

REGION 4

INTRA-SERVICE SECTION 7 BIOLOGICAL EVALUATION FORM

Originating Person: Bridgette Gorg, Refuge Support Member (Kendall Smith, Refuge Manager)

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PROJECT NAME (Grant Title/Number): Outfall Canal Dredging (Reach 1)

I. Service Program:

Ecological Services

Federal Aid

Clean Vessel Act

Coastal Wetlands

Endangered Species Section 6

Partners for Fish and Wildlife

Sport Fish Restoration

Wildlife Restoration

Fisheries

Refuges/Wildlife

II. State/Agency: North Carolina/ U.S Fish and Wildlife Service

III. Station Name: Mattamuskeet National Wildlife Refuge

IV. Description of Proposed Action

Outfall Canal has continually decreased in depth over time due to sediment accumulation, reducing the drainage pathway from Lake Mattamuskeet to Pamlico Sound. Lands surrounding Lake Mattamuskeet commonly flood during routine storm events due to lack of drainage. The scope of this project is to perform maintenance dredging of Outfall Canal

to remove sediment accumulations and improve drainage from Lake Mattamuskeet to Pamlico Sound. The canal has been divided into 6 reaches based upon bridge locations. This Intra-Service Section 7 Biological Evaluation is for Reach 1, which is comprised entirely of federal property belonging to Mattamuskeet National Wildlife Refuge (MNWR) stretching from the beginning of the canal on the edge of Lake Mattamuskeet to the pedestrian footbridge crossing Outfall Canal on MNRW property. Material is to be removed from the canal via hydraulic dredging methods, the least invasive method to shoreline vegetation, and spoil placement will be in both the existing Confined Disposal Facility (CDF) and Impoundment 6 (MI-6). Excavation of existing material in the CDF will be necessary to create the capacity for dredging, as an assumed 5 feet of material will be placed from the canal spoil. Additionally, there will be an average placement of 9” of spoil across the entirety of MI-6 using hydraulic placement methods.



Figure 1: The hatched areas depict the areas of proposed dredging for Reach 1 of the Outfall Canal Dredging. In a recent update, the hatched area should extend to the end of the berm, just slightly further than this image indicates. This image was provided by Geosyntec Consultants in April 2025 and is provisional and subject to change.



Figure 2: The shaded purple area depicts Mattamuskeet NWR's existing CDF and the shaded blue area shows the refuge's MI-6, both placement areas for Reach 1 of the Outfall Canal Dredging. This image was provided by Geosyntec Consultants in April 2025 and is provisional and subject to change.

V. Pertinent Species and Habitat

Listed species and habitat occurrence on the refuge are based on the expert opinion of Service biologists, supplemented with site specific information and information from the Environmental Conservation Online System (ECOS, <https://ecos.fws.gov/ecp/>) and Information for Planning and Consultation (IPaC, <https://ecos.fws.gov/ipac/>) databases. Further, no designated critical habitat occurs in the action area or the area of potential effect. Since research activities are ongoing in this area and since the ECOS and IPaC databases are regularly updated, approximately every 90 days, it is possible that the specific threatened and endangered species identified as present on or near the refuge may change between the finalization of this Biological Evaluation and its publication.

"Additionally, bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) have been known to be present on the refuge. As a previously listed species on the Endangered Species Act until August 2007, bald eagles are protected under the Bald and Golden Eagle Protection Act (BGEPA) of 1940, along with golden eagles. In accordance with this Act, actions that are determined "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior" (50 CFR 22.6) are prohibited. Nesting has occurred on the refuge in the past, but there are currently no known nest sites. Precautions will be taken for this project to ensure that potential nesting pairs and/or sites will not be impacted. Bald eagles are frequently observed on the refuge, especially in winter, and might experience minor temporary disturbance from construction noise. Their use of the lake has diminished with a decrease in water quality and a decrease

in prey species using the lake. Furthermore, no designated critical habitat occurs in the action area or the area of potential effect.

A. Include species/habitat occurrence map: See <https://ecos.fws.gov/ecp/>

B. Complete the following table:

SPECIES/CRITICAL HABITAT	STATUS¹
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	E
Red Wolf (<i>Canis rufus</i>)	E
Tricolor Bat (<i>Perimyotis subflavus</i>)	PE
Eastern Black Rail (<i>Laterallus jamaicensis ssp. jamaicensis</i>)	T
Piping Plover (<i>Charadrius melodus</i>)	T
Red-cockaded Woodpecker (<i>Dryobates borealis</i>)	T
Rufa Red Knot (<i>Calidris canutus rufa</i>)	T
American Alligator (<i>Alligator mississippiensis</i>)	T (S/A)
Green Sea Turtle (<i>Chelonia mydas</i>)	T
Hawksbill Sea Turtle (<i>Eretmochelys imbricata</i>)	E
Kemp's Ridley Sea Turtle (<i>Lepidochelys kempii</i>)	E
Monarch Butterfly (<i>Danaus plexippus</i>)	PT
Sensitive Joint-vetch (<i>Aeschynomene virginica</i>)	T

¹STATUS: E=endangered, T=threatened, T(S/A) = threatened (similarity of appearance), PE=proposed endangered, PT=proposed threatened, C=candidate, CH=critical habitat

Northern Long-eared Bat (*Myotis septentrionalis*)

The northern long-eared bat is a medium-sized bat about 3 to 3.7 inches in length but with a wingspan of 9 to 10 inches. As its name suggests, this bat is distinguished by its long ears, particularly as compared to other bats in its genus, *Myotis*, which are actually bats noted for their small ears (*Myotis* means mouse-eared). The northern long-eared bat is found across much of the eastern and north central United States and all Canadian provinces from the Atlantic coast west to the southern Northwest Territories and eastern British Columbia. The species' range includes 37 states. White-nose syndrome, a fungal disease known to affect bats, is currently the predominant threat to this bat, especially throughout the Northeast where the species has declined by up to 99 percent from pre-white-nose syndrome levels at many hibernation sites. Although the disease has not yet spread throughout the northern long-eared bat's entire range (white-nose syndrome is currently found in at least 25 of 37 states where the northern long-eared bat occurs), it continues to spread. Experts expect that where it spreads, it will have the same impact as seen in the Northeast. The species profile is available at: <https://ecos.fws.gov/ecp/species/9045>.

Red Wolf (*Canis rufus*)

As their name suggests, red wolves are known for the characteristic reddish color of their fur most apparent behind the ears and along the neck and legs, but are mostly brown and buff colored with some black along their backs. Intermediate in size to gray wolves and coyotes, the average adult red wolf weighs 45-80 pounds, stands about 26 inches at the shoulder and is about 4 feet long from the tip of the nose to the end of the tail. The species historical range included North Carolina, Tennessee, and Texas. The species profile is available at: <https://ecos.fws.gov/ecp/species/37>.

Tricolor Bat (*Perimyotis subflavus*)

The tricolored bat is a small insectivorous bat that is distinguished by its unique tricolored fur and often appears yellowish to nearly orange. The once common species is wide ranging across the eastern and central United States and portions of southern Canada, Mexico and Central America. During the winter, tricolored bats are often found in caves and abandoned mines, although in the southern United States, where caves are sparse, tricolored bats are often found roosting in road-associated culverts where they exhibit shorter torpor bouts and forage during warm nights. During the spring, summer, and fall, tricolored bats are found in forested habitats where they roost in trees, primarily among leaves of live or recently dead deciduous hardwood trees, but may also be found in Spanish moss, pine trees, and occasionally human structures. Tricolored bats face extinction due primarily to the rangewide impacts of white-nose syndrome, a deadly disease affecting cave-dwelling bats across the continent. White-nose syndrome has caused estimated declines of more than 90 percent in affected tricolored bat colonies across the majority of the species range. The species profile is available at: <https://ecos.fws.gov/ecp/species/10515>.

Eastern Black Rail (*Laterallus jamaicensis ssp. jamaicensis*)

The eastern black rail is a widely distributed, small secretive marsh bird that inhabits brackish marshes along the east Atlantic coast of the United States. The current range of this species is believed to be Alabama, Arkansas, Colorado, Florida, Georgia, Indiana, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, and Texas. The widespread decline of the black rail is well documented with uncertainty regarding the relative role and synergistic effects of the factors and with continued expected extirpation at sites used by the subspecies (USFWS 2019). There is no evidence of a population of eastern black rails on the refuge. The species profile is available at: <https://ecos.fws.gov/ecp/species/10477>.

Piping Plover (*Charadrius melodus*)

The piping plover is a small shorebird, usually around 7.25 inches in length, with a pale brown back, white rump, and black bands on the neck and head during breeding season.

They are found along the Atlantic Coast of the United States, Northern Great Plains, and Great Lakes watershed areas of Illinois, Indiana, Minnesota, Michigan, New York, Ohio, Pennsylvania, Wisconsin, and the province of Ontario. Since being listed in 1986, the piping plover population has increased with three distinct breeding populations: Northern Great Plains, Atlantic Coast, and Great Lakes (USFWS 2016). The refuge is within the wintering range and very infrequent use may occur during migrations. Piping plovers use sandy beach areas for nesting and no suitable breeding habitat is available on the refuge. The species profile is available at: <https://ecos.fws.gov/ecp/species/6039>.

Red-cockaded Woodpecker (*Dryobates borealis*)

The Red-cockaded woodpecker is a small, black-and-white woodpecker with a longish bill. Male has a small red mark on the side of the nape. The species historical range included Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Texas, and Virginia. Conservation management actions over the last 20 years have supported sustaining or increasing populations of the red-cockaded woodpecker; there is no future point or condition where red-cockaded populations will not be dependent on continued active management due to the need to regularly apply prescribed fire to maintain needed habitat conditions (USFWS 2020b). On the refuge there are no known populations of Red-cockaded woodpeckers. The species profile is available at: <https://ecos.fws.gov/ecp/species/7614>.

Rufa Red Knot (*Calidris canutus rufa*)

The rufa red knot is a highly migratory, medium sized shorebird that reaches lengths of 13.1 inches. Their spring coloring gives them their characteristic red name, with a cinnamon-colored breast and head. In winter, they are a pale ashy grey. Their range consists of Alabama, Arkansas, Colorado, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Carolina, South Carolina, Rhode Island, Pennsylvania, South Dakota, Tennessee, Texas, Virginia, West Virginia, Wisconsin, and Wyoming. Viability into the future of the rufa red knot is highly uncertain with decline of the species expected under a moderate scenario (USFWS 2020c). This species is not found on the refuge. The species profile is available at: <https://ecos.fws.gov/ecp/species/1864>.

American Alligator (*Alligator mississippiensis*)

The American alligator is a large, armored, semi-aquatic reptile that is related to crocodiles. Although populations are high in some areas, the American alligator is listed due to its similarity of appearance to the American crocodile (*Crocodylus acutus*). American alligators can range in length from 6 to 14 feet. They are nearly black in color, with coarse scales that cover their body. American alligators are known or believed to occur in Arkansas, Florida, North Carolina, Oklahoma, and Texas. American alligators are

occasionally observed on the refuge and are typically seen in the canals around the periphery of the lake. The species profile is available at: <https://ecos.fws.gov/ecp/species/776>.

Green Sea Turtle (*Chelonia mydas*)

The green sea turtle grows to a maximum size of about 4 feet and a weight of 440 pounds. It has a heart-shaped shell, small head, and single-clawed flippers. Color is variable. Hatchlings generally have a black carapace, white plastron, and white margins on the shell and limbs. The adult carapace is smooth, keelless, and light to dark brown with dark mottling; the plastron is whitish to light yellow. Adult heads are light brown with yellow markings. Identifying characteristics include four pairs of costal scutes, none of which borders the nuchal scute, and only one pair of prefrontal scales between the eyes. The species profile is available at: <https://ecos.fws.gov/ecp/species/6199>.

Hawksbill Sea Turtle (*Eretmochelys imbricata*)

The endangered Hawksbill Sea Turtle is one of seven species of sea turtles found throughout the world. One of the smaller sea turtles, it has overlapping scutes (plates) that are thicker than those of other sea turtles. This protects them from being battered against sharp coral and rocks during storm events. Adults range in size from 30 to 36 inches (0.8-1.0 meters) carapace length, and weigh 100 to 200 pounds (45-90 kilograms). Its carapace (upper shell) is an attractive dark brown with faint yellow streaks and blotches and a yellow plastron (under shell). The name "hawksbill" refers to the turtle's prominent hooked beak. The species profile is available at: <https://ecos.fws.gov/ecp/species/3656>.

Kemp's Ridley Sea Turtle (*Lepidochelys kempii*)

The Kemp's ridley turtle is the smallest of the sea turtles, with adults reaching about 2 feet in length and weighing up to 100 pounds. The adult Kemp's ridley has an oval carapace that is almost as wide as it is long and is usually olive-gray in color. The carapace has five pairs of costal scutes. In each bridge adjoining the plastron to the carapace, there are four inframarginal scutes, each of which is perforated by a pore. The head has two pairs of prefrontal scales. Hatchlings are black on both sides. The Kemp's ridley has a triangular-shaped head with a somewhat hooked beak with large crushing surfaces. This turtle is a shallow water benthic feeder with a diet consisting primarily of crabs. The species profile is available at: <https://ecos.fws.gov/ecp/species/5523>.

Monarch Butterfly (*Danaus plexippus*)

The monarch butterfly is a large, conspicuous insect with bright orange wings surrounded by a black border, bisected with black veins. The black border has a double row of white spots, present on the upper side of the wings. Adults of this species are also sexually dimorphic, with males having narrower wing venation and scent patches. Monarch butterflies are found in every state in the United States except for Alaska. The monarch

butterfly has seen long-term declines in the Eastern and Western populations; viability of the species is expected to continue declining over the next 60 years (USFWS 2020a). This species can be seen on the refuge during spring and fall migrations. The species profile is available at: <https://ecos.fws.gov/ecp/species/9743>.

Sensitive Joint-vetch (*Aeschynomene virginica*)

Sensitive joint-vetch is an annual legume native to the eastern United States, with the historical range extended to Delaware and Pennsylvania. There are some populations in Virginia. Typically growing to a height of 3 to 6 feet, sensitive joint-vetch has yellow flowers streaked with red, and the fruit is a pod, that turns dark brown when ripe. As of 2013, the North Carolina populations of sensitive joint-vetch appeared to be disappearing (USFWS 2013). A population of sensitive jointvetch was planted on the refuge in 2021, but a survey of the area in fall of 2023 did not find any plants from the 2021 planting year. The species profile is available at: <https://ecos.fws.gov/ecp/species/855>.

VI. Location (attach map)

A. Ecoregion Number and Name: #34, Area II-Roanoke/Tar/Neuse/Cape Fear

B. County and State: Hyde County, North Carolina

C. Section, township, and range (or latitude and longitude): 35.452252 - 76.174689

D. Distance (miles) and direction to nearest town: Engelhard, NC is 12.8 miles away from Mattamuskeet National Wildlife Refuge to the east.

E. Species/habitat occurrence:

Northern Long-eared Bat - Observed in Hyde County, but not on Mattamuskeet NWR. Although this species is not known to occur on the refuge, it is possible they would utilize the refuge's forested habitats based on presence in similar habitats in eastern North Carolina. This species is unlikely to occur in the project area due to the absence of forested habitat.

Red Wolf - Observed in Hyde County and on Mattamuskeet NWR previously. There are no known red wolves with active territories occurring on the refuge.

Tricolor Bat - Observed in Hyde County, but not on Mattamuskeet NWR. Although this species is not known to occur on the refuge, it is possible they would utilize the refuge's forested habitats based on presence in similar habitats in eastern North Carolina. This species is unlikely to occur in the project area due to the absence of forested habitat.

Eastern Black Rail - Observed in Hyde County and some historic records reported at Mattamuskeet NWR. Surveys in 2017 and 2018 resulted in no documented occurrence on the refuge. Marginal habitat exists adjacent to the project site.

Piping Plover - Observed in Hyde County. Infrequent use of the refuge may occur during migration. Piping plovers use sandy beach areas for nesting and no suitable breeding habitat is available on the refuge. This species is unlikely to occur in the project area due to the absence of suitable habitat.

Red-cockaded Woodpecker - Observed in Hyde County, but not on Mattamuskeet NWR.

Rufa Red Knot - While possibly occurring on the refuge, the rufa red knot is not known to occur on the refuge.

American Alligator - Observed in Hyde County and on the refuge. Occasionally observed in the canals around the periphery of the lake.

Green Sea Turtle - Sea turtles are found in the open ocean and estuarine habitats and breed on sandy beaches, of which there are none on the refuge. During summer months, they may enter sounds and rivers. According to NC Natural Heritage Program records, several species of sea turtle have been observed in Pamlico Sound. No foraging habitat for sea turtles exists in the vicinity of the project footprint and no impacts are anticipated to this species.

Hawksbill Sea Turtle - Sea turtles are found in the open ocean and estuarine habitats and breed on sandy beaches, of which there are none on the refuge. During summer months, they may enter sounds and rivers. According to NC Natural Heritage Program records, several species of sea turtle have been observed in Pamlico Sound. No foraging habitat for sea turtles exists in the vicinity of the project footprint and no impacts are anticipated to this species.

Kemp's Ridley Sea Turtle - Sea turtles are found in the open ocean and estuarine habitats and breed on sandy beaches, of which there are none on the refuge. During summer months, they may enter sounds and rivers. According to NC Natural Heritage Program records, several species of sea turtle have been observed in Pamlico Sound. No foraging habitat for sea turtles exists in the vicinity of the project footprint and no impacts are anticipated to this species.

Monarch Butterfly - Monarch butterflies would be expected to be found on the refuge during spring and fall migrations with sightings in eastern North Carolina from May to July

and mid-September to early October. Milkweed, the species' host plant, is found in various places on the refuge.

Sensitive Joint-vetch - Observed in Hyde County and on the refuge. In 2021 a restoration area was established on the refuge within Farm Area 2 (FA-2). In November 2022, a possible plant was reported in Mi-10N and multiple plants were found in FA-2. In September 2023, a survey of the restoration area in FA-2 where plants had been seen the year before yielded no plants. Flooded conditions at the restoration site suggest this area will not support a long-term population of this species.

VII. Determination of Effects:

A. Explanation of effects of the action on species and critical habitats in item V. B

SPECIES/CRITICAL HABITAT	IMPACTS TO SPECIES/CRITICAL HABITAT
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	Not likely to adversely affect. This species will likely not be present in construction areas during project activities. Terrestrial impacts will be limited to minor disturbance on established roadways or dikes used to access the project site. Access to the project area with vehicles and heavy equipment will be daily for a period of up to twelve months. Access will typically occur during the day when this species is roosting and least likely to be affected.
Red Wolf (<i>Canis rufus</i>)	Not likely to adversely affect. This species will likely not be present in the construction area. Terrestrial impacts will be limited to minor disturbance on established roadways or dikes used to access the project site. Access to the project area with vehicles and heavy equipment will be daily for a period of up to twelve months. This species is highly mobile and able to adjust to minor disturbance.
Tricolor Bat (<i>Perimyotis subflavus</i>)	Not likely to jeopardize. This species will likely not be present in construction areas during project activities. Terrestrial impacts will be limited to minor disturbance on established roadways or dikes used to access the project site. Access to the project area with vehicles and heavy equipment

	<p>will be daily for a period of up to twelve months. Access will typically occur during the day when this species is roosting and least likely to be affected.</p>
<p>Eastern Black Rail (<i>Laterallus jamaicensis ssp. jamaicensis</i>)</p>	<p>Not likely to adversely affect. This species will likely not be present in the construction area. Terrestrial impacts will be limited to minor disturbance on established roadways or dikes used to access the project site. Access to the project area with vehicles and heavy equipment will be daily for a period of up to twelve months. This species is highly mobile and able to adjust to minor disturbance.</p>
<p>Piping Plover (<i>Charadrius melodus</i>)</p>	<p>No effect.</p>
<p>Red-cockaded Woodpecker (<i>Dryobates borealis</i>)</p>	<p>No effect.</p>
<p>Rufa Red Knot (<i>Calidris canutus rufa</i>)</p>	<p>No effect.</p>
<p>American Alligator (<i>Alligator mississippiensis</i>)</p>	<p>Not likely to adversely affect. Impacts will be limited to minor disturbance on established roadways or dikes used to access the project site. Access to the project area with vehicles and heavy equipment will be daily for a period of up to twelve months. This species is highly mobile and able to adjust to minor disturbance.</p>
<p>Green Sea Turtle (<i>Chelonia mydas</i>)</p>	<p>No effect. Sea turtles are found in the open ocean and estuarine habitats and breed on sandy beaches, of which there are none on the refuge. During summer months, they may enter sounds and rivers. No foraging habitat for sea turtles exists in the vicinity of the project footprint and no impacts are anticipated to this species. Additionally, Outfall Tide Gate has a carp gate which prevents large aquatic species from traveling upstream of the gate, and the majority of Reach 1 of this project is upstream of the gate so turtles will not be able to access most of Reach 1.</p>

<p>Hawksbill Sea Turtle (<i>Eretmochelys imbricata</i>)</p>	<p>No effect. Sea turtles are found in the open ocean and estuarine habitats and breed on sandy beaches, of which there are none on the refuge. During summer months, they may enter sounds and rivers. No foraging habitat for sea turtles exists in the vicinity of the project footprint and no impacts are anticipated to this species. Additionally, Outfall Tide Gate has a carp gate which prevents large aquatic species from traveling upstream of the gate, and the majority of Reach 1 of this project is upstream of the gate so turtles will not be able to access most of Reach 1.</p>
<p>Kemp's Ridley Sea Turtle (<i>Lepidochelys kempii</i>)</p>	<p>No effect. Sea turtles are found in the open ocean and estuarine habitats and breed on sandy beaches, of which there are none on the refuge. During summer months, they may enter sounds and rivers. No foraging habitat for sea turtles exists in the vicinity of the project footprint and no impacts are anticipated to this species. Additionally, Outfall Tide Gate has a carp gate which prevents large aquatic species from traveling upstream of the gate, and the majority of Reach 1 of this project is upstream of the gate so turtles will not be able to access most of Reach 1.</p>
<p>Monarch Butterfly (<i>Danaus plexippus</i>)</p>	<p>Not likely to jeopardize. This species is not likely to be present in the construction area. Terrestrial impacts will be limited to minor disturbance on established roadways or dikes used to access the project site. Access to the project area with vehicles and heavy equipment will be daily for a period of up to twelve months.</p>
<p>Sensitive Joint-vetch (<i>Aeschynomene virginica</i>)</p>	<p>Not likely to adversely affect. Observed in Hyde County and previously on the refuge. This species is not currently present on the refuge, and it has not been seen since 2022. There was a previous restoration site from 2021 in Farm Area 2 (FA-2). In November 2022, a possible plant was reported in MI-10N and multiple plants were found in FA-2. In September 2023, a survey of the restoration area in FA-2 where plants had been seen the year before</p>

	yielded no plants. Flooded conditions at the restoration site suggest this area will not support a long-term population of this species.
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B. Explanation of actions to be implemented to reduce adverse effects:

SPECIES/CRITICAL HABITAT	ACTIONS TO MINIMIZE IMPACTS
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	To minimize impacts to this nocturnal species, access to and from the project site will be concentrated during daylight hours.
Red Wolf (<i>Canis rufus</i>)	The Red Wolf Program staff will alert refuge staff to the presence of any wolves in the vicinity of the refuge. Project activities will be adjusted to minimize disturbance.
Tricolor Bat (<i>Perimyotis subflavus</i>)	To minimize impacts to this nocturnal species, access to and from the project site will be concentrated during daylight hours.
Eastern Black Rail (<i>Laterallus jamaicensis ssp. jamaicensis</i>)	None required.
Piping Plover (<i>Charadrius melodus</i>)	None required.
Red-cockaded Woodpecker (<i>Dryobates borealis</i>)	None required.
Rufa Red Knot (<i>Calidris canutus rufa</i>)	None required.
American Alligator (<i>Alligator mississippiensis</i>)	None required.
Green Sea Turtle (<i>Chelonia mydas</i>)	None required.
Hawksbill Sea Turtle (<i>Eretmochelys imbricata</i>)	None required.
Kemp's Ridley Sea Turtle (<i>Lepidochelys kempii</i>)	None required.

Monarch Butterfly (<i>Danaus plexippus</i>)	Vehicles will abide by speed limits on refuge roads and avoid driving on grassy road shoulders where this species may exist.
Sensitive Joint-vetch (<i>Aeschynomene virginica</i>)	None required.

VIII. Effect Determination and Response Requested:

SPECIES/CRITICAL HABITAT	NE ¹	NJ ¹	NA ¹	AA ¹	RESPONSE REQUESTED ¹
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)			X		Concurrence
Red Wolf (<i>Canis rufus</i>)			X		Concurrence
Tricolor Bat (<i>Perimyotis subflavus</i>)		X			Concurrence
Eastern Black Rail (<i>Laterallus jamaicensis ssp. jamaicensis</i>)			X		Concurrence
Piping Plover (<i>Charadrius melodus</i>)	X				Concurrence
Red-cockaded Woodpecker (<i>Dryobates borealis</i>)	X				Concurrence
Rufa Red Knot (<i>Calidris canutus rufa</i>)	X				Concurrence
American Alligator (<i>Alligator mississippiensis</i>)			X		Concurrence
Green Sea Turtle (<i>Chelonia mydas</i>)	X				Concurrence
Hawksbill Sea Turtle (<i>Eretmochelys imbricata</i>)	X				Concurrence
Kemp's Ridley Sea Turtle (<i>Lepidochelys kempii</i>)	X				Concurrence
Monarch Butterfly (<i>Danaus plexippus</i>)		X			Concurrence
Sensitive Joint-vetch (<i>Aeschynomene virginica</i>)			X		Concurrence

¹DETERMINATION/RESPONSE REQUESTED:

- NE= no effect. This determination is appropriate when the proposed action will not directly, indirectly, or cumulatively impact, either positively or negatively, any listed, proposed, candidate species or designated/proposed critical habitat. Response Requested is optional but a "Concurrence" is recommended for a complete Administrative Record.

- NJ = not likely to jeopardize. This determination is appropriate when the Proposed Action is not likely to jeopardize the continued existence of the proposed listed species. Response Requested is a “Concurrence”.
- NA= not likely to adversely affect. This determination is appropriate when the proposed action is not likely to adversely impact any listed, proposed, candidate species or designated/proposed critical habitat or there may be beneficial effects to these resources. Response Requested is a “Concurrence”.
- AA= likely to adversely affect. This determination is appropriate when the proposed action is likely to adversely impact any listed, proposed, candidate species or designated/proposed critical habitat. Response Requested for listed species is “Formal Consultation”. Response for proposed or candidate species is “Conference”.

References:

National Marine Fisheries Service & U.S. Fish and Wildlife Service. 2013. Hawksbill Sea Turtle (*Eretmochelys imbricata*) 5-Year Review: Summary and Evaluation. June 2013. Jacksonville Ecological Services, Southeast Region, U.S. Fish and Wildlife Service, U.S. Department of the Interior. Jacksonville, FL. https://ecosphere-documents-production-public.s3.amazonaws.com/sams/public_docs/species_nonpublish/3614.pdf

National Marine Fisheries Service & U.S. Fish and Wildlife Service. 2015. Kemp’s Ridley Sea Turtle (*Lepidochelys kempii*) 5-Year Review: Summary and Evaluation. July 2015. Southwest Region, U.S. Fish and Wildlife Service, U.S. Department of the Interior. Albuquerque, NM. https://ecosphere-documents-production-public.s3.amazonaws.com/sams/public_docs/species_nonpublish/2303.pdf

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Signature/Date (Originating station)

Refuge Manager, Mattamuskeet NWR

Title, Office

IX. Reviewing Ecological Services Office Evaluation

A. Concurrence **Nonconcurrence** _____

B. Formal consultation required _____

C. Conference required _____

D. Informal conference required _____

E. Remarks (attach additional pages as needed):

Signature/Date

Title, Office