromous Fish Use Streams

N/A

Colonial Water Bird Survey (2 records)

Colony_Name	N Obs	Latest Date	N Species			View Map
			Different Species	Highest TE*	Highest Tier**	
Seaside, Wallops Island, Accomack	1	Jun 20 2013	1		III	Yes
TAYLORS NARROWS	2	Jun 1 1993	1		III	Yes

Displayed 2 Colonial Water Bird Survey

Threatened and Endangered Waters

N/A

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests

N/A

Habitat Predicted for Aquatic WAP Tier I & II Species

N/A

Habitat Predicted for Terrestrial WAP Tier I & II Species (12 Species)

[View Map of Combined Terrestrial Habitat Predicted for 12 WAP Tier I & II Species Listed Below](#)

ordered by Status Concern for Conservation

BOVA Code	Status*	Tier**	Common Name	Scientific Name	View Map
040183	FESE		Tern, roseate	Sterna dougallii dougallii	Yes
030071	FTST	Ia	Turtle, loggerhead sea	Caretta caretta	Yes
040120	FTST	IIa	Plover, piping	Charadrius melodus	Yes
040118	SE	Ia	Plover, Wilson's	Charadrius wilsonia	Yes
040179	ST	Ia	Tern, gull-billed	Gelochelidon nilotica	Yes
030067	CC	IIa	Terrapin, northern diamond-backed	Malaclemys terrapin terrapin	Yes
040029		IIa	Heron, little blue	Egretta caerulea caerulea	Yes
040114		IIa	Oystercatcher, American	Haematopus palliatus	Yes
040192		IIa	Skimmer, black	Rynchops niger	Yes
040105		IIb	Rail, king	Rallus elegans	Yes
040381		IIIa	Sparrow, saltmarsh	Ammodramus caudacutus	Yes
040186		IIIa	Tern, least	Sternula antillarum	Yes

Public Holdings: (1 names)

Name	Agency	Level
Wallops National Wildlife Refuge	U.S. Fish and Wildlife Service	Federal

Compiled on 2/21/2023, 11:28:29 AM 11461871.0 report=IPA searchType= R dist= 3218 poi= 37.8520000 -75.4899998
PixelSize=64; Anadromous=0.020211; BECAR=0.017545; Bats=0.018009; Buffer=0.064299; County=0.062148; Impediments=0.0191; Init=0.096775; PublicLands=0.027059; SppObs=0.293176; TEWaters=0.020455; TierReaches=0.021093; TierTerrestrial=0.049255;
Total=0.887696; Tracking_BOVA=0.216169; Trout=0.021966

USFWS Concurrence Dated September 8, 2023

Section 7 ESA Coordination Package
Submitted to USFWS by NASA after Results of
Bat Surveys - Submitted July 2023

Miller, Shari (WFF-2500)

From: Argo, Emily E <emily_argo@fws.gov>
Sent: Friday, September 8, 2023 12:50 PM
To: Levine, Lori {she, her, hers} (GSFC-2500)
Cc: Miller, Shari (WFF-2500); Kimberley, Ryan (FHWA); Saecker, John R. (WFF-2280); Bruner, Douglas W. (WFF-2500)
Subject: [EXTERNAL] Service Response: Wallops Island Causeway Bridge Replacement

Lori,

We have reviewed the project package received on July 18, 2023 for the Wallops Island Causeway Bridge Replacement. The following comments are provided under provisions of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended.

We concur with the determinations provided in the Species Determination Table dated July 17, 2023 and have no further comments. Should project plans change or if additional information on the distribution of listed species or critical habitat becomes available, this determination may be reconsidered. If you have any questions, please contact me via email at emily_argo@fws.gov.

Emily

Emily E. Argo (she/her)
Fish and Wildlife Biologist
Virginia Field Office
U.S. Fish and Wildlife Service
6669 Short Lane
Gloucester, VA 23061
(804) 824-2405
<https://www.fws.gov/office/virginia-ecological-services>

National Aeronautics and Space Administration



Goddard Space Flight Center

Wallops Flight Facility
Wallops Island, VA 23337

Reply to Attn of: 250.W

July 18, 2023

Sumalee Hoskin
U.S. Fish and Wildlife Service
6669 Short Lane
Gloucester, Virginia 23061

RE: Self-Certification
Wallops Island Causeway Bridge Replacement
Project Code: 2023-0012907
Wallops Flight Facility, Accomack County, Virginia

Dear Ms. Hoskin,

The National Aeronautics and Space Administration (NASA), in coordination with the Federal Highway Administration (FHWA) as a Participating Agency, is preparing a Draft Tiered Environmental Assessment to analyze potential impacts to the environment resulting from the proposed replacement of the Wallops Island Causeway Bridge over Cat Creek in Accomack County, Virginia. The Draft EA is tiered from the May 2019 *NASA Wallops Flight Facility Site-wide Programmatic Environmental Impact Statement*, in which NASA evaluated the environmental consequences of constructing and operating new facilities and infrastructure at Wallops Flight Facility (WFF).

Project Overview

The existing Causeway Bridge was constructed in 1959-1960 and is beyond the end of its anticipated service life. The Proposed Action being evaluated by the Draft EA consists of site preparation, construction and removal of temporary construction access, construction of a new bridge parallel to the existing bridge on a new alignment, demolition of the existing bridge after the new bridge opens, and ongoing maintenance and repairs over the bridge's 75-year lifespan.

History of Communication with USFWS

- December 20, 2022: FHWA initiated coordination with USFWS via email.
- January 30, 2023: NASA submitted a draft acoustic survey plan for bats.
- April 12, 2023: NASA submitted a revised acoustic survey plan for bats.

Determination of Effects

NASA and FHWA request U.S. Fish and Wildlife Service (USFWS) concurrence with our determination of effects for federally listed species under USFWS jurisdiction pursuant to Section 7 of the Endangered Species Act (ESA) as provided in the enclosed 'ESA Determination Table'. NASA and FHWA have made a determination of 'No Effect' or 'Not

Likely to Adversely Affect' for all listed species. Based on findings of the enclosed *WFF Causeway Bridge Replacement Acoustic Bat Survey and Habitat Evaluation* (WSSI 2023) survey, endangered northern long-eared bats and proposed endangered tricolored bats are presumed to be absent from the project area.

This informal consultation will also fulfill obligations under the ESA for the U.S. Army Corps of Engineers (USACE) and the U.S. Coast Guard (USGS) as Cooperating Agencies. Informal consultation with the National Marine Fisheries Service (NMFS) regarding federally listed species under NMFS jurisdiction, including sea turtle species in the marine environment, was completed December 12, 2022.

Please do not hesitate to contact me at lori.m.levine@nasa.gov if you have questions regarding this project.

Sincerely,

Lori Levine
WFF Natural Resources Program Manager

4 Enclosures

Self-Certification Package

WFF Causeway Bridge Replacement Acoustic Bat Survey and Habitat Evaluation (WSSI 2023)
32529.01_USFWS_bat_spreadsheet_NortheastUS_2023.xlsx
Bat calls raw data (zipped folder)

cc:

250/Mr. Douglas Bruner
250/Ms. Shari A. Miller
780/Mr. John R. Saecker
FHWA/Mr. Ryan Kimberley

From: [Levine, Lori {she, her, hers} \(GSFC-2500\)](#)
To: [Argo, Emily; sumalee_hoskin@fws.gov](#)
Cc: [Bruner, Douglas W. \(WFF-2500\); Miller, Shari A. \(WFF-2500\); ryan.kimberley@dot.gov; Saecker, John R. \(WFF-2280\)](#)
Subject: RE: USFWS Sec 7: FHWA project NASA 1(9) , Wallops Island Causeway Bridge Replacement
Date: Friday, August 25, 2023 11:43:37 AM

Good morning, Sumalee and Emily,
I'm writing to follow up on our July 18 submission (see below) for the Causeway Bridge project. Could you let me know the status of your review? I will need to update the project early next week. Please let me know if you need any additional information.

Best,

Lori Levine (she|her|hers)

Water Quality, Oil Operations, and WFF Natural Resources Programs
LGBTQ+ ERG Co-chair
NASA's Goddard Space Flight Center
Medical & Environmental Management Division, Code 250

From: Levine, Lori {she, her, hers} (GSFC-2500)
Sent: Tuesday, July 18, 2023 2:08 PM
To: Argo, Emily <emily_argo@fws.gov>; sumalee_hoskin@fws.gov
Cc: Bruner, Douglas W. (WFF-2500) <douglas.w.bruner@nasa.gov>; Miller, Shari (WFF-2500) <shari.a.miller@nasa.gov>; ryan.kimberley@dot.gov; Saecker, John R. (WFF-2280) <john.r.saecker@nasa.gov>
Subject: USFWS Sec 7: FHWA project NASA 1(9) , Wallops Island Causeway Bridge Replacement

Good afternoon, Sumalee and Emily,
Attached for your review is the informal consultation letter and enclosures pertaining to the Wallops Island Causeway Bridge replacement project. The enclosures include the following:

1. NLAA Concurrence verification letter
2. Zipped folder:
 - a. Self-certification package
 - b. *WFF Causeway Bridge Replacement Acoustic Bat Survey and Habitat Evaluation (WSSI 2023)*
 - c. 32529.01_USFWS_bat_spreadsheet_NortheastUS_2023.xlsx
 - d. Bat calls raw data

Please contact me with any questions.

Sincerely,

Lori Levine (she|her|hers)

Water Quality, Oil Operations, and WFF Natural Resources Programs
LGBTQ+ ERG Co-chair

NASA's Goddard Space Flight Center
Medical & Environmental Management Division, Code 250

*Please call my cell at **(301) 675-5112** if you need to reach me by phone.*

General Environmental Contacts

Greenbelt: gsfc-dl-enviro@mail.nasa.gov

Wallops: wff-dl-enviro@mail.nasa.gov



United States Department of the Interior

FISH AND WILDLIFE SERVICE



Virginia Field Office
6669 Short Lane
Gloucester, VA 23061

Date: 7/17/2023

Self-Certification Letter

Project Name: Wallops Island Causeway Bridge Replacement

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA conclusions. These conclusions resulted in:

- “no effect” determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR § 17.40(o) [as determined through the Information, Planning, and Consultation System (IPaC) northern long-eared bat assisted determination key]; and/or
- “may affect, not likely to adversely affect” determinations for proposed/listed species and/or proposed/designated critical habitat.

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the “no effect” or “may affect, not likely to adversely affect” determinations for proposed and listed species and proposed and designated critical habitat. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat becomes available, this determination may be reconsidered. This certification letter is valid for 1 year.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,

A handwritten signature in blue ink that reads "Cynthia A. Schulz". The signature is written in a cursive style and is placed on a light blue rectangular background.

Cindy Schulz
Field Supervisor
Virginia Ecological Services

Enclosures - project review package



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032

In Reply Refer To:
Project Code: 2023-0012907
Project Name: Wallops Island Causeway Bridge Replacement

June 13, 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.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

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 ECOS-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 ECOS-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:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.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/birds/policies-and-regulations.php>.

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/birds/bird-enthusiasts/threats-to-birds.php>.

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/birds/policies-and-regulations/executive-orders/e0-13186.php>.

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 Project 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
- Migratory Birds

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:

Virginia Ecological Services Field Office

6669 Short Lane

Gloucester, VA 23061-4410

(804) 693-6694

PROJECT SUMMARY

Project Code: 2023-0012907

Project Name: Wallops Island Causeway Bridge Replacement

Project Type: Bridge - Replacement

Project Description: Replace existing bridge with a new bridge. The new bridge will be located immediately north/parallel to the existing. Minor realignment of the causeway at the approaches will occur. The existing bridge will be demolished. Temporary bridges and/or barges will be used for construction and demolition.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@37.85198815,-75.48994793729457,14z>



Counties: Accomack County, Virginia

ENDANGERED SPECIES ACT SPECIES

There is a total of 10 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.

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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
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Eastern Black Rail <i>Laterallus jamaicensis ssp. jamaicensis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10477	Threatened
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot <i>Calidris canutus rufa</i> There is proposed critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

REPTILES

NAME	STATUS
<p>Green Sea Turtle <i>Chelonia mydas</i></p> <p>Population: North Atlantic DPS</p> <p>There is final critical habitat for this species. Your location does not overlap the critical habitat.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/6199</p>	Threatened
<p>Hawksbill Sea Turtle <i>Eretmochelys imbricata</i></p> <p>There is final critical habitat for this species. Your location does not overlap the critical habitat.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/3656</p>	Endangered
<p>Kemp's Ridley Sea Turtle <i>Lepidochelys kempii</i></p> <p>There is proposed critical habitat for this species.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/5523</p>	Endangered
<p>Leatherback Sea Turtle <i>Dermochelys coriacea</i></p> <p>There is final critical habitat for this species. Your location does not overlap the critical habitat.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/1493</p>	Endangered
<p>Loggerhead Sea Turtle <i>Caretta caretta</i></p> <p>Population: Northwest Atlantic Ocean DPS</p> <p>There is final critical habitat for this species. Your location does not overlap the critical habitat.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/1110</p>	Threatened

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.

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

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1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\) list](#) or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Oystercatcher <i>Haematopus palliatus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8935	Breeds Apr 15 to Aug 31
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Oct 15 to Aug 31

NAME	BREEDING SEASON
<p>Black Skimmer <i>Rynchops niger</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234</p>	Breeds May 20 to Sep 15
<p>Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Mar 15 to Aug 25
<p>Gull-billed Tern <i>Gelochelidon nilotica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9501</p>	Breeds May 1 to Jul 31
<p>King Rail <i>Rallus elegans</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8936</p>	Breeds May 1 to Sep 5
<p>Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679</p>	Breeds elsewhere
<p>Prairie Warbler <i>Dendroica discolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 1 to Jul 31
<p>Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 10 to Sep 10
<p>Ruddy Turnstone <i>Arenaria interpres morinella</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds elsewhere
<p>Rusty Blackbird <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds elsewhere
<p>Short-billed Dowitcher <i>Limnodromus griseus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480</p>	Breeds elsewhere
<p>Willet <i>Tringa semipalmata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Apr 20 to Aug 5

PROBABILITY OF PRESENCE SUMMARY

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

Probability of Presence (■)

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

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

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

Breeding Season (■)

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

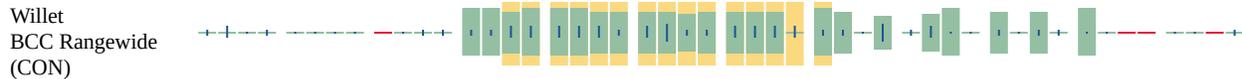
Survey Effort (|)

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

No Data (—)

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

Survey Timeframe



Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

MIGRATORY BIRDS FAQ

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

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

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

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

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

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

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

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

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

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

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

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

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

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

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

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Suzie Richert
Address: 201 Church Street
City: Blacksburg
State: VA
Zip: 24060
Email: srichert@wetlands.com
Phone: 2763899306

LEAD AGENCY CONTACT INFORMATION

Lead Agency: National Aeronautics and Space Administration

Endangered Species Act (ESA) Section 7 Determination Table

Project Name: Wallops Island Causeway Bridge Replacement

Date: 7/17/2023

Consultation Code: 2023-0012907

Species / Resource Name	Species / Habitat Presence in Action Area	Sources of Info	ESA Section 7 Determination	Project Elements that Support Determination
Northern Long-eared Bat <i>(Myotis septentrionalis)</i> Endangered	Suitable habitat present; species not present	Amended 2018 FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO) DKey; DWR NLEB Winter Habitat and Roost Trees Application This species is presumed absent per <i>WFF Causeway Bridge Replacement Acoustic Bat Survey and Habitat Evaluation</i> (WSSI 2023).	Not Likely to Adversely Affect (NLAA)	
Tricolored Bat <i>(Perimyotis subflavus)</i> Proposed Endangered	Suitable habitat present; species not present	DWR Little Brown Bat and Tri-colored Bat Winter Habitat and Roosts Application. This species is presumed absent per <i>WFF Causeway Bridge Replacement Acoustic Bat Survey and Habitat Evaluation</i> (WSSI 2023).	NLAA	

Species / Resource Name	Species / Habitat Presence in Action Area	Sources of Info	ESA Section 7 Determination	Project Elements that Support Determination
Eastern Black Rail (<i>Laterallus jamaicensis ssp jamaicensis</i>) Threatened	Suitable habitat present; species not present	This species uses salt and brackish marshes with dense cover and upland areas of such marshes. NASA completed three rounds of acoustic surveys during the 2022 breeding season. No visual or auditory observation of eastern black rails were recorded. This species is presumed absent per <i>Eastern Black Rail (Laterallus jamaicensis jamaicensis) Acoustic Surveys for the National Aeronautics and Space Administration Goddard Space Flight Center's Wallops Flight Facility</i> (Stein et al. 2022)	NLAA	
Piping Plover (<i>Charadrius melodus</i>) Threatened	No suitable habitat present	This species uses coastal beach and tidal flat habitats and is a transient and summer resident of the upper Virginia barrier islands and regularly nests and forages on Wallops Island beaches. No suitable habitat is found in the ESA action area.	No Effect	No work proposed on beaches or tidal flats.
Red Knot (<i>Calidris canutus rufa</i>) Threatened	No suitable habitat present	This species uses large areas of exposed intertidal sediments. No suitable habitat is found in the ESA action area.	No Effect	No work proposed on beaches or tidal flats
Green Sea Turtle (<i>Chelonia mydas</i>) Threatened	No suitable habitat present	No nesting habitat is found in the ESA Action Area.	No Effect	No work proposed on beaches
Hawksbill Sea Turtle (<i>Eretmochelys imbricata</i>) Endangered	No suitable habitat present	No nesting habitat is found in the ESA Action Area.	No Effect	No work proposed on beaches

Species / Resource Name	Species / Habitat Presence in Action Area	Sources of Info	ESA Section 7 Determination	Project Elements that Support Determination
Kemp's Ridley Sea Turtle (<i>Lepidochelys kempii</i>) Endangered	No suitable habitat present	No nesting habitat is found in the ESA Action Area.	No Effect	No work proposed on beaches
Leatherback Sea Turtle (<i>Dermochelys coriacea</i>) Endangered	No suitable habitat present	No nesting habitat is found in the ESA Action Area.	No Effect	No work proposed on beaches
Loggerhead Sea Turtle (<i>Caretta caretta</i>) Endangered	No suitable habitat present	No nesting habitat is found in the ESA Action Area.	No Effect	No work proposed on beaches
Monarch Butterfly (<i>Danaus plexippus</i>) Candidate	No suitable habitat present	The monarch butterfly is a long-distance migratory species that occupies a variety of habitats but is primarily dependent on milkweed species (<i>Asclepias spp.</i>) and other flowering plants often found in open herbaceous meadows.	No Effect	No unmaintained meadow habitat will be impacted.
Critical Habitat not present		VAFO CH Map Tool		

Stein, J., N. Bartok, and J. Ritzert. 2022. Eastern Black Rail (*Laterallus jamaicensis jamaicensis*) Acoustic Surveys for the National Aeronautics and Space Administration Goddard Space Flight Center's Wallops Flight Facility, Accomack County, Virginia, Draft Report: May 1- June 6, 2022.

WSSI (Wetland Studies and Solutions, Inc.). 2023. *WFF Causeway Bridge Replacement Acoustic Bat Survey and Habitat Evaluation*, July 12, 2023.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032

In Reply Refer To:
Project code: 2023-0012907
Project Name: Wallops Island Causeway Bridge Replacement

July 17, 2023

Subject: Consistency letter for the 'Wallops Island Causeway Bridge Replacement' project under the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (NLEB).

To whom it may concern:

The U.S. Fish and Wildlife Service (Service) has received your request dated July 17, 2023 to verify that the **Wallops Island Causeway Bridge Replacement** (Proposed Action) may rely on the concurrence provided in the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO) to satisfy requirements under section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 *et seq.*).

Based on the information you provided (Project Description shown below), you have determined that the Proposed Action is within the scope and adheres to the criteria of the PBO, including the adoption of applicable avoidance and minimization measures, and may affect, but is not likely to adversely affect (NLAA) the endangered Indiana bat (*Myotis sodalis*) and/or the endangered northern long-eared bat (*Myotis septentrionalis*). Consultation with the Service pursuant to section 7(a)(2) of the ESA (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) is required.

This "may affect - not likely to adversely affect" determination becomes effective when the lead Federal action agency or designated non-federal representative requests the Service rely on the PBO to satisfy the agency's consultation requirements for this project.

Please provide this consistency letter to the lead Federal action agency or its designated non-federal representative with a request for review, and as the agency deems appropriate, submit for concurrence verification through the IPaC system. The lead Federal action agency or designated non-federal representative should log into IPaC using their agency email account and click "Search by record locator". They will need to enter the record locator **101-129127411**.

For Proposed Actions that include bridge/culvert or structure removal, replacement, and/or maintenance activities: If your initial bridge/culvert or structure assessment documented signs of bat use or occupancy, or an assessment failed to detect Indiana bats and/or NLEBs, yet are later detected prior to, or during construction, please submit the Post Assessment Discovery of Bats at Bridge/Culvert or Structure Form (User Guide Appendix E) to this Service Office within 2 working days of any potential take. In these instances, potential incidental take of Indiana bats and/or NLEBs is covered under the Incidental Take Statement in the 2018 FHWA, FRA, FTA PBO (provided that the take is reported to the Service).

If the Proposed Action is modified, or new information reveals that it may affect the Indiana bat and/or northern long-eared bat in a manner or to an extent not considered in the PBO, further review to conclude the requirements of ESA section 7(a)(2) may be required.

For Proposed Actions that include bridge/culvert or structure removal, replacement, and/or maintenance activities:

If your initial bridge/culvert or structure assessments failed to detect Indiana bats and/or NLEB use or occupancy, yet bats are later detected prior to, or during construction, please submit the Post Assessment Discovery of Bats at Bridge/Culvert or Structure Form (User Guide Appendix E) to this Service Office within 2 working days of the incident. In these instances, potential incidental take of Indiana bats and/or NLEBs may be exempted provided that the take is reported to the Service. If the Proposed Action may affect any other federally-listed or proposed species and/or designated critical habitat, additional consultation between the lead Federal action agency and this Service Office is required. If the proposed action has the potential to take bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act may also be required. In either of these circumstances, please advise the lead Federal action agency accordingly.

The following species may occur in your project area and **are not** covered by this determination:

- Eastern Black Rail *Laterallus jamaicensis ssp. jamaicensis* Threatened
 - Green Sea Turtle *Chelonia mydas* Threatened
 - Hawksbill Sea Turtle *Eretmochelys imbricata* Endangered
 - Kemp's Ridley Sea Turtle *Lepidochelys kempii* Endangered
 - Leatherback Sea Turtle *Dermochelys coriacea* Endangered
 - Loggerhead Sea Turtle *Caretta caretta* Threatened
 - Piping Plover *Charadrius melodus* Threatened
 - Red Knot *Calidris canutus rufa* Threatened
 - Tricolored Bat *Perimyotis subflavus* Proposed Endangered
-

PROJECT DESCRIPTION

The following project name and description was collected in IPaC as part of the endangered species review process.

NAME

Wallops Island Causeway Bridge Replacement

DESCRIPTION

Replace existing bridge with a new bridge. The new bridge will be located immediately north/parallel to the existing. Minor realignment of the causeway at the approaches will occur. The existing bridge will be demolished. Temporary bridges and/or barges will be used for construction and demolition.

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@37.8520432,-75.49002186271157,14z>



DETERMINATION KEY RESULT

Based on your answers provided, this project(s) may affect, but is not likely to adversely affect the endangered Indiana bat and/or the endangered northern long-eared bat, therefore, consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required. However, also based on your answers provided, this project may rely on the concurrence provided in the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

QUALIFICATION INTERVIEW

1. Is the project within the range of the Indiana bat^[1]?

[1] See [Indiana bat species profile](#)

Automatically answered

No

2. Is the project within the range of the northern long-eared bat^[1]?

[1] See [northern long-eared bat species profile](#)

Automatically answered

Yes

3. Which Federal Agency is the lead for the action?

A) *Federal Highway Administration (FHWA)*

4. Are *all* project activities limited to non-construction^[1] activities only? (examples of non-construction activities include: bridge/abandoned structure assessments, surveys, planning and technical studies, property inspections, and property sales)

[1] Construction refers to activities involving ground disturbance, percussive noise, and/or lighting.

No

5. Does the project include *any* activities that are **greater than** 300 feet from existing road/rail surfaces^[1]?

[1] Road surface is defined as the actively used [e.g. motorized vehicles] driving surface and shoulders [may be pavement, gravel, etc.] and rail surface is defined as the edge of the actively used rail ballast.

No

6. Does the project include *any* activities **within** 0.5 miles of a known Indiana bat and/or NLEB hibernaculum^[1]?

[1] For the purpose of this consultation, a hibernaculum is a site, most often a cave or mine, where bats hibernate during the winter (see suitable habitat), but could also include bridges and structures if bats are found to be hibernating there during the winter.

No

7. Is the project located **within** a karst area?

No

8. Is there *any* suitable^[1] summer habitat for Indiana Bat or NLEB **within** the project action area^[2]? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

[1] See the Service's [summer survey guidance](#) for our current definitions of suitable habitat.

[2] The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR Section 402.02). Further clarification is provided by the [User's Guide for the Range-wide Programmatic Consultation for Indiana Bat and Northern Long-eared Bat](#).

Yes

9. Will the project remove *any* suitable summer habitat^[1] and/or remove/trim any existing trees **within** suitable summer habitat?

[1] See the Service's [summer survey guidance](#) for our current definitions of suitable habitat.

Yes

10. Will the project clear more than 20 acres of suitable habitat per 5-mile section of road/rail?

No

11. Have presence/probable absence (P/A) summer surveys^{[1][2]} been conducted^{[3][4]} **within** the suitable habitat located within your project action area?

[1] See the Service's [summer survey guidance](#) for our current definitions of suitable habitat.

[2] Presence/probable absence summer surveys conducted within the fall swarming/spring emergence home range of a documented Indiana bat hibernaculum (contact local Service Field Office for appropriate distance from hibernacula) that result in a negative finding requires additional consultation with the local Service Field Office to determine if clearing of forested habitat is appropriate and/or if seasonal clearing restrictions are needed to avoid and minimize potential adverse effects on fall swarming and spring emerging Indiana bats.

[3] For projects within the range of either the Indiana bat or NLEB in which suitable habitat is present, and no bat surveys have been conducted, the transportation agency will assume presence of the appropriate species. This assumption of presence should be based upon the presence of suitable habitat and the capability of bats to occupy it because of their mobility.

[4] Negative presence/probable absence survey results obtained using the [summer survey guidance](#) are valid for a minimum of two years from the completion of the survey unless new information (e.g., other nearby surveys) suggest otherwise.

Yes

SUBMITTED DOCUMENTS

- *Bat Survey Report_WFF Causeway Bridge 071223.pdf* <https://ipac.ecosphere.fws.gov/project/2IX6SP6H3JCN7JSP2LBGZB3UPA/projectDocuments/129125853>

12. Did the presence/probable absence (P/A) summer surveys detect Indiana bats and/or NLEB^[1]?

[1] P/A summer surveys conducted within the fall swarming/spring emergence home range of a documented Indiana bat hibernaculum (contact local Service Field Office for appropriate home range) that result in a negative finding requires additional consultation with the local Service Field Office to determine if clearing of forested habitat is appropriate and/or if seasonal clearing restrictions are needed to avoid and minimize potential adverse effects on fall swarming and spring emerging Indiana bats.

No

13. Were the P/A summer surveys conducted **within** the fall swarming/spring emergence range of a documented Indiana bat hibernaculum^[1]?

[1] Contact the local Service Field Office for appropriate distance from hibernacula.

No

14. Does the project include activities **within documented NLEB habitat**^{[1][2]}?

[1] Documented roosting or foraging habitat – for the purposes of this consultation, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry triangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.)

[2] For the purposes of this key, we are considering documented corridors as that where Indiana bats and/or NLEB have actually been captured and tracked to using (1) radio telemetry; or (2) treed corridors located directly between documented roosting and foraging habitat.

No

15. Will the removal or trimming of habitat or trees occur **within** suitable but **undocumented NLEB** roosting/foraging habitat or travel corridors?

Yes

16. What time of year will the removal or trimming of habitat or trees **within** suitable but **undocumented NLEB** roosting/foraging habitat or travel corridors occur?

C) During both the active and inactive seasons

17. Will *any* tree trimming or removal occur **within** 100 feet of existing road/rail surfaces?

Yes

18. Will *any* tree trimming or removal occur **between** 100-300 feet of existing road/rail surfaces?

No

19. Are *all* trees that are being removed clearly demarcated?

No

20. Will the removal of habitat or the removal/trimming of trees involve the use of **temporary** lighting?

No

21. Will the removal of habitat or the removal/trimming of trees include installing new or replacing existing **permanent** lighting?

No

22. Does the project include wetland or stream protection activities associated with compensatory wetland mitigation?

No

23. Does the project include slash pile burning?

No

24. Does the project include *any* bridge removal, replacement, and/or maintenance activities (e.g., any bridge repair, retrofit, maintenance, and/or rehabilitation work)?

Yes

25. Is there *any* suitable habitat^[1] for Indiana bat or NLEB **within** 1,000 feet of the bridge? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

[1] See the Service's current [summer survey guidance](#) for our current definitions of suitable habitat.

Yes

26. Has a bridge assessment^[1] been conducted **within** the last 24 months^[2] to determine if the bridge is being used by bats?

[1] See [User Guide Appendix D](#) for bridge/structure assessment guidance

[2] Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges that meet the physical characteristics described in the Programmatic Consultation, regardless of whether assessments have been conducted in the past. Due to the transitory nature of bat use, a negative result in one year does not guarantee that bats will not use that bridge/structure in subsequent years.

Yes

SUBMITTED DOCUMENTS

- *Bat Survey Report_WFF Causeway Bridge 071223.pdf* <https://ipac.ecosphere.fws.gov/project/2IX6SP6H3JCN7JSP2LBGZB3UPA/projectDocuments/129125853>

27. Did the bridge assessment detect *any* signs of Indiana bats and/or NLEBs roosting in/under the bridge (bats, guano, etc.)^[1]?

[1] If bridge assessment detects signs of *any* species of bats, coordination with the local FWS office is needed to identify potential threatened or endangered bat species. Additional studies may be undertaken to try to identify which bat species may be utilizing the bridge prior to allowing *any* work to proceed.

Note: There is a small chance bridge assessments for bat occupancy do not detect bats. Should a small number of bats be observed roosting on a bridge just prior to or during construction, such that take is likely to occur or does occur in the form of harassment, injury or death, the PBO requires the action agency to report the take. Report all unanticipated take within 2 working days of the incident to the USFWS. Construction activities may continue without delay provided the take is reported to the USFWS and is limited to 5 bats per project.

No

28. Will the bridge removal, replacement, and/or maintenance activities include installing new or replacing existing **permanent** lighting?

No

29. Does the project include the removal, replacement, and/or maintenance of *any* structure other than a bridge? (e.g., rest areas, offices, sheds, outbuildings, barns, parking garages, etc.)

No

30. Will the project involve the use of **temporary** lighting *during* the active season?

No

31. Will the project install new or replace existing **permanent** lighting?

No

32. Does the project include percussives or other activities (**not including tree removal/trimming or bridge/structure work**) that will increase noise levels above existing traffic/background levels?

No

33. Are *all* project activities that are **not associated with** habitat removal, tree removal/trimming, bridge and/or structure activities, temporary or permanent lighting, or use of percussives, limited to actions that DO NOT cause any additional stressors to the bat species?

Examples: lining roadways, unlighted signage, rail road crossing signals, signal lighting, and minor road repair such as asphalt fill of potholes, etc.

Yes

34. Will the project raise the road profile **above the tree canopy**?

No

35. Are the project activities that are not associated with habitat removal, tree removal/trimming, bridge and/or structure activities, temporary or permanent lighting, or use of percussives consistent with a No Effect determination in this key?

Automatically answered

Yes, other project activities are limited to actions that DO NOT cause any additional stressors to the bat species as described in the BA/BO

36. Is the location of this project consistent with a Not Likely to Adversely Affect determination in this key?

Automatically answered

Yes, because no bats were detected during presence/probable absence surveys conducted during the summer survey season and outside of the fall swarming/spring emergence periods. Additionally, all activities were at least 0.5 miles from any hibernaculum.

37. Is the bridge removal, replacement, or maintenance activities portion of this project consistent with a No Effect determination in this key?

Automatically answered

Yes, because the bridge has been assessed using the criteria documented in the BA and no signs of bats were detected

38. **General AMM 1**

Will the project ensure *all* operators, employees, and contractors working in areas of known or presumed bat habitat are aware of *all* FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable Avoidance and Minimization Measures?

Yes

PROJECT QUESTIONNAIRE

1. Have you made a No Effect determination for *all* other species indicated on the FWS IPaC generated species list?

No

2. Have you made a May Affect determination for *any* other species on the FWS IPaC generated species list?

Yes

3. How many acres^[1] of trees are proposed for removal between 0-100 feet of the existing road/rail surface?

[1] If described as number of trees, multiply by 0.09 to convert to acreage and enter that number.

0.6

4. Please describe the proposed bridge work:

The existing Causeway Bridge was constructed in 1959-1960 and is beyond the end of its anticipated service life. The Proposed Action consists of site preparation, construction and removal of temporary construction access, construction of a new bridge parallel to the existing bridge on a new alignment, demolition of the existing bridge after the new bridge opens, and ongoing maintenance and repairs over the bridge's 75-year lifespan. Temporary bridges and/or barges would be needed to allow construction of the new bridge and demolition of the existing bridge.

5. Please state the timing of all proposed bridge work:

Construction of the new bridge would likely begin in 2025 and continue for two or more years.

6. Please enter the date of the bridge assessment:

5/17/2023

AVOIDANCE AND MINIMIZATION MEASURES (AMMS)

This determination key result includes the commitment to implement the following Avoidance and Minimization Measures (AMMs):

GENERAL AMM 1

Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs.

DETERMINATION KEY DESCRIPTION: FHWA, FRA, FTA PROGRAMMATIC CONSULTATION FOR TRANSPORTATION PROJECTS AFFECTING NLEB OR INDIANA BAT

This key was last updated in IPaC on June 14, 2023. Keys are subject to periodic revision.

This decision key is intended for projects/activities funded or authorized by the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), and/or Federal Transit Administration (FTA), which may require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 of the Endangered Species Act (ESA) for the endangered **Indiana bat** (*Myotis sodalis*) and the endangered **northern long-eared bat** (NLEB) (*Myotis septentrionalis*).

This decision key should only be used to verify project applicability with the Service's [amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion \(dated March 23, 2023\) for Transportation Projects](#). The programmatic biological opinion covers limited transportation activities that may affect either bat species, and addresses situations that are both likely and not likely to adversely affect either bat species. This decision key will assist in identifying the effect of a specific project/activity and applicability of the programmatic consultation. The programmatic biological opinion is not intended to cover all types of transportation actions. Activities outside the scope of the programmatic biological opinion, or that may affect ESA-listed species other than the Indiana bat or NLEB, or any designated critical habitat, may require additional ESA Section 7 consultation.

IPAC USER CONTACT INFORMATION

Agency: Wetland Studies and Solutions, Inc.

Name: Zaneta Hough

Address: 1008 Old Virginia Beach Rd

City: Virginia Beach

State: VA

Zip: 23451

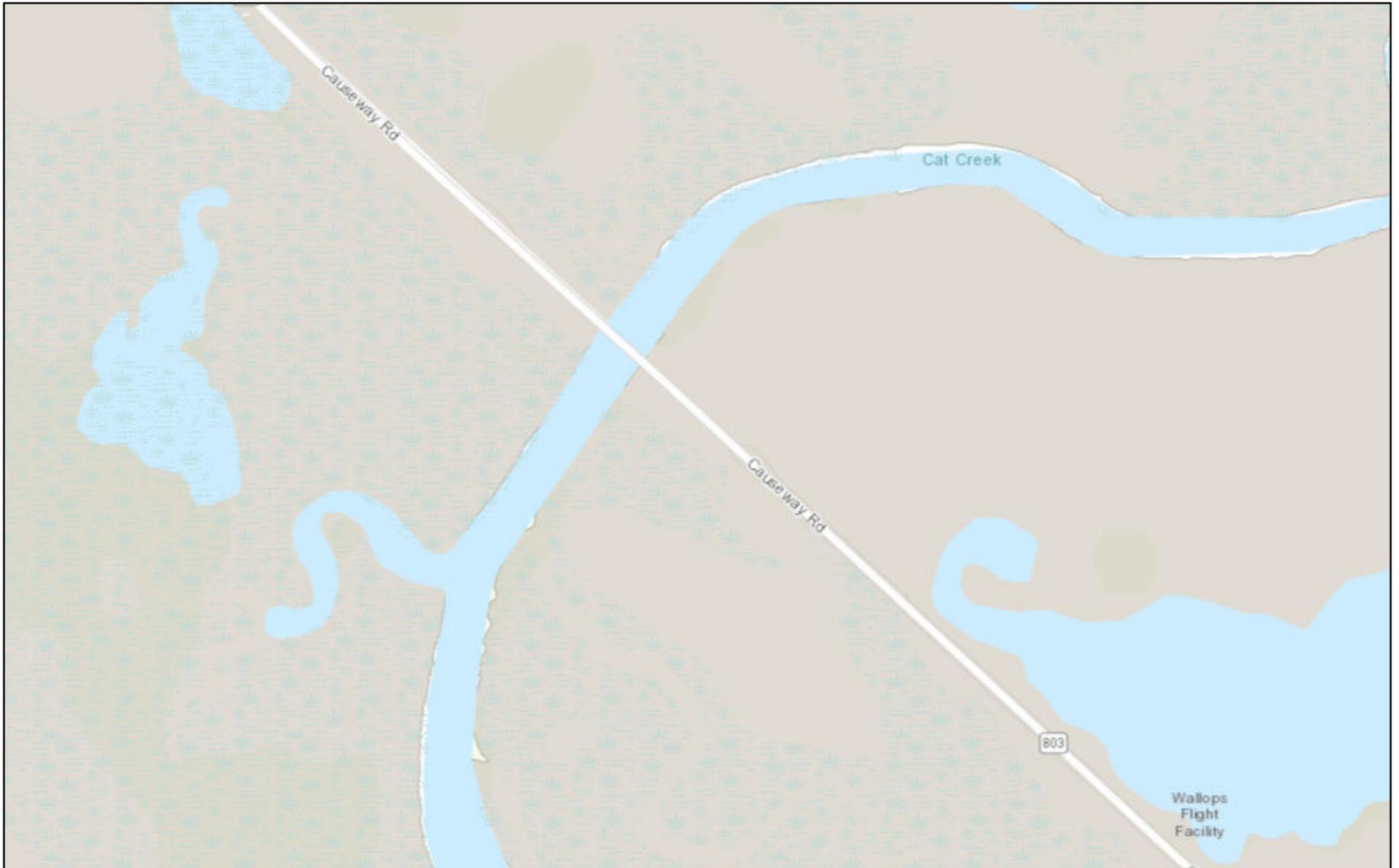
Email: zhough@wetlands.com

Phone: 7579632008

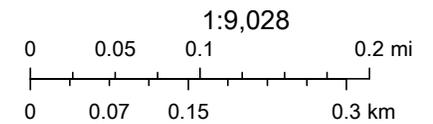
LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration

DWR NLEB Locations and Roost Trees



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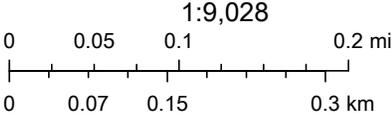
NASA Wallops Flight Facility, VITA, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA

VA Dept. Game & Inland Fisheries
NASA Wallops Flight Facility, VITA, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA |

Little Brown Bat & Tricolored Bat



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NASA Wallops Flight Facility, VITA, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA

FHWA "Not Likely to Adversely Affect" Verification
Form (Updated December 2023)

Submitted to:
NOAA's National Marine Fisheries Service (NMFS),
Greater Atlantic Regional Fisheries Office,
Protected Resources Division (GARFO PRD)



Drawn Action Area & Overlapping S7 Consultation Areas

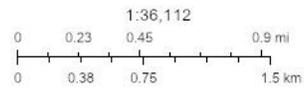
Area of Interest (AOI) Information

Area : 224.04 acres

Feb 21 2023 15:46:39 Eastern Standard Time



- Atlantic Sturgeon
- Sea Turtles
- Atlantic Large Whales



NASA Wallops Flight Facility, VGIN, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Maxar

Summary

Name	Count	Area(acres)	Length(mi)
Atlantic Sturgeon	2	43.26	N/A
Shortnose Sturgeon	0	0	N/A
Atlantic Salmon	0	0	N/A
Sea Turtles	4	86.56	N/A
Atlantic Large Whales	0	0	N/A
In or Near Critical Habitat	0	0	N/A

Atlantic Sturgeon

#	Feature ID	Species	Lifestage	Behavior	Zone
1	ANS_C50_ADU_MAF	Atlantic sturgeon	Adult	Migrating & Foraging	N/A
2	ANS_C50_SUB_MAF	Atlantic sturgeon	Subadult	Migrating & Foraging	N/A

#	From	Until	From (2)	Until (2)	Area(acres)
1	01/01	12/31	N/A	N/A	21.63
2	01/01	12/31	N/A	N/A	21.63

Sea Turtles

#	Feature ID	Species	Life Stage	Behavior	Zone
1	GRN_STS_AJV_MAF	Green sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia
2	KMP_STS_AJV_MAF	Kemp's ridley sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia
3	LTR_STS_AJV_MAF	Leatherback sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia
4	LOG_STS_AJV_MAF	Loggerhead sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia

#	From	Until	From (2)	Until (2)	Area(acres)
1	5/1	11/30	No Data	No Data	21.64
2	5/1	11/30	No Data	No Data	21.64
3	5/1	11/30	No Data	No Data	21.64
4	5/1	11/30	No Data	No Data	21.64

Appendix A. Verification Form (updated December 10, 2020)

Federal Highway Administration (FHWA) or the applicable state Department of Transportation (DOT) shall submit a signed version of this completed form, together with any project plans, maps, supporting analyses, etc., to NOAA’s National Marine Fisheries Service (NMFS), Greater Atlantic Regional Fisheries Office, Protected Resources Division (GARFO PRD) at nmfs.gar.esa.section7@noaa.gov with “FHWA GARFO NLAA Program: [Project Title or Number]” in the subject line. **Note:** project design contractors and/or consultants may assist in preparing the form, but only FHWA/DOT staff shall sign off on it on the final page.

Project Activity Type (check all that apply to the entire action):

- 1. Bridge repair, demolition, or replacement project
- 2. Culvert repair or replacement project
- 3. Dock, pier, or waterway access project (includes construction, demolition, and repairs)
- 4. Slope stabilization project

Transportation Project Information

Name of Project:	Wallops Island Causeway Bridge Replacement, Accomack County, Virginia		
Reinitiation (Yes/No):	yes		
State DOT/Program:	Federal Lands Highway Division of the Federal Highway Administration and NASA		
DOT ID Code:	NASA 1(9)		
Contact Person:	Ryan Kimberley, FHWA Environmental Protection Specialis		
Phone:	703-404-6240	Email:	
Project Latitude (e.g., 42.625884):	37.852000		
Project Longitude (e.g., -70.646114):	-75.490000		
Maximum Water Depth (m)	3.0		
Anticipated Project Start Date:	6/1/2024	Anticipated Project End Date:	12/31/2029
City/Town:	Assawoman, VA	Water body:	Cat Creek
Project/Action Description and Purpose:	<p>The National Aeronautics and Space Administration (NASA) and the Federal Highway Administration (FHWA) propose to replace the Wallops Island Causeway Bridge over Cat Creek at Goddard Space Flight Center’s Wallops Flight Facility, in Accomack County, VA. Cat creek is a navigable tidal waterway between Wallops Island and the mainland and is a segment of the intercoastal waterway. The existing bridge was constructed in 1959 and is approaching the end of its anticipated service life. It is 1,284 feet long, 27 feet wide, and has a cast-in-place concrete deck supported by four prestressed concrete beams on concrete piers. The bridge is located on the two-mile long Causeway Road connecting the mainland with Wallops Island. The proposed project would address structural deficiencies and improve safety by meeting current roadway and bridge design standards. The new bridge would be 40’ wide and would be constructed parallel to the existing structure. The causeway approaches would be realigned at each end of the new bridge. The existing bridge would remain in use during construction but would be demolished when the new bridge is completed. Temporary bridges and/or barges would be needed to allow construction of the new bridge and demolition of the existing bridge. The project also includes relocation of the existing utilities that are currently attached to the bridge. The utilities may be attached to the new bridge or installed underground using horizontal directional drilling. The project would include the development of a frac-out plan to address and respond to any unintentional drilling fluid returns to the surface if the utilities are installed underground.</p>		

ESA-listed species and/or critical habitats in the action area (Check all that apply)

<input checked="" type="checkbox"/>	Atlantic sturgeon (all DPSs)	<input checked="" type="checkbox"/>	Kemp's ridley sea turtle
<input type="checkbox"/>	Atlantic sturgeon critical habitat Indicate which DPS (GOM, NYB, Chesapeake Bay DPSs): <input type="text" value="Select DPS"/>	<input checked="" type="checkbox"/>	Loggerhead sea turtle (Northwest Atlantic DPS)
<input type="checkbox"/>	Shortnose sturgeon	<input checked="" type="checkbox"/>	Leatherback sea turtle
<input type="checkbox"/>	Atlantic salmon (GOM DPS)	<input checked="" type="checkbox"/>	North Atlantic right whale
<input type="checkbox"/>	Atlantic salmon critical habitat (GOM DPS)	<input type="checkbox"/>	North Atlantic right whale critical habitat
<input checked="" type="checkbox"/>	Green sea turtle (North Atlantic DPS)	<input checked="" type="checkbox"/>	Fin whale

* Please consult GARFO PRD's ESA Section 7 Mapper for ESA-listed species and critical habitat information for your action area at: <https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-species-critical-habitat-information-maps-greater>.

The following stressors are applicable to the action:

- Underwater Noise
- Impingement/Entrainment and Entanglement
- Water Quality/Turbidity
- Habitat Alteration
- Vessel Traffic

Impacts Table

Habitat Alteration		
	Permanent (acres)	Temporary (acres)
Sand (saline)	0.00	0.00
Silt/Mud/Clay (saline)	3.00	3.00
Hard bottom (saline)	0.00	0.00
Submerged Aquatic Vegetation (SAV) (saline)	0.00	0.00
Sand (freshwater)	0.00	0.00
Silt/Mud/Clay (freshwater)	0.00	0.00
Hard bottom (freshwater)	0.00	0.00
Submerged Aquatic Vegetation (SAV) (freshwater)	0.00	0.00
Total amount of habitat alteration	6.00	
In-water Construction Impacts		
	Amount in meters	
Width of water body in action area (m)	375.0	
Stressor category that extends furthest distance into water body (e.g.; underwater noise, turbidity plume)	all of the stressors would occur within cat creek and the adjacent tidal mudflats and tidal wetlands	
Maximum extent of stressor into the water body (m)	375.0	

Project Design Criteria (PDC) Checklist

FHWA/DOT shall incorporate all general PDCs and all applicable PDCs in the appropriate stressor categories. For any PDCs that are not incorporated, additional justification is required for a project to be eligible for the NLAA Program. FHWA/DOT shall check the corresponding box for each PDC that is, or will be, incorporated into the project or indicate if not applicable.

GENERAL PDCs			
Yes	N/A	PDC #	PDC Description
<input checked="" type="checkbox"/>	<input type="checkbox"/>	1.	Ensure all operators, employees, and contractors are aware of all FHWA environmental commitments, including these PDC, when working in areas where ESA-listed species may be present or in critical habitat.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	2.	No portion of the proposed action will individually or cumulatively have an adverse effect on ESA-listed species or critical habitat.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3.	No portion of the proposed action that may affect the GOM DPS of Atlantic salmon will occur in the tidally influenced portion of rivers/streams where their presence is possible from <u>April 10 through November 7</u> . The range of the GOM DPS only occurs in Maine. Note: If the project will occur within the geographic range of the GOM DPS Atlantic salmon but their presence is not expected following the best available commercial scientific data, the work window does not need to be applied. Please attach best available information (i.e. local fisheries biologist correspondence).
<input type="checkbox"/>	<input checked="" type="checkbox"/>	4.	No portion of the proposed action that may affect shortnose or Atlantic sturgeon will occur in areas identified as spawning grounds as follows: i. Gulf of Maine: Apr 1-Aug 31 ii. Southern New England/New York Bight: Mar 15-Aug 31 iii. Chesapeake Bay: Mar 15-Jul 1 and Sep 15-Nov 1 Note: If river specific information exists that provides better or more refined time of year information, those dates may be substituted with NMFS approval.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	5.	No portion of the proposed action that may affect shortnose or Atlantic sturgeon will occur in areas identified as overwintering grounds where dense aggregations are known to occur as follows: i. Gulf of Maine: Oct 15-Apr 30 ii. Southern New England/New York Bight: Nov 1-Mar 15 iii. Chesapeake Bay: Nov 1-Mar 15 Note: If river specific information exists that provides better or more refined time of year information, those dates may be substituted with NMFS approval.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	6.	Within designated critical habitat for Atlantic sturgeon, no work will affect hard bottom substrate (e.g., rock, cobble, gravel, limestone, boulder, etc.) in low salinity waters (i.e., 0.0-0.5 parts per thousand) (PBF 1).
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.	Work will result in no or only temporary/short-term changes in water temperature, water flow, salinity, or dissolved oxygen levels.

Yes	N/A	PDC #	PDC Description
<input checked="" type="checkbox"/>	<input type="checkbox"/>	8.	If ESA-listed species are (a) likely to pass through the action area at the time of year when project activities occur; and/or (b) the project will create an obstruction to passage when in-water work is completed, then a zone of passage (~50% of water body) with appropriate habitat for ESA-listed species (e.g., depth, water velocity, etc.) must be maintained (i.e., physical or biological stressors such as turbidity and sound pressure must not create barrier to passage).
<input checked="" type="checkbox"/>	<input type="checkbox"/>	9.	The project will not adversely impact any submerged aquatic vegetation (SAV) or oyster reefs.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	10.	No blasting or use of explosives will occur.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	11.	No in-water work on large dams or tide gates (small dam and tide gate repairs may be permitted with prior review and approval from NMFS).

UNDERWATER NOISE PDCs			
Yes	N/A	PDC #	PDC Description
<input checked="" type="checkbox"/>	<input type="checkbox"/>	12.	<p>If pile driving is occurring during a time of year when ESA-listed species may be present, and the anticipated noise is above the behavioral noise threshold, a “soft start” is required to allow animals an opportunity to leave the project vicinity before sound pressure levels increase. <i>In addition to using a soft start at the beginning of the work day for pile driving, one must also be used at any time following cessation of pile driving for a period of 30 minutes or longer.</i></p> <p><u>For impact pile driving:</u> pile driving will commence with an initial set of three strikes by the hammer at 40% energy, followed by a one minute wait period, then two subsequent three-strike sets at 40% energy, with one-minute waiting periods, before initiating continuous impact driving.</p> <p><u>For vibratory pile installation:</u> pile driving will be initiated for 15 seconds at reduced energy followed by a one-minute waiting period. This sequence of 15 seconds of reduced energy driving, one-minute waiting period will be repeated two additional times, followed immediately by pile-driving at full rate and energy.</p>

Yes	N/A	PDC #	PDC Description
<input checked="" type="checkbox"/>	<input type="checkbox"/>	13.	<p>If the project includes non-timber piles*, please attach your calculation to this verification form showing that the noise is below the injury thresholds of ESA-listed species in the action area. The GARFO Acoustic Tool can be used as a source, should you not have other information: https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-consultation-technical-guidance-greater-atlantic.</p> <p>*Effects from timber and steel sheet piles were analyzed in the NLAA programmatic consultation, so no additional information is necessary.</p>
<input type="checkbox"/>	<input type="checkbox"/>	14.	Any new pile-supported structure must involve the installation of no more than 50 piles (below MHW).

Pile material (e.g., steel pipe, concrete)	Pile diameter/width (inches)	Number of piles	Installation method (e.g., impact hammer, vibratory start and then impact hammer to depth, drilling)
Concrete (permanent)	24	40	impact
steel (temporary)	12	180	impact

IMPINGEMENT/ENTRAINMENT AND ENTANGLEMENT PDCs			
Yes	N/A	PDC #	PDC Description
<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.	<p>If excavating or dredging, only mechanical buckets, hydraulic cutterheads, or low volume hopper dredges (e.g., CURRITUCK, cubic yard maximum bin capacity) may be used.</p> <p>Note: We consider excavating a smaller scale form of mechanical dredging.</p>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	16.	<p>No new excavation or dredging in Atlantic sturgeon or salmon critical habitat (excavation in a prior construction footprint or maintenance dredging is permitted, but still must meet all other PDCs). New excavation or dredging outside Atlantic sturgeon or salmon critical habitat is limited to one-time events (e.g., burying a cable or utility line) to prior excavation or maintenance dredging. Locating a replacement bridge within 250 feet (centerline to centerline) of an existing bridge and excavation of sediment around bridge piers are considered work in a previous construction footprint.</p> <p>Note: We consider excavating a smaller scale form of mechanical dredging.</p>

Yes	N/A	PDC #	PDC Description
<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.	Temporary intakes related to construction are prohibited in sturgeon and salmon spawning, rearing, or overwintering habitat during the time of year windows identified in General PDCs 3-5. If utilized outside those areas and times of year and in an area with anticipated sturgeon and salmon presence, temporary intakes must be equipped with 2-millimeter wedge wire mesh screening and must not have greater than 0.5 feet per second intake velocities, to prevent impingement or entrainment of juvenile and early life stages of these species.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	18.	Work behind cofferdams, turbidity curtains, or other instruments that prevent access of animals to the project area is required when ESA-listed species are likely to be present (if presence is limited to rare, transient individuals, access control measures are not necessary). Once constructed, work inside a cofferdam at any time of year may be permitted with NMFS approval, provided the cofferdam is installed/removed outside the time-restricted period.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	19.	No new permanent surface water withdrawal, water intakes, or water diversions.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	20.	Turbidity control measures, including cofferdams, must be designed to not entangle or entrap ESA-listed species.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	21.	Any in-water lines, ropes, or chains must be made of materials and installed in a manner to minimize or avoid the risk of entanglement by using thick, heavy, and taut lines that do not loop or entangle. Lines can be enclosed in a rigid sleeve.

WATER QUALITY/TURBIDITY PDCs			
Yes	N/A	PDC #	PDC Description
<input checked="" type="checkbox"/>	<input type="checkbox"/>	22.	In-water offshore disposal may only occur at designated disposal sites that have already been the subject of ESA section 7 consultation with NMFS and where a valid consultation is in place.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	23.	Any temporary discharges must meet state water quality standards (e.g., no discharges of substances in concentrations that may cause acute or chronic adverse reactions, as defined by EPA water quality standards criteria).
<input type="checkbox"/>	<input type="checkbox"/>	24.	Only repair, upgrades, relocations, and improvements of existing discharge pipes or replacement in-kind are allowed; no new construction of untreated discharges.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	25.	Work behind cofferdams, turbidity curtains, or other instruments to control turbidity is required when operationally feasible and ESA-listed species are likely to be present (if presence is limited to rare, transient individuals, turbidity control methods are not necessary).

HABITAT ALTERATION PDCs			
Yes	N/A	PDC #	PDC Description
<input checked="" type="checkbox"/>	<input type="checkbox"/>	26.	Minimize all new waterward encroachment and permanent fill.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	27.	In Atlantic salmon critical habitat, stream simulation design with a minimum span of 1.2 bankfull width will be used in areas with minimal tidal influence. In tidal areas, a design that allows for unimpeded flow will be used (no delay in water entering or exiting the area upstream of the crossing).
<input type="checkbox"/>	<input checked="" type="checkbox"/>	28.	In Atlantic salmon critical habitat, no culvert end extensions, invert line culvert rehabilitation, or slipline culvert rehabilitation may occur.

VESSEL TRAFFIC PDCs			
Yes	N/A	PDC #	PDC Description
<input checked="" type="checkbox"/>	<input type="checkbox"/>	29.	Maintain project (i.e., construction) vessels operating within the action area to speed limits below 10 knots and dredge vessels to speeds of 4 knots maximum, while dredging.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	30.	Maintain a 1,500-foot buffer between project (i.e., construction) vessels and ESA-listed whales and a 300-foot buffer between project vessels and sea turtles. This also applies to dredge vessels.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	31.	The number of project (construction) vessels must be limited to the greatest extent possible, as appropriate to size and scale of project.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	32.	The project must not result in the permanent net increase of commercial vessels.

Justification for NLAA Determination if not Incorporating All PDC

If the project is not in compliance with all of the general and stressor-based PDCs, but you can provide justification and/or special conditions to demonstrate why the project still meets the NLAA determination and is consistent with the aggregate effects considered in the programmatic consultation, you may still certify your project through the NLAA program using this verification form. Please identify which PDCs your project does not meet (e.g., PDC 9, PDC 15, PDC 22, etc.) and provide your rationale and justification for why the project is still eligible for the verification form. Project modifications must not result in different effects not already considered.

To demonstrate that the project is still NLAA, you must explain why the effects on ESA-listed species or critical habitat are **insignificant** (i.e., too small to be meaningfully measured or detected) or **discountable** (i.e., extremely unlikely to occur). **Please use this language in your justification.**

PDC#	Justification
14	<p>The new/replacement bridge would have approximately 48 piles below the MHWL (less than the 50 pile threshold for new structures); however, a temporary structure would be needed to construct the new bridge and demolish the old bridge. Preliminary design suggests that the temporary bridge could have 90 piles. Additionally, based on the final design requirements, several fender piles may be needed to protect the piers within the navigational channel.</p> <p>The project will meet the PDC for new permanent structures. Temporary impacts are required to safely construct the new bridge and demolish the old bridge. The number of temporary piles will be minimized to the extent practicable. A marine biologist with expertise in turtles will monitor the project area during pile driving activities to ensure that sea turtles are not exposed to harmful levels of percussion. </p>
24	<p>The new bridge will not be able to provide full treatment of the deck runoff at the discharge locations. FHWA conducted a preliminary hydrology and stormwater management analysis which determined that full on-site collection and treatment of stormwater is not feasible due to the high water table and low elevation of this coastal site. The design engineers may be able to provide partial onsite treatment supplemented by the purchase of Nutrient Credits. Another option under consideration is the use of direct discharge scuppers with all stormwater management treatment requirements achieved through Nutrient Credit purchases. Since the existing bridge uses direct discharge, and there is no proposed increase in roadway capacity for the bridge, the amount of on-site pollutants discharged from the bridge is not expected to increase significantly.</p>

FHWA/DOT Verification of Determination (To be filled out by FHWA/DOT staff only)

By submitting this Verification Form, FHWA, or the state DOT as FHWA’s designated non-federal representative, indicates that they determined that the proposed activity described above is not likely to adversely affect (NLAA) ESA-listed species or designated critical habitat under NMFS jurisdiction in accordance with the Program, and all effects (direct, indirect, interrelated, and interdependent) are either insignificant (so small they cannot meaningfully be measured, detected, or evaluated) or discountable (extremely unlikely to occur).

<input type="checkbox"/>	In accordance with the FHWA GARFO NLAA Program, we have determined that the action complies with all applicable PDCs and is not likely to adversely affect listed species.
<input checked="" type="checkbox"/>	In accordance with the FHWA GARFO NLAA Program, we have determined that the action is not likely to adversely affect listed species per the justifications and/or special conditions provided above.
FHWA/DOT Signature: Date:	
RYAN DEFOREST KIMBERLEY	Digitally signed by RYAN DEFOREST KIMBERLEY Date: 2023.12.07 11:07:55 -05'00'
	12/07/2023

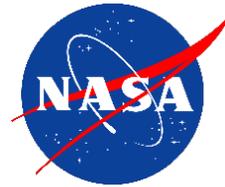
By providing your determination and signature, you are certifying that to the best of your knowledge the information provided in this form is accurate and based upon the best available scientific information. This form must be filled out and signed by FHWA or state DOT staff, as an officially designated non-federal representative.

GARFO PRD Concurrence (To be filled out by GARFO PRD)

After receiving the Verification Form, GARFO PRD will contact FHWA/DOT with any concerns and indicate whether GARFO PRD concurs with FHWA/DOT’s determination.

<input type="checkbox"/>	In accordance with the FHWA GARFO NLAA Program, GARFO PRD concurs with FHWA/DOT’s determination that the action complies with all applicable PDCs and is not likely to adversely affect listed species or critical habitat.
<input type="checkbox"/>	In accordance with the FHWA GARFO NLAA Program, GARFO PRD concurs with FHWA/DOT’s determination that the action is not likely to adversely affect listed species or critical habitat per the justifications and/or special conditions provided above.
<input type="checkbox"/>	GARFO PRD does not concur with FHWA/DOT’s determination that the action complies with the applicable PDCs (with or without justifications), and recommends an individual Section 7 consultation to be completed independent from the FHWA GARFO NLAA Program.
GARFO PRD Signature: Date:	

Appendix F – FHWA GARFO 2018 NLAA Program Project Design Criteria



FHWA Programmatic Determination of Not Likely to Adversely Affect (GARFO 2018 NLAA Program) Project Design Criteria (PDC)

General PDC:

- Ensure all operators, employees, and contractors are aware of all environmental commitments, including these PDCs, when working in areas where Endangered Species Act (ESA)-listed species may be present.
- No portion of the proposed action shall individually or cumulatively have an adverse effect on ESA-listed species or critical habitat.
- Work would result in no or only temporary/short-term changes in water temperature, water flow, salinity, or dissolved oxygen levels.
- If ESA-listed species are (a) likely to pass through the action area at the time of year when project activities occur; and/or (b) the project would create an obstruction to passage when in-water work is completed, then a zone of passage (~50% of water body) with appropriate habitat for ESA-listed species (e.g. depth, water velocity, etc.) must be maintained (i.e., physical or biological stressors such as turbidity and sound pressure must not create barrier to passage).
- The project shall not adversely impact any SAV or oyster reefs.
- No blasting or use of explosives would occur.
- No in-water work on large dams or tide gates.

Underwater Noise PDC:

- If pile driving is occurring during a time of year when ESA-listed species may be present, and the anticipated noise is above behavioral noise threshold, a soft start is required to allow animals an opportunity to leave the project vicinity before sound pressure levels increase. In addition to using a soft start at the beginning of the work day for pile driving, one must also be used at any time following cessation of pile driving for a period of 30 minutes or longer.
 - For impact pile driving: pile driving shall commence with an initial set of three strikes by the hammer at 40% energy, followed by a one minute wait period, then two subsequent three-strike sets at 40% energy, with one minute waiting periods, before initiating impact driving.
 - For vibratory pile installation: pile driving would be initiated for 15 seconds at reduced energy followed by a one-minute waiting period. This sequence of 15 seconds of reduced energy driving, one-minute waiting period would be repeated two additional times, followed immediately by pile-driving at full rate and energy.

Appendix F – FHWA GARFO 2018 NLAA Program Project Design Criteria

- Noise must be below injury thresholds of ESA-listed species in the action area.

Impingement/Entrapment and Entanglement PDC:

- Work behind cofferdams, turbidity curtains, or other instruments that prevent access of animals to the project area is required when ESA-listed species are likely to be present (if presence is limited to rare, transient individuals, access control measures are not necessary).
- No new permanent surface water withdrawal, water intakes, or water diversions.
- Turbidity control measures, including cofferdams, must be designed to not entangle or entrap ESA-listed species.
- Any in-water lines, ropes, or chains must be made of materials and installed in a manner to minimize or avoid the risk of entanglement by using thick, heavy, and taut lines that do not loop or entangle. Lines can be enclosed in a rigid sleeve.

Water Quality/Turbidity PDC:

- Any temporary discharges must meet state water quality standards.
- Only repair, upgrades, relocations, and improvements of existing discharge pipes or replacement in-kind are allowed; no new construction of untreated discharges.
- Work behind cofferdams, turbidity curtains, or other instruments to control turbidity is required when operationally feasible and ESA-listed species are likely to be present (if presence is limited to rare, transient individuals, turbidity control methods are not necessary).

Habitat Alteration PDC:

- Minimize all new waterward encroachment and permanent fill.

Vessel Traffic PDC:

- Maintain project (i.e., construction) vessels operating within the action area to speeds below 10 knots.
- Maintain a 300-foot buffer between project (i.e., construction) vessels and sea turtles.
- The number of project (construction) vessels must be limited to the greatest extent possible, as appropriate to the size and scale of project.
- The project must not result in permanent net increase of commercial vessels.

References

NMFS and FHWA (National Marine Fisheries Service and Federal Highway Administration).
2018. FHWA/NMFS Consultation Process Guide for Transportation Actions in the NMFS
Greater Atlantic Region, April 2018.

TABLE 1:
Proxy Projects for Estimating Underwater Noise

Project Location	Water Depth (m)	Pile Size (inches)	Pile Type	Hammer Type	Attenuation rate (dB/10m)
Not Available	5	24"	Concrete	Impact	5
Not Available	5	12"	Steel H-Type	Impact	5
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

TABLE 2:
Proxy-Based Estimates for Underwater Noise

Type of Pile	Hammer Type	Estimated Peak Noise Level (dB _{Peak})	Estimated Pressure Level (dB _{RMS})	Estimated Single Strike Sound Exposure Level (dB _{SEL})
24" Concrete	Impact	185	170	160
12" Steel H-Type	Impact	190	175	160
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0

TABLE 3:
Estimated Distances to Sturgeon/Salmon Injury and Behavioral Thresholds

Type of Pile	Hammer Type	Distance (m) to 206dB _{Peak} (injury)	Distance (m) to 150 dB _{SEL} (surrogate for 187 dBcSEL injury)	Distance (m) to Behavioral Disturbance Threshold (150 dB _{RMS})
24" Concrete	Impact	NA	30.0	50.0
12" Steel H-Type	Impact	NA	30.0	60.0
	0	0.0	0.0	0.0
	0	0.0	0.0	0.0
	0	0.0	0.0	0.0
	0	0.0	0.0	0.0

TABLE 4
Estimated Distances to Sea Turtle Injury and Behavioral Thresholds

Type Pile	Hammer Type	Distance (m) to Sea Turtle TTS (SEL weighted) 189 dB _{RMS}	Distance (m) to Sea Turtle TTS (Peak SPL) 226 dB _{Peak}	Distance (m) to Sea Turtle PTS (SEL weighted) 204 dB _{SEL}	Distance (m) to Sea Turtle PTS (Peak SPL) 232 dB _{Peak}	Distance (m) to Sea Turtle Behavioral Threshold 175 dB _{RMS}
24" Concrete	Impact	NA	NA	NA	NA	NA
12" Steel H-Type	Impact	NA	NA	NA	NA	10.0
	0	0.0	0.0	0.0	0.0	0.0
	0	0.0	0.0	0.0	0.0	0.0
	0	0.0	0.0	0.0	0.0	0.0
	0	0.0	0.0	0.0	0.0	0.0

TABLE 5:
Estimated Distances to Cetacean Behavioral Thresholds

Type Pile	Hammer Type	Distance (m) to 160 dB _{RMS} (behavior for impulsive noise)	Distance (m) to 120 dB _{RMS} (behavior for non-pulse noise)
24" Concrete	Impact	30.0	NA
12" Steel H-Type	Impact	40.0	NA
	0	0.0	0.0
	0	0.0	0.0
	0	0.0	0.0
	0	0.0	0.0