



# APPENDIX - J

# STATE SPECIES, REV 1

I-64 Hampton Roads Bridge-Tunnel Expansion Project

Hampton Roads Connector Partners

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*Hampton-Norfolk, Virginia*

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# DOCUMENT HISTORY

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December 19, 2019	Revised to incorporate design refinement and USACE agency comment	J. Cassone	1

# ATTACHMENTS

Attachment J-1: VAFWIS Search Report

Attachment J-2: VDCR Natural Heritage Report

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# J. STATE SPECIES

## J.1 INTRODUCTION

This Appendix identifies species listed under the State of Virginia Endangered Species Act (ESA) with the potential to occur in the Hampton Roads Bridge-Tunnel (HRBT) Expansion Project (Project) area and was prepared in support of the Joint Permit Application (JPA) for the Project.

The Project will widen Interstate (I)-64 for approximately 9.9 miles along I-64 from Settlers Landing Road in Hampton, Virginia to the I-64/I-564 interchange in Norfolk, Virginia (Figure J-1). The Project will create an eight-lane facility with six consistent use lanes. The expanded facility will include four general purpose lanes, two new High Occupancy Toll (HOT) lanes, and two new drivable (hard-running) shoulders to be used as HOT lanes during peak usage (Figure J-1).

The Project will include full replacement of the North and South Trestle-Bridges, two new parallel tunnels constructed using a Tunnel Boring Machine (TBM), expansion of the existing portal islands, and widening of the Willoughby Bay Trestle-Bridges, Bay Avenue Bridges, and Oastes Creek Bridges. Also, upland portions of I-64 will be widened to accommodate the additional lanes, the Mallory Street Bridge will be replaced, and the I-64 overpass bridges will be improved.

## PROPOSED HRBT EXPANSION PROJECT LOCATION



Figure J-1: HRBT Expansion Project Location

### J.1.1 CONSULTATION HISTORY

In cooperation with Federal Highway Administration (FHWA), Virginia Department of Transportation (VDOT) has coordinated with local, state, regional, and federal agencies (U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS)) throughout the duration of the Hampton Roads Crossing Study (HRCS). Coordination with local, state, regional, and federal agencies began in 1999 regarding the HRCS and the following coordination has occurred through the National Environmental Policy Act (NEPA) process:

In 2015, Pursuant to 40 CFR 1501.7, FHWA published a Notice of Intent (NOI) to prepare a Supplemental Environmental Impact Statement (EIS) in the Federal Register on June 23, 2015. Since the June 2015 NOI, the following coordination has occurred:

- On July 27, 2015, NMFS was copied on a memorandum from the Commonwealth of Virginia to VDOT. This memorandum lists impacts to ESA-listed species within three alternative segments as well as their biodiversity significance rating. Impacted species under NMFS jurisdiction included Atlantic sturgeon, loggerhead sea turtle, and Kemp's ridley sea turtle.
- On August 6, 2015, NMFS sent a letter to VDOT to provide preliminary comments as VDOT and FHWA work to develop a Supplemental EIS for the HRCS. In this letter, NMFS states that the HRCS Project area might overlap with areas known to support several ESA-listed species, including four species of sea turtles: leatherback sea turtle, green sea turtle, Kemp's ridley sea turtle, and the Northwest Atlantic Ocean Distinct Population Segment (DPS) of loggerhead sea turtle, as well as five DPSs of Atlantic sturgeon. NMFS encouraged VDOT to consider the effects of the alternatives on ESA-listed species and reminded them that any discretionary federal action that may affect a listed species must undergo consultation pursuant to Section 7 of the ESA. As the federal lead agency for the HRCS Project, FHWA would be responsible for determining whether the proposed action is likely to affect the listed species.
- On November 4, 2015, VDOT sent a letter to NMFS requesting their approval of the species list (including Atlantic sturgeon, Kemp's ridley sea turtle, leatherback sea turtle, loggerhead sea turtle, green sea turtle, and hawksbill sea turtle) as those which will be addressed in the Supplemental EIS, approval of the proposed review actions noted in a attached table and body of text in the letter, as well as approval of the qualified biologists proposed as responsible surveyors in charge of the habitat assessments for the purposes of providing input to the Supplemental EIS.
- On November 12, 2015, the Virginia Department of Conservation and Recreation's (DCR) sent a letter to Stantec Consulting Services, Inc. regarding the DCR search in their Biotics Data System for occurrences of natural heritage resources from the area outlined on the figure provided. At the time of this letter, the natural heritage resources of concern at the Project were the following species: gull-billed tern, black skimmer, royal tern, sandwich tern,

Atlantic sturgeon, least tern, loggerhead sea turtle, Kemp's ridley sea turtle, canebrake rattlesnake, and Northern long-eared bat.

- In their September 19, 2016 comments on the Draft Supplemental EIS, NMFS acknowledged that the information and level of detail needed to assess the potential for Project impacts to aquatic resources, including listed species under their jurisdiction, is not normally available during the NEPA process and isn't developed until after a Record of Decision (ROD) is issued. This included specific information on the means, methods, materials, timing and duration of various construction elements. NMFS also encouraged VDOT and FHWA to assess the effects of the proposed alternatives on ESA-listed species before selecting a Preferred Alternative. Finally, NMFS indicated, "When specific project plans are being developed, FHWA should submit their determination of effects, along with justification for the determination of effects, and a request of concurrence to NMFS ... " FHWA and VDOT will ensure that this determination and supporting information is submitted as soon as practicable.
- Within Appendix H of the Final Supplemental EIS, the FHWA and VDOT provide written responses to comments provided by NMFS. In response, FHWA and VDOT state that (1) Best Management Practices would be determined during the final design and permitting phases, after the issuance of a ROD and (2) Given the nature of the marine species and the extent of their habitat, the Preferred Alternative was not likely to adversely affect endangered and threatened species.. FHWA expresses confidence that an informed decision can be made regarding the Preferred Alternative and that sufficient controls are in place to ensure adverse effects to endangered and threatened species do not occur.
- On November 16, 2016, the cooperating agencies for the HRCS met to concur on a preferred alternative to be recommended to the Commonwealth Transportation Board (CTB). During the meeting, cooperating agencies concurred that Alternative A, as described in the Draft Supplemental EIS, should be recommended to the CTB as the preferred alternative because it represented the Least Environmentally Damaging Practicable Alternative (LEDPA) that meets the purpose and need of the Project.

### J.1.2 RESOURCES REVIEWED

The Virginia Department of Game and Inland Fisheries (VDGIF) Virginia Fish and Wildlife Information Service (VAFWIS) was utilized to identify state-listed species (Threatened and Endangered; species whose status is such that they are at some degree of risk of becoming extinct) that may occur in the Project area. The Project area was covered by performing searches in two separate locations that encapsulate the Project area. The search areas and results are provided in Attachment J-1. Search Area 1 encapsulated the northern section of the Project area and consisted of a two mile buffer around (36°59'58.2,-76°19'12.8"). Search Area 2 encapsulated the southern section of the Project area and consisted of a 2.5 mile buffer around (36°57'00.9",-76°19'12.8"). The two search areas slightly overlap to ensure the Project area is fully captured.



Additionally, a review of the DCR Virginia Natural Heritage Data Explorer was conducted for Hampton (City) and Norfolk (City) on November 15, 2019 (see Attachment J-2).

Further, the species list for the preferred alternative, Alternative A, in the Natural Resources Technical Report, a supporting Technical Report prepared in support of the Supplemental EIS, was reviewed.

### J.1.3 SPECIES POTENTIALLY PRESENT

State-listed species that are reported to occur or potentially occur within the vicinity of the Project area were identified through the VAFWIS and DCR databases, as well as state-listed species.

Table J-1: State-Listed Species Identified through VAFWIS and DCR

Common Name	Scientific Name	State (S) / Federal (F) Status	Virginia Fish and Wildlife Information Service Database	Confirmed Species on the Virginia Fish and Wildlife Information Service Database	DCR Natural Heritage Data Explorer Database
Northern long-eared bat	<i>Myotis septentrionalis</i>	ST / FT	Yes		
Tri-colored bat	<i>Perimyotis subflavus</i>	SE	Yes	Yes	
Northeastern beach tiger beetle	<i>Cicindela dorsalis</i>	ST / FT	Yes		Yes
Gull billed tern	<i>Sterna nilotica</i>	ST	Yes	Yes	Yes
Roseate tern	<i>Sterna dougallii dougallii</i>	SE / FE	Yes		
Piping plover	<i>Charadrius melodus</i>	ST / FT	Yes	Yes	Yes
Red knot	<i>Calidris canutus rufa</i>	ST / FT	Yes	Yes	
Peregrine falcon	<i>Falco peregrinus</i>	ST	Yes		Yes
Atlantic sturgeon	<i>Acipenser oxyrinchus oxyrinchus</i>	SE / FE	Yes	Yes	Yes
Green sea turtle	<i>Chelonia mydas</i>	ST / FT	Yes		
Loggerhead sea turtle	<i>Caretta caretta</i>	ST / FT	Yes	Yes	
Kemp's ridley sea turtle	<i>Lepidochelys kempii</i>	SE / FE	Yes	Yes	
Hawksbill sea turtle	<i>Eretmochelys imbricate</i>	SE / FE	Yes		
Leatherback sea turtle	<i>Dermochelys coriacea</i>	SE / FE	Yes	Yes	
Canebrake rattlesnake	<i>Crotalus horridus</i>	SE	Yes	Potential	Yes
Mabee's salamander	<i>Ambystoma mabeei</i>	ST	Yes	Potential	Yes
West Indian manatee	<i>Trichechus manatus</i>	SE / FT	Yes		
Eastern chicken turtle	<i>Deirochelys reticularia reticularia</i>	SE	Yes		
Wilson's plover	<i>Charadrius wilsonia</i>	SE	Yes		
Eastern black rail	<i>Laterallus jamaicensis jamaicensis</i>	SE	Yes		
Little brown bat	<i>Myotis lucifugus</i>	ST	Yes		
Rafinesque's eastern big eared bat	<i>Corynorhinus rafinesquii macrotis</i>	SE	Yes		
Loggerhead shrike	<i>Lanius ludovicianus</i>	ST	Yes		
Henslow's sparrow	<i>Centronyx henslowii</i>	ST	Yes		
Barking treefrog	<i>Hyla gratiosa</i>	ST	Yes		
Migrant loggerhead shrike	<i>Lanius ludovicianus migrans</i>	ST	Yes		

Based on the information from the VAFWIS search, the DCR Natural Heritage Data Explorer, and the species listed for Alternative A in the Supplemental EIS, the following species have the potential to occur within the Project area (Table J-2). Confirmed observations of these species are included in Table J-1, Figure J-2, and Attachment J-1 and only those species confirmed in Table J-2 are further discussed as they have the potential to occur in the Project area. Those species that did not have confirmed sightings on the VAFWIS database in either the cities of Hampton or Norfolk or those not occurring on the DCR database were eliminated for further consideration unless the species was determined to have potentially suitable habitat within the Project area. These databases and information were utilized as a general framework for the habitat evaluation to determine the presence of habitat and affected environment of the proposed activities within the Project area.

Table J-2: State-Listed Species with the Potential to Occur in the Project Area

Common Name	Scientific Name	State (S) / Federal (F) Status	Determination
Northern long-eared bat	<i>Myotis septentrionalis</i>	ST	No Effect
Tri-colored bat	<i>Perimyotis subflavus</i>	SE	No Effect
Northeastern beach tiger beetle	<i>Cicindela dorsalis</i>	ST / FT	Not Likely to Adversely Affect
Gull billed tern	<i>Sterna nilotica</i>	ST	Not Likely to Adversely Affect
Piping plover	<i>Charadrius melodus</i>	ST / FT	Not Likely to Adversely Affect
Red knot	<i>Calidris canutus rufa</i>	ST / FT	Not Likely to Adversely Affect
Peregrine falcon	<i>Falco peregrinus</i>	ST	Not Likely to Adversely Affect
Atlantic sturgeon (New York Bight, Chesapeake Bay, South Atlantic and Carolina Distinct Population Segments [DPSs]; Gulf of Maine DPS)	<i>Acipenser oxyrinchus oxyrinchus</i>	SE / FE	Not Likely to Adversely Affect
Shortnose Sturgeon	<i>Acipenser brevirostrum</i>	SE / FE	Not Likely to Adversely Affect
Green sea turtle	<i>Chelonia mydas</i>	ST / FT	Not Likely to Adversely Affect
Loggerhead sea turtle	<i>Caretta caretta</i>	ST / FT	Not Likely to Adversely Affect
Kemp's ridley sea turtle	<i>Lepidochelys kempii</i>	SE / FE	Not Likely to Adversely Affect
Hawksbill sea turtle	<i>Eretmochelys imbricata</i>	SE / FE	No Effect
Leatherback sea turtle	<i>Dermochelys coriacea</i>	SE / FE	Not Likely to Adversely Affect
Canebrake rattlesnake	<i>Crotalus horridus</i>	SE	Not Likely to Adversely Affect
Mabee's salamander	<i>Ambystoma mabeei</i>	ST	Not Likely to Adversely Affect

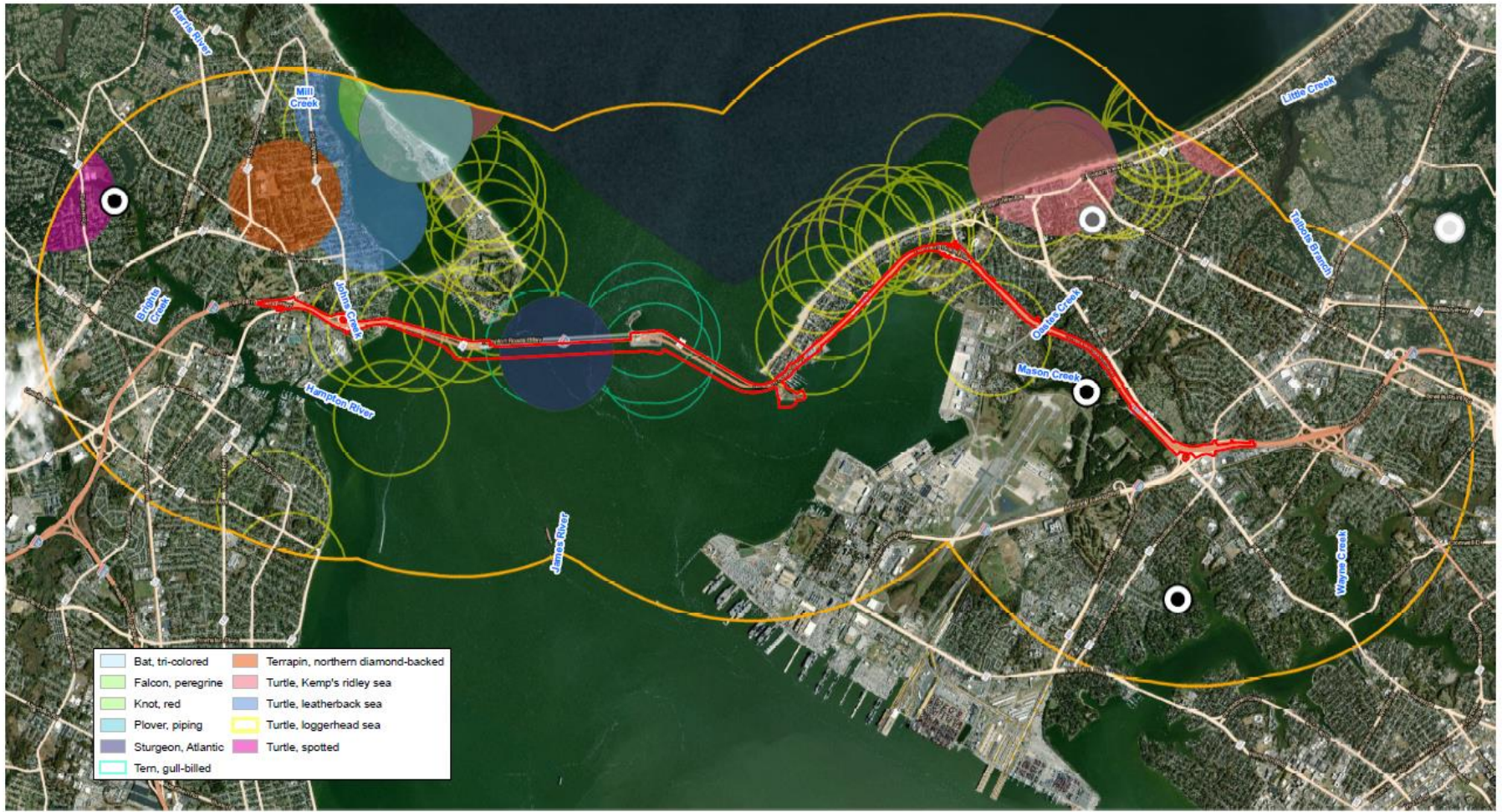


Figure J-2: I-64 Hampton Roads Bridge-Tunnel Expansion Project Threatened and Endangered Species

**Bats:** Impacts to listed bat species (federally- and state-listed Northern long-eared bat (NLEB) and state-listed tri-colored bat) were considered in the Final Supplemental EIS and the Environmental Assessment Re-Evaluation (VDOT and FHWA 2016, 2017, 2018). Smaller fragmented areas of forest and individual trees, bridges, buildings, and culverts may provide suitable roosting habitat (sheltered places that include human structures or natural structures), but in general would be considered sub-optimal habitat. These smaller fragmented areas surrounded by development are generally less suitable for use by bats.

Suitable summer habitat includes forests and woodlots with live trees and/or snags at least three inches in diameter that have exfoliating bark, cracks, crevices, and/or cavities (USFWS 2019a). Suitable habitat can also include linear features, such as fencerows, riparian forests, and other wooded corridors (USFWS 2019b). Maternity habitat is defined as suitable summer habitat that is used by juveniles and reproductive females. The summer maternity season in Virginia is June 1 through July 31. Winter habitat includes underground caves and cave-like structures such as abandoned or active mines and railroad tunnels.

An official USFWS List of Threatened and Endangered Species that may occur in the Project area was obtained from the Information for Planning and Consultation tool (IPAC) on 11 August and 15 November 2019 (Consultation Code: – 05E2VA00-2019-SLI-5741) (USFWS 2019b). No bat species were included on either list.

According to the VDGIF Northern Long-Eared Bat Winter Habitat and Roost Trees Application, the nearest NLEB hibernaculum is over 160 miles to the west-northwest near Staunton, Virginia and the nearest summer maternity roost is over 22 miles to the southeast near the City of Chesapeake, Virginia (VDGIF 2019b). No confirmed NLEB observations, maternity roosts, or hibernacula are located within a two-mile radius of the limits of disturbance (LOD) (VDGIF 2019b, VDOT 2019); therefore, the Project will result in no effect to NLEB.

According to VDGIF's Little Brown Bat and Tri-colored Bat Winter Habitat and Roosts Application, the closest winter hibernaculum is located more than 150 miles to the west-northwest near Waynesboro, Virginia and no maternity roosts occur in Virginia; therefore, the Project will result in no effect to tri-colored bat.

**Northeastern Beach Tiger Beetle:** The VAFWIS November 2019 and Virginia DCRs Virginia Natural Heritage Data Explorer query for Hampton (City) and Norfolk (City) on 15 November 2019 indicated that the northeastern beach tiger beetle has the potential to occur in the Project area. This species is only found along wide, saltwater beaches of medium to medium-coarse sand, from about the foredune to the high tide lines (NatureServe 2019); however, this type of habitat is not present in the Project area which contains primarily modified shorelines. Additionally, there were no confirmed sightings of this species in the Project area. This species is unlikely to be affected by Project activities.

**Peregrine Falcon:** Peregrine falcons were identified in the VAFWIS and DCR Natural Heritage searches. Peregrine falcons are known to live in urban areas where they prefer tall buildings and bridges to perch and forage from and are well adapted to avoiding stressors. While construction work is expected to occur on bridges and trestles, none of these bridges are currently known to be used by peregrine falcons and there are no documented sightings or nests in the VAFWIS database. Further, Project-related bridges that are being constructed or demolished are low to the water and unlikely to represent an attractive perching location. Peregrine falcons prefer to search and hunt for prey from high perches because it increases the successfulness of the peregrine's ability to successfully live hunt (Dewey and Potter 2009). Peregrine falcons are, therefore, unlikely to be adversely affected by Project activities.

**Piping Plover:** In the James River and Chesapeake Bay, the piping plover historically nested on Craney Island and Grandview Beach in Hampton, outside of the Project area; however, no nesting has recently been documented there (Watts 2013; VDOT and FHWA 2016). Nesting habitats typically are laid in washover areas cut into or between dunes and often in close proximity to backside marshes, mudflats, or vegetation barriers where there is greater protection from predators. No nesting habitat is expected to occur within the Project area. Piping plover have been observed in Cities of Chesapeake, Hampton, Newport News, Norfolk, Portsmouth, and Suffolk (VDOT and FHWA 2016; VDGIF 2019a; VDOT 2019). One sighting of a piping plover occurred at Fort Monroe, greater than one mile from the Project area (VDOT 2019). A few areas of sandy shoreline at Willoughby Spit and marsh under the I-64 bridges in Hampton and Norfolk were identified as sub-optimal foraging areas (areas appearing to have more frequent human disturbance) (see Appendix G in VDOT and FHWA 2016). A large portion of the shoreline within the Project area is hardened and/or developed and provides no habitat potential for this species.

A small area of sub-optimal piping plover foraging habitat occurs within the Project area. Construction activities would result in temporary disturbance to this habitat. The construction and demolition of bridge foundations will directly impact sub-optimal foraging habitat at Willoughby Spit and result in temporary disturbance to this habitat. Piping plovers are highly mobile and can avoid Project activities in and impacts such as elevated noise in the unlikely event they are present in the sub-optimal foraging habitat during disturbance activities. Project activities would not attract predators or interfere with piping plover breeding success, as no known breeding habitat occurs within the Project area..

**Gull-billed Tern:** The gull-billed tern is a state-listed threatened species under the Virginia ESA and have been confirmed to nest on South Island and typically inhabit salt marshes or portions of beaches that are away from the tide. Breeding habitat consists of gravelly or sandy beaches, salt marshes, lagoons, plowed fields, along rivers and lakes. Impacts to this waterbird species has been addressed through collaboration and continuing partnership between VDOT and VDGIF. It is expected that, through this partnership and ongoing and future study and data collection on South Island, additional information will be generated to assist in managing this species as the Project progresses with South Island Expansion activities and the removal of breeding habitat through the approved Colonial-Nesting Waterbird Hazing Plan. Breeding habitat removal will occur outside nesting season and before construction activities, and no unintentional take of gull-billed tern nests will occur.

Foraging habitat for the gull-billed tern is present within the Project area and most of these intertidal areas have been fragmented or altered by the presence of the current roadways and development. A large portion of the estuarine habitat is dominated by common reed, rendering it unsuitable for foraging in its current vegetative state and activities would have minimal impact on the foraging habitat that is present (VDOT and FHWA).

**Red Knot:** Red knots have the potential to occur in the Project area, starting in mid-April to May, prior to making one of the longest migrations in the world (USFWS 2019b) to breeding areas above the Arctic Circle from June to July. Red knots do not breed in Virginia (VDOT and FHWA 2016).

Red knots appear to have highly diverse routes; with some flying over open-ocean and some hugging the United States (U.S.) Atlantic coast for the duration of the migration (USFWS 2019b). These birds stop over along the Atlantic coast for feeding (USFWS 2019b), which occurs primarily on sandy or stony beaches but may also occur in mudflats. A few areas of sandy shoreline at Willoughby Spit and marsh under the I-64 bridges in Hampton and Norfolk were identified as sub-optimal foraging areas because the shorelines within the Project area are hardened and/or developed and provide no habitat potential (VDOT and FHWA 2016). VDOT (2019) data indicate that one observation of red knot occurred at Fort Monroe, greater than one mile from the Project area. There are documented sightings of red knots in the Cities of Chesapeake, Hampton, Newport News, Norfolk, Portsmouth, and Suffolk (VDOT and FHWA 2016). A large portion of the shoreline within the Project area are hardened and/or developed and provide no habitat potential for this species. Sub-optimal red knot foraging habitat occurs within the Project area. Bridge construction would result in temporary disturbance of this habitat. Bridge foundation construction and demolition activities would directly impact sub-optimal habitat at Willoughby Spit and access to this area might disturb this habitat. Foraging could temporarily be disrupted due to construction activities that generate noise, light, or sediment; however, red knots have demonstrated the ability to utilize other available suitable habitat on the island during construction activities. These disturbances will be temporary and upon completion of construction, the primary threat would remain predators, which should not be an increased concern during construction. Red knots are highly mobile and can avoid Project activities in the unlikely event they are present in the sub-optimal foraging habitat.

**Sea Turtles:** Five sea turtle species were identified in the VAFWIS and DCR Natural Heritage searches, the loggerhead sea turtle, green sea turtle, Kemp's ridley sea turtle, leatherback sea turtle, and hawksbill sea turtle. Sea turtle occurrence for foraging is seasonal in Virginia waters, appearing in the region in the late spring when water temperatures rise to approximately 20° Celsius, and leave in the fall when water temperatures decrease (Mansfield et al. 2009; Barco and Lockhart 2016). Sea turtle nesting sites in Virginia are primarily limited to ocean facing beaches (VDOT and FHWA 2016).

Loggerhead and Kemp's ridley sea turtles are the most abundant sea turtle species off Virginia and are expected to be seen in the Project area (Barco and Lockhart 2016). Juvenile loggerhead sea turtles are frequent visitors to the Hampton Roads area (VDOT and FHWA 2016). The majority of the Kemp's ridley sea turtles in the Chesapeake Bay are also juveniles, which enter the bay to forage as the water warms and leave by early November (VDOT and FHWA 2016). Kemp's ridley and loggerhead sea

turtles would primarily use the Project area to opportunistically forage from April to November (VDOT and FHWA 2016). Green sea turtles occur in the Chesapeake Bay during the late summer and early fall, and most are juveniles (Barco and Lockhart 2016; VDOT and FHWA 2016). Green sea turtles forage in marine sea grasses in the shallow areas of the Chesapeake Bay (VDOT and FHWA 2016).

The leatherback sea turtle, the third most abundant turtle in Virginia's waters, appears to occur further off the Virginia coastline (Keinath et al. 1991) and nesting does not occur on Virginia beaches (VDOT and FHWA 2016). Leatherback sea turtles would primarily use the Project area to opportunistically forage from April to November (VDOT and FHWA 2016) and could be seen in small numbers. The hawksbill sea turtle is a very uncommon species in the region. The only confirmed sighting in the inshore waters of Virginia since 1991 were two stranded turtles (Keinath et al. 1991). Therefore, the hawksbill sea turtle is not expected in the Project area and is unlikely to be impacted by Project activities.

The potential impacts to sea turtles are discussed in detail in the NMFS Biological Assessment in Appendix I which concluded that Project activities will have no effect on hawksbill turtles and may affect but are not likely to adversely affect the other four species of sea turtles.

**Sturgeon:** Atlantic sturgeon were identified in the VAFWIS and DCR Natural Heritage searches. Atlantic Sturgeon primarily use the Project area as a migration corridor during spawn migrations. Spawning has been documented in the James River in the spring and fall and the groups are genetically distinct (Balazik and Garman 2018). The James River (including Hampton Roads) is identified as a Confirmed Anadromous Fish Use Area and Atlantic sturgeon use these areas to complete their life cycles (VDOT and FHWA 2017). During migrations, they primarily transit along the river within natural or artificial channels (Balazik and Garman 2018). Atlantic sturgeon would generally be found within these deep water habitats during the migration period (VDOT and FHWA 2017). Potential foraging habitat is present throughout Hampton Roads as the entire substrate is composed of sand, mud, or a combination suitable for benthic species (VDOT and FHWA 2017). Atlantic sturgeon studies have been conducted in the tidal–freshwater portion of the James River during putative spawning runs in the fall and spring and show that this species most likely could occur in the Project area (Balazik and Garman 2018). Migrating adult and subadult (resident) Atlantic sturgeon could be present year-round in the Project area (Balazik and Garman 2018). The potential impacts to sturgeon species in the Project area are discussed in detail in the NMFS Biological Assessment in Appendix I, which concluded that Project activities may affect but are not likely to adversely affect Atlantic sturgeon.

The shortnose sturgeon is listed as endangered under the ESA and there is no designated critical habitat for this species in the Chesapeake Bay. Shortnose sturgeon are freshwater amphidromous fish (i.e., spawns in fresh water, but regularly enters seawater during various stages of its life) (Shortnose Sturgeon Status Review Team 2010) that live in rivers and coastal waters along the east coast of North America (NMFS 1998). The current distribution and abundance of shortnose in the Chesapeake Bay is unknown (Shortnose Sturgeon Status Review Team 2010). Shortnose sturgeon spend most of their life in natal rivers and occasionally enter the ocean (NMFS 1998). Adults have been documented to leave their natal estuary and make coastal migrations to other river systems (Zydlowski et al. 2011). Adults



move far upstream and away from saltwater to spawn during the spring and after spawning, move rapidly back downstream to the estuaries, where they feed, rest, and spend most of their time (Shortnose Sturgeon Status Review Team 2010).

Shortnose sturgeon are rare in the Chesapeake Bay and most are reported in the upper Chesapeake Bay or in the Potomac River, outside of the Project area (Balazik 2017); however, one shortnose sturgeon was collected in the freshwater portion of the James River in 2016 (Balazik 2017). The individual was considered mature and a subsequent genetic analysis assigned the fish to the Chesapeake Bay/Delaware population segment. It is unclear if the shortnose sturgeon captured in the James River is a remnant of a natural population that was almost extirpated, or a roaming fish from either the Potomac River, about 75 miles (120 km) away, or from the Delaware River, 211 miles (340 km) away, via the Chesapeake and Delaware Canal (Balazik 2017). A gravid female shortnose sturgeon was captured by VCU biologists in the lower James River in 2018. This fish was tagged and tracked back to the Delaware River, which is believed to be its natal river (Balazik and Garmin 2019).

While the Project area does not appear to represent staging, feeding, spawning, or overwintering areas that are regularly utilized by shortnose sturgeon it is possible that they may be present during Project activities. Based on their limited presence in the Project area, and the limited extent of expected Project impacts shortnose sturgeon are not likely to be adversely affected. The potential impacts to sturgeon species in the Project area are discussed in detail in the NMFS Biological Assessment in Appendix I, which concluded that Project activities may affect but are not likely to adversely affect shortnose sturgeon

**Mabee's Salamander and Canebrake Rattlesnake:** Mabee's salamanders spend the larval period of their life cycle in aquatic environments, but most of the adult life is spent in terrestrial burrows. The breeding habitat is described as fish-free vernal ponds or Coastal Plain ephemeral sinkholes up to five feet deep. Breeding occurs from late fall to early spring and females lay eggs and attach them to small twigs, leaves, or debris. Larval young live in ponds until April or May, when they become juveniles (VDGIF 2016a). Surrounding forests are generally composed of bottomland hardwoods mixed with pines, pine savannas, bogs, and swamps (VDGIF 2016a).

Canebrake rattlesnake habitat consists of hardwood or mixed pine-hardwood forests, canefields, and the ridges and glades of swampy areas. Canebrake rattlesnakes are generally active in Virginia from early April to October. During the fall and winter months, the snakes hibernate in forested habitat and are known to utilize the base of hollow trees, or stumps, and the underground tunnels resulting from stump and root decomposition (VDOT and FHWA 2016). Existing roadways have caused fragmentation of the habitat and act as a barrier to migration between the habitats (VDOT and FHWA 2016)

No habitat for these species was identified within the LOD (VDOT and FHWA 2016), and there are no confirmed sightings for either species in the VAFWIS database. Therefore, these species are unlikely to be affected by Project activities..

## J.1.4 REFERENCES

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# **ATTACHMENT J-1: VAFWIS SEARCH REPORT**

**VaFWIS - Department of Game and Inland Fisheries**

36,59,58.2 -76,19,12.8  
is the Search Point

Submit Cancel

**Search Point**

- Change to "clicked" map point
- Fixed at 36,59,58.2 -76,19,12.8

**Show Position Rings**

- Yes  No

1 mile and 1/4 mile at the Search Point

**Show Search Area**

- Yes  No
- 2 Search distance miles radius

Search Point is at map center

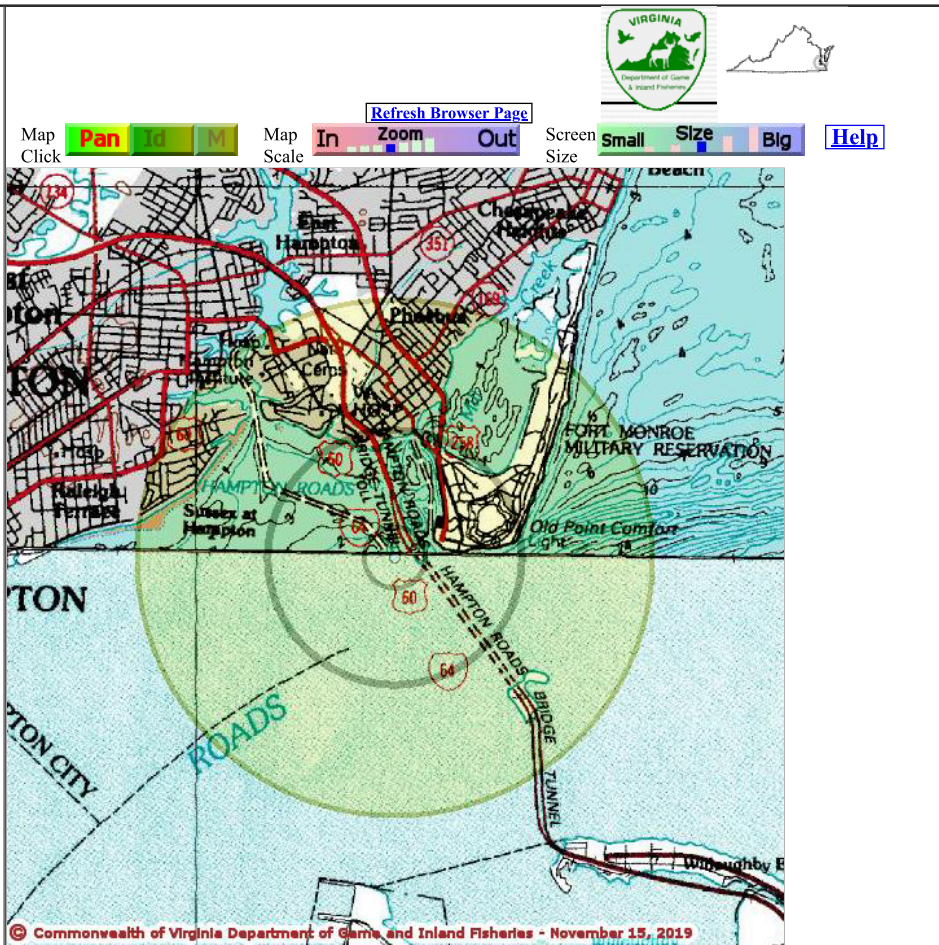
**Base Map Choices**

Topography

**Map Overlay Choices**

Current List: Position, Search

**Map Overlay Legend**

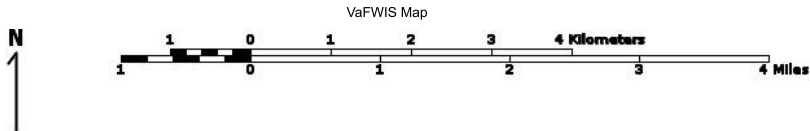


https://vafwis.dgif.virginia.gov/fwis/maps/zMapFormJava.asp?v=111510

1/3

11/15/2019

- Position Rings 1 mile and 1/4 mile at the Search Point
- 2 mile radius Search Area



Point of Search 36,59,58.2 -76,19,12.8  
Map Location 36,59,58.2 -76,19,12.8

- Select **Coordinate System:**
- Degrees,Minutes,Seconds Latitude - Longitude
  - Decimal Degrees Latitude - Longitude
  - Meters UTM NAD83 East North Zone
  - Meters UTM NAD27 East North Zone

Base Map source: USGS 1:100,000 topographic maps (see [Microsoft terraserver-usa.com](http://Microsoft.terraserver-usa.com) for details)

Map projection is UTM Zone 18 NAD 1983 with left 377730 and top 4100431. Pixel size is 16 meters . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixels. The map display represents 9600 meters east to west by 9600 meters north to south for a total of 92.1 square kilometers. The map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.5 square miles.

Topographic maps and Black and white aerial photography for year 1990+- are from the United States Department of the Interior, United States Geological Survey. Color aerial photography aquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network. Shaded topographic maps are from TOPO! ©2006 National Geographic <http://www.national.geographic.com/topo> All other map products are from the Commonwealth of Virginia Department of Game and Inland Fisheries.

map assembled 2019-11-15 11:01:30 (qa/qc March 21, 2016 12:20 - tn=1002140 dist=3218 I )  
Spoi=36.9995000 -76.3202222

**VaFWIS Search Report** Compiled on 11/15/2019, 10:39:51 AM[Help](#)

Known or likely to occur within a **2 mile radius around point 36,59,58.2 -76,19,12.8**  
in **650 Hampton City, 710 Norfolk City, VA**

[View Map of  
Site Location](#)

567 Known or Likely Species ordered by Status Concern for Conservation  
(displaying first 45) (45 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>
030074	FESE	Ia	<u>Turtle, Kemp's ridley sea</u>	Lepidochelys kempii	<u>Yes</u>	BOVA,SppObs,HU6
010032	FESE	Ib	<u>Sturgeon, Atlantic</u>	Acipenser oxyrinchus	<u>Yes</u>	BOVA,TEWaters,SppObs,HU6
030075	FESE	Ic	<u>Turtle, leatherback sea</u>	Dermodochelys coriacea	<u>Yes</u>	BOVA,SppObs,HU6
030073	FESE		<u>Turtle, hawksbill sea</u>	Eretmochelys imbricata		BOVA
040183	FESE		<u>Tern, roseate</u>	Sterna dougallii dougallii		HU6
030071	FTST	Ia	<u>Turtle, loggerhead sea</u>	Caretta caretta	<u>Yes</u>	BOVA,SppObs,HU6
040144	FTST	Ia	<u>Knot, red</u>	Calidris canutus rufa	<u>Yes</u>	BOVA,SppObs,HU6
050022	FTST	Ia	<u>Bat, northern long-eared</u>	Myotis septentrionalis		BOVA
030072	FTST	Ib	<u>Turtle, green sea</u>	Chelonia mydas		BOVA,HU6
040120	FTST	IIa	<u>Plover, piping</u>	Charadrius melodus	<u>Yes</u>	BOVA,SppObs,HU6
100361	FTST	IIa	<u>Beetle, northeastern beach tiger</u>	Cicindela dorsalis dorsalis		HU6
120030	FTSE	IVb	<u>Manatee, West Indian</u>	Trichechus manatus		BOVA,HU6
030064	SE	Ia	<u>Turtle, eastern chicken</u>	Deirochelys reticularia reticularia		HU6
040118	SE	Ia	<u>Plover, Wilson's</u>	Charadrius wilsonia		HU6
040110	FPSE	Ia	<u>Rail, eastern black</u>	Laterallus jamaicensis jamaicensis		BOVA,HU6
050020	SE	Ia	<u>Bat, little brown</u>	Myotis lucifugus		BOVA
050034	SE	Ia	<u>Bat, Rafinesque's eastern big-eared</u>	Corynorhinus rafinesquii macrotis		HU6
050027	SE	Ia	<u>Bat, tri-colored</u>	Perimyotis subflavus	<u>Yes</u>	BOVA,SppObs,HU6
030013	SE	IIa	<u>Rattlesnake, canebrake</u>	Crotalus horridus	<u>Potential</u>	BOVA,Habitat,HU6

040096	ST	Ia	<u>Falcon, peregrine</u>	Falco peregrinus	<u>Yes</u>	BOVA,SppObs,HU6
040293	ST	Ia	<u>Shrike, loggerhead</u>	Lanius ludovicianus		BOVA
040379	ST	Ia	<u>Sparrow, Henslow's</u>	Ammodramus henslowii		HU6
040179	ST	Ia	<u>Tern, gull-billed</u>	Sterna nilotica	<u>Yes</u>	BOVA,Habitat,SppObs,CWB,HU6
020044	ST	IIa	<u>Salamander, Mabee's</u>	Ambystoma mabeei	<u>Potential</u>	BOVA,Habitat
020002	ST	IIa	<u>Treefrog, barking</u>	Hyla gratiosa		HU6
040292	ST		<u>Shrike, migrant loggerhead</u>	Lanius ludovicianus migrans		BOVA
030067	CC	IIa	<u>Terrapin, northern diamond-backed</u>	Malaclemys terrapin terrapin	<u>Yes</u>	BOVA,Habitat,SppObs,HU6
030063	CC	IIIa	<u>Turtle, spotted</u>	Clemmys guttata		BOVA,HU6
040040		Ia	<u>Ibis, glossy</u>	Plegadis falcinellus	<u>Yes</u>	BOVA,SppObs,HU6
040306		Ia	<u>Warbler, golden-winged</u>	Vermivora chrysoptera	<u>Yes</u>	BOVA,SppObs
040213		Ic	<u>Owl, northern saw-whet</u>	Aegolius acadicus		HU6
020063		IIa	<u>Toad, oak</u>	Anaxyrus quercicus		HU6
040052		IIa	<u>Duck, American black</u>	Anas rubripes	<u>Yes</u>	BOVA,SppObs,HU6
040033		IIa	<u>Egret, snowy</u>	Egretta thula	<u>Yes</u>	BOVA,BBA,SppObs,HU6
040029		IIa	<u>Heron, little blue</u>	Egretta caerulea caerulea	<u>Yes</u>	BOVA,SppObs
040036		IIa	<u>Night-heron, yellow-crowned</u>	Nyctanassa violacea violacea	<u>Yes</u>	BOVA,BBA,SppObs,CWB
040114		IIa	<u>Oystercatcher, American</u>	Haematopus palliatus	<u>Yes</u>	BOVA,Habitat,SppObs,HU6
040192		IIa	<u>Skimmer, black</u>	Rynchops niger	<u>Yes</u>	BOVA,Habitat,BBA,SppObs,CWB,HU6
040181		IIa	<u>Tern, common</u>	Sterna hirundo	<u>Yes</u>	BOVA,BBA,SppObs,CWB,HU6
040320		IIa	<u>Warbler, cerulean</u>	Setophaga cerulea		BOVA,HU6
040140		IIa	<u>Woodcock, American</u>	Scolopax minor	<u>Yes</u>	BOVA,SppObs,HU6
040203		IIb	<u>Cuckoo, black-billed</u>	Coccyzus erythrophthalmus	<u>Yes</u>	BOVA,SppObs,HU6
040105		IIb	<u>Rail, king</u>	Rallus elegans		BOVA,HU6
040304		IIc	<u>Warbler, Swainson's</u>	Limnothlypis swainsonii		HU6
110353		IIc	<u>SPIDER, FUNNEL-WEB</u>	Barronopsis jeffersi		HU6

To view **All 567 species** [View 567](#)

\*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.

[View Map of All Query Results from All Observation Tables](#)

**Bat Colonies or Hibernacula: Not Known**

**Anadromous Fish Use Streams** ( 1 records )

[View Map of All Anadromous Fish Use Streams](#)

Stream ID	Stream Name	Reach Status	Anadromous Fish Species			View Map
			Different Species	Highest TE*	Highest Tier**	
C92	<a href="#"><u>James River 1</u></a>	Confirmed	6		IV	<a href="#"><u>Yes</u></a>

**Impediments to Fish Passage**

N/A

**Colonial Water Bird Survey** ( 7 records , 3 Observations with Threatened or Endangered species )

[View Map of All Query Results Colonial Water Bird Survey.](#)

Colony_Name	N Obs	Latest Date	N Species			View Map
			Different Species	Highest TE*	Highest Tier**	
<a href="#"><u>Urban, Norfolk North, Norfolk</u></a>	1	Jun 4 2013	8	ST	I	<a href="#"><u>Yes</u></a>
<a href="#"><u>HRB Tunnel Island</u></a>	4	Jun 12 2008	7	ST	I	<a href="#"><u>Yes</u></a>
<a href="#"><u>Hampton Roads Bridge-Tunn</u></a>	1	Jun 1 1993	3	ST	I	<a href="#"><u>Yes</u></a>
<a href="#"><u>Fort Monroe</u></a>	1	Jun 25 2003	1		II	<a href="#"><u>Yes</u></a>
<a href="#"><u>Kecoughtan</u></a>	1	Jun 25 2003	2		II	<a href="#"><u>Yes</u></a>
<a href="#"><u>Hampton-Ft. Monroe/Bridge</u></a>	1	Jun 1 1993	1		II	<a href="#"><u>Yes</u></a>

<u>HAMPTON ROADS TUNNEL</u>	8	Jun 1 1990	2		II	Yes
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Displayed 7 Colonial Water Bird Survey

**Threatened and Endangered Waters** ( 2 Reaches )

[View Map of All Threatened and Endangered Waters](#)

Stream Name	T&E Waters Species						View Map
	Highest TE*	BOVA Code, Status*, Tier**, Common & Scientific Name					
<u>James River (0316799)</u>	FESE	010032	FESE	Ib	<u>Sturgeon, Atlantic</u>	Acipenser oxyrinchus	<u>Yes</u>
<u>James River (0336863)</u>	FESE	010032	FESE	Ib	<u>Sturgeon, Atlantic</u>	Acipenser oxyrinchus	<u>Yes</u>

**Managed Trout Streams**

N/A

**Bald Eagle Concentration Areas and Roosts**

N/A

**Bald Eagle Nests**

N/A

**Species Observations** ( 52 records - displaying first 31 , 31 Observations with Threatened or Endangered species )

[View Map of All Query Results Species Observations](#)

obsID	class	Date Observed	Observer	N Species			View Map
				Different Species	Highest TE*	Highest Tier**	
<u>319029</u>	SppObs	Jun 13 2007	John Musick	2	FESE	I	<u>Yes</u>
<u>308412</u>	SppObs	Sep 4 2004	Meredith Fagan	1	FESE	I	<u>Yes</u>

<a href="#">308384</a>	SppObs	May 17 2004	Meredith Fagan	1	FESE	I	<a href="#">Yes</a>
<a href="#">63110</a>	SppObs	Nov 4 1997	USFWS	1	FESE	I	<a href="#">Yes</a>
<a href="#">602475</a>	SppObs	Oct 15 2008	Danielle; McCulloch	1	FTST	I	<a href="#">Yes</a>
<a href="#">604922</a>	SppObs	Oct 11 2008	Trish; Bargo	1	FTST	I	<a href="#">Yes</a>
<a href="#">604406</a>	SppObs	Jul 7 2008	Diane; Tulipani	1	FTST	I	<a href="#">Yes</a>
<a href="#">601425</a>	SppObs	Jun 24 2008	Ryan; Gill	1	FTST	I	<a href="#">Yes</a>
<a href="#">607945</a>	SppObs	Jun 3 2008	Trish; Bargo	1	FTST	I	<a href="#">Yes</a>
<a href="#">600454</a>	SppObs	May 29 2008	Trish; Bargo	1	FTST	I	<a href="#">Yes</a>
<a href="#">319052</a>	SppObs	Aug 24 2007	John Musick	1	FTST	I	<a href="#">Yes</a>
<a href="#">319045</a>	SppObs	Jun 29 2007	John Musick	1	FTST	I	<a href="#">Yes</a>
<a href="#">319027</a>	SppObs	Jun 12 2007	John Musick	1	FTST	I	<a href="#">Yes</a>
<a href="#">319015</a>	SppObs	May 30 2007	John Musick	1	FTST	I	<a href="#">Yes</a>
<a href="#">317925</a>	SppObs	Aug 26 2006	John Musick	1	FTST	I	<a href="#">Yes</a>
<a href="#">313344</a>	SppObs	Oct 25 2005	John Musick (principal permittee), K. Mansfield, M. Fagan & V. Saba collectors	1	FTST	I	<a href="#">Yes</a>
<a href="#">313335</a>	SppObs	Jun 29 2005	John Musick (principal permittee), K. Mansfield, M. Fagan & V. Saba collectors	1	FTST	I	<a href="#">Yes</a>
<a href="#">312962</a>	SppObs	Jun 12 2005	John Musick (principal permittee), K. Mansfield, M. Fagan & V. Saba collectors	1	FTST	I	<a href="#">Yes</a>
<a href="#">308417</a>	SppObs	Nov 2 2004	Meredith Fagan	1	FTST	I	<a href="#">Yes</a>
<a href="#">308391</a>	SppObs	Jun 1 2004	Meredith Fagan	1	FTST	I	<a href="#">Yes</a>

<a href="#">308390</a>	SppObs	May 30 2004	Meredith Fagan	1	FTST	I	<a href="#">Yes</a>
<a href="#">308385</a>	SppObs	May 23 2004	Meredith Fagan	1	FTST	I	<a href="#">Yes</a>
<a href="#">54905</a>	SppObs	Apr 1 1998	USFWS - GOFA	213	FTST	I	<a href="#">Yes</a>
<a href="#">367008</a>	SppObs	Jan 1 1900		1	FTST	I	<a href="#">Yes</a>
<a href="#">367009</a>	SppObs	Jan 1 1900		1	FTST	I	<a href="#">Yes</a>
<a href="#">54902</a>	SppObs	Mar 1 1998	USFWS - GOFA	24	SE	I	<a href="#">Yes</a>
<a href="#">503323</a>	CWB	Jun 4 2013	Beck	8	ST	I	<a href="#">Yes</a>
<a href="#">212526</a>	CWB	Jun 12 2008	Watts and Paxton, The Center for Conservation Biology, College of William and Mary	4	ST	I	<a href="#">Yes</a>
<a href="#">210246</a>	CWB	Jun 1 2003	Beck, R.	6	ST	I	<a href="#">Yes</a>
<a href="#">211705</a>	CWB	Jun 1 1993		3	ST	I	<a href="#">Yes</a>
<a href="#">366303</a>	SppObs	Jan 1 1900		1	CC	II	<a href="#">Yes</a>

Displayed 31 Species Observations

**Selected 52 Observations** [View all 52 Species Observations](#)

### Habitat Predicted for Aquatic WAP Tier I & II Species

N/A

### Habitat Predicted for Terrestrial WAP Tier I & II Species ( 8 Species )

[View Map of Combined Terrestrial Habitat Predicted for 8 WAP Tier I & II Species Listed Below](#)

ordered by Status Concern for Conservation

BOVA Code	Status*	Tier**	Common Name	Scientific Name	View Map
030013	SE	IIa	<u>Rattlesnake, canebrake</u>	Crotalus horridus	<a href="#">Yes</a>
040179	ST	Ia	<u>Tern, gull-billed</u>	Sterna nilotica	<a href="#">Yes</a>
020044	ST	IIa	<u>Salamander, Mabee's</u>	Ambystoma mabeei	<a href="#">Yes</a>
030067	CC	IIa	<u>Terrapin, northern diamond-backed</u>	Malaclemys terrapin terrapin	<a href="#">Yes</a>
040114		IIa	<u>Oystercatcher, American</u>	Haematopus palliatus	<a href="#">Yes</a>
040192		IIa	<u>Skimmer, black</u>	Rynchops niger	<a href="#">Yes</a>
040186		IIIa	<u>Tern, least</u>	Sterna antillarum	<a href="#">Yes</a>
040187		IVa	<u>Tern, royal</u>	Sterna maxima maximus	<a href="#">Yes</a>

Virginia Breeding Bird Atlas Blocks ( 3 records )

[View Map of All Query Results](#)  
[Virginia Breeding Bird Atlas Blocks](#)

BBA ID	Atlas Quadrangle Block Name	Breeding Bird Atlas Species			View Map
		Different Species	Highest TE*	Highest Tier**	
60056	<u>Hampton, SE</u>	37		II	<a href="#">Yes</a>
60055	<u>Hampton, SW</u>	25		II	<a href="#">Yes</a>
60041	<u>Norfolk North, NW</u>	4		II	<a href="#">Yes</a>

Public Holdings: ( 1 names )

Name	Agency	Level
Fort Monroe Army Reservation	Dept. of the Army	Federal

Summary of BOVA Species Associated with Cities and Counties of the Commonwealth of Virginia:

FIPS Code	City and County Name	Different Species	Highest TE	Highest Tier
650	<u>Hampton City</u>	397	FESE	I
710	<u>Norfolk City</u>	445	FESE	I

USGS 7.5' Quadrangles:

Norfolk North

Hampton

**USGS NRCS Watersheds in Virginia:**

N/A

**USGS National 6th Order Watersheds Summary of Wildlife Action Plan Tier I, II, III, and IV Species:**

<b>HU6 Code</b>	<b>USGS 6th Order Hydrologic Unit</b>	<b>Different Species</b>	<b>Highest TE</b>	<b>Highest Tier</b>
CB24	Lower Chesapeake Bay-Back River	91	FESE	I
CB26	Lower Chesapeake Bay-Little Creek	94	FESE	I
CB47	Lower Chesapeake Bay	78	FESE	I
JL57	Willoughby Bay	50	FTSE	I
JL58	Hampton Roads-Hampton River	84	FESE	I
JL59	Hampton Roads Channel	97	FESE	I

Compiled on 11/15/2019, 10:39:51 AM I1002138.0 report=all searchType=R dist= 3218 poi= 36,59,58.2 -76,19,12.8

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### VaFWIS - Department of Game and Inland Fisheries

36,57,00.9 -76,16,29.9 is the Search Point

Submit Cancel

#### Search Point

- Change to "clicked" map point
- Fixed at 36,57,00.9 -76,16,29.9

#### Show Position Rings

- Yes  No

1 mile and 1/4 mile at the Search Point

#### Show Search Area

- Yes  No
- 2.5 Search distance miles radius

Search Point is at map center

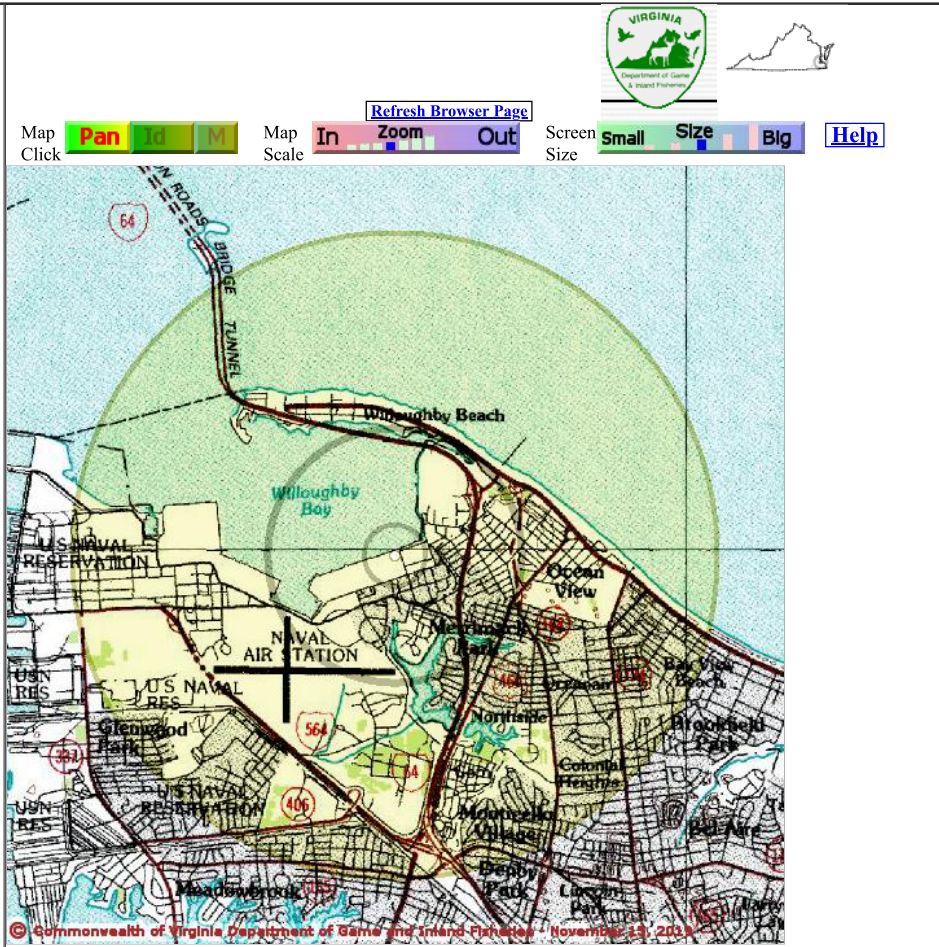
#### Base Map Choices

Topography

#### Map Overlay Choices

Current List: Position, Search

#### Map Overlay Legend



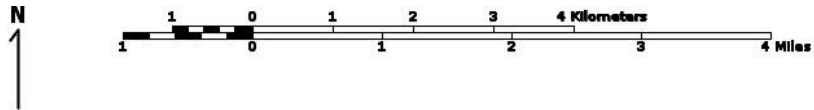
https://vafwis.dgif.virginia.gov/fwis/maps/zMapFormJava.asp?v=111510

1/3

11/15/2019

VaFWIS Map

- Position Rings 1 mile and 1/4 mile at the Search Point
- 2.5 mile radius Search Area



Point of Search 36,57,00.9 -76,16,29.9  
Map Location 36,57,00.9 -76,16,29.9

- Select **Coordinate System**:
- Degrees,Minutes,Seconds Latitude - Longitude
  - Decimal Degrees Latitude - Longitude
  - Meters UTM NAD83 East North Zone
  - Meters UTM NAD27 East North Zone

Base Map source: USGS 1:100,000 topographic maps (see [Microsoft terraserver-usa.com](http://Microsoft.terraserver-usa.com) for details)

Map projection is UTM Zone 18 NAD 1983 with left 381683 and top 4094913. Pixel size is 16 meters . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixels. The map display represents 9600 meters east to west by 9600 meters north to south for a total of 92.1 square kilometers. The map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.5 square miles.

Topographic maps and Black and white aerial photography for year 1990+- are from the United States Department of the Interior, United States Geological Survey. Color aerial photography aquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network. Shaded topographic maps are from TOPO! ©2006 National Geographic <http://www.national.geographic.com/topo> All other map products are from the Commonwealth of Virginia Department of Game and Inland Fisheries.

map assembled 2019-11-15 10:54:56 (qa/qc March 21, 2016 12:20 - tn=1002140 dist=4022.5 I)  
Spoi=36.9502500 -76.2749722

**VaFWIS Search Report** Compiled on 11/15/2019, 10:50:29 AM[Help](#)

Known or likely to occur within a **2.5 mile radius around point 36,57,00.9 -76,16,29.9**  
in **650 Hampton City, 710 Norfolk City, VA**

[View Map of  
Site Location](#)

565 Known or Likely Species ordered by Status Concern for Conservation  
(displaying first 43) (43 species with Status\* or Tier I\*\* or Tier II\*\* )

<b>BOVA Code</b>	<b>Status*</b>	<b>Tier**</b>	<b>Common Name</b>	<b>Scientific Name</b>	<b>Confirmed</b>	<b>Database(s)</b>
030074	FESE	Ia	<u>Turtle, Kemp's ridley sea</u>	Lepidochelys kempii	<u>Yes</u>	BOVA,SppObs,HU6
010032	FESE	Ib	<u>Sturgeon, Atlantic</u>	Acipenser oxyrinchus		BOVA,HU6
030075	FESE	Ic	<u>Turtle, leatherback sea</u>	Dermochelys coriacea		BOVA
030073	FESE		<u>Turtle, hawksbill sea</u>	Eretmochelys imbricata		BOVA
040183	FESE		<u>Tern, roseate</u>	Sterna dougallii dougallii		HU6
030071	FTST	Ia	<u>Turtle, loggerhead sea</u>	Caretta caretta	<u>Yes</u>	BOVA,SppObs,HU6
040144	FTST	Ia	<u>Knot, red</u>	Calidris canutus rufa		BOVA,HU6
050022	FTST	Ia	<u>Bat, northern long-eared</u>	Myotis septentrionalis		BOVA
030072	FTST	Ib	<u>Turtle, green sea</u>	Chelonia mydas		BOVA,HU6
040120	FTST	Ia	<u>Plover, piping</u>	Charadrius melodus		BOVA,HU6
120030	FTSE	IVb	<u>Manatee, West Indian</u>	Trichechus manatus		BOVA,HU6
030064	SE	Ia	<u>Turtle, eastern chicken</u>	Deirochelys reticularia reticularia		HU6
040118	SE	Ia	<u>Plover, Wilson's</u>	Charadrius wilsonia		HU6
040110	FPSE	Ia	<u>Rail, eastern black</u>	Laterallus jamaicensis jamaicensis		BOVA
050020	SE	Ia	<u>Bat, little brown</u>	Myotis lucifugus		BOVA
050034	SE	Ia	<u>Bat, Rafinesque's eastern big-eared</u>	Corynorhinus rafinesquii macrotis		HU6
050027	SE	Ia	<u>Bat, tri-colored</u>	Perimyotis subflavus		BOVA
030013	SE	Ia	<u>Rattlesnake, canebrake</u>	Crotalus horridus		BOVA,HU6
040096	ST	Ia	<u>Falcon, peregrine</u>	Falco peregrinus		BOVA,HU6
040293	ST	Ia	<u>Shrike, loggerhead</u>	Lanius ludovicianus		BOVA
040179	ST	Ia	<u>Tern, gull-billed</u>	Sterna nilotica	<u>Yes</u>	BOVA,SppObs,HU6
020044	ST	Ia	<u>Salamander, Mabee's</u>	Ambystoma mabeei		BOVA
020002	ST	Ia	<u>Treefrog, barking</u>	Hyla gratiosa		HU6



040292	ST		<u>Shrike, migrant loggerhead</u>	Lanius ludovicianus migrans		BOVA
030067	CC	Ia	<u>Terrapin, northern diamond-backed</u>	Malaclemys terrapin terrapin	<u>Potential</u>	BOVA,Habitat,HU6
030063	CC	IIIa	<u>Turtle, spotted</u>	Clemmys guttata		BOVA,HU6
040040		Ia	<u>Ibis, glossy</u>	Plegadis falcinellus		BOVA,HU6
040306		Ia	<u>Warbler, golden-winged</u>	Vermivora chrysoptera		BOVA
040213		Ic	<u>Owl, northern saw-whet</u>	Aegolius acadicus		HU6
020063		Ia	<u>Toad, oak</u>	Anaxyrus quercicus		HU6
040052		Ia	<u>Duck, American black</u>	Anas rubripes	<u>Potential</u>	BOVA,BBA,HU6
040033		Ia	<u>Egret, snowy</u>	Egretta thula	<u>Potential</u>	BOVA,BBA
040029		Ia	<u>Heron, little blue</u>	Egretta caerulea caerulea		BOVA
040036		Ia	<u>Night-heron, yellow-crowned</u>	Nyctanassa violacea violacea	<u>Yes</u>	BOVA,BBA,CWB
040114		Ia	<u>Oystercatcher, American</u>	Haematopus palliatus		BOVA
040192		Ia	<u>Skimmer, black</u>	Rynchops niger	<u>Yes</u>	BOVA,BBA,SppObs,HU6
040181		Ia	<u>Tern, common</u>	Sterna hirundo	<u>Yes</u>	BOVA,BBA,SppObs,HU6
040320		Ia	<u>Warbler, cerulean</u>	Setophaga cerulea		BOVA,HU6
040140		Ia	<u>Woodcock, American</u>	Scolopax minor		BOVA,HU6
040203		Ib	<u>Cuckoo, black-billed</u>	Coccyzus erythrophthalmus		BOVA
040105		Ib	<u>Rail, king</u>	Rallus elegans		BOVA,HU6
040304		Ic	<u>Warbler, Swainson's</u>	Limnothlypis swainsonii		HU6
110353		Ic	<u>SPIDER, FUNNEL-WEB</u>	Barronopsis jeffersi		HU6

To view **All 565 species** [View 565](#)

\*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.

[View Map of All Query Results from All Observation Tables](#)

Bat Colonies or Hibernacula: **Not Known**

**Anadromous Fish Use Streams** ( 1 records )

[View Map of All  
Anadromous Fish Use Streams](#)

Stream ID	Stream Name	Reach Status	Anadromous Fish Species			View Map
			Different Species	Highest TE *	Highest Tier **	
C92	<a href="#">James River 1</a>	Confirmed	6		IV	<a href="#">Yes</a>

**Impediments to Fish Passage**

N/A

**Colonial Water Bird Survey** ( 5 records )

[View Map of All Query Results  
Colonial Water Bird Survey.](#)

Colony_Name	N Obs	Latest Date	N Species			View Map
			Different Species	Highest TE *	Highest Tier **	
<a href="#">Pine Wells</a>	1	May 8 2008	1		II	<a href="#">Yes</a>
<a href="#">Morwin</a>	2	Jul 10 2003	1		II	<a href="#">Yes</a>
<a href="#">Pinewell</a>	2	Jul 9 2003	1		II	<a href="#">Yes</a>
<a href="#">Bay View Beach</a>	1	Jun 1 1993	1		II	<a href="#">Yes</a>
<a href="#">Ocean View at Lenox</a>	1	Jun 1 1993	1		II	<a href="#">Yes</a>

Displayed 5 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

**Species Observations** ( 51 records - displaying first 32 , 32  
Observations with Threatened or  
Endangered species )

[View Map of All Query Results](#)  
[Species Observations](#)

obsID	class	Date Observed	Observer	N Species			View Map
				Different Species	Highest TE*	Highest Tier**	
<a href="#">604058</a>	SppObs	Oct 18 2008	Christina; Trapani	1	FESE	I	<a href="#">Yes</a>
<a href="#">600190</a>	SppObs	Oct 18 2008	Gwen; Lockhart	1	FESE	I	<a href="#">Yes</a>
<a href="#">605898</a>	SppObs	Sep 20 2008	Shannon; Davis	1	FESE	I	<a href="#">Yes</a>
<a href="#">607549</a>	SppObs	Oct 29 2008	Lisa; Wright	1	FTST	I	<a href="#">Yes</a>
<a href="#">600455</a>	SppObs	Oct 20 2008	Gwen; Lockhart	1	FTST	I	<a href="#">Yes</a>
<a href="#">600604</a>	SppObs	Oct 15 2008	Christina; Trapani	1	FTST	I	<a href="#">Yes</a>
<a href="#">607382</a>	SppObs	Oct 12 2008	Lisa; Wright	1	FTST	I	<a href="#">Yes</a>
<a href="#">607659</a>	SppObs	Sep 19 2008	Christina; Trapani	1	FTST	I	<a href="#">Yes</a>
<a href="#">600673</a>	SppObs	Sep 18 2008	Christina; Trapani	1	FTST	I	<a href="#">Yes</a>
<a href="#">606920</a>	SppObs	Sep 18	Margaret; Cook	1	FTST	I	<a href="#">Yes</a>

		2008					
<u>606919</u>	SppObs	Sep 17 2008	Christina; Trapani	1	FTST	I	<u>Yes</u>
<u>600739</u>	SppObs	Sep 11 2008	Wendy; Walton	1	FTST	I	<u>Yes</u>
<u>601055</u>	SppObs	Aug 23 2008	Christina; Trapani	1	FTST	I	<u>Yes</u>
<u>600958</u>	SppObs	Aug 23 2008	Shannon; Davis	1	FTST	I	<u>Yes</u>
<u>604864</u>	SppObs	Aug 21 2008	Shannon; Davis	1	FTST	I	<u>Yes</u>
<u>601216</u>	SppObs	Aug 5 2008	Christina; Trapani	1	FTST	I	<u>Yes</u>
<u>607815</u>	SppObs	Jul 24 2008	Shannon; Davis	1	FTST	I	<u>Yes</u>
<u>607994</u>	SppObs	Jul 18 2008	Christina; Trapani	1	FTST	I	<u>Yes</u>
<u>600756</u>	SppObs	Jul 2 2008	Christina; Trapani	1	FTST	I	<u>Yes</u>
<u>601467</u>	SppObs	Jun 18 2008	Christina; Trapani	1	FTST	I	<u>Yes</u>
<u>601428</u>	SppObs	Jun 18 2008	Christina; Trapani	1	FTST	I	<u>Yes</u>
<u>601205</u>	SppObs	Jun 18 2008	Christina; Trapani	1	FTST	I	<u>Yes</u>
<u>606886</u>	SppObs	Jun 12 2008	Christina; Trapani	1	FTST	I	<u>Yes</u>
<u>607298</u>	SppObs	Jun 7 2008	Christina; Trapani	1	FTST	I	<u>Yes</u>
<u>604186</u>	SppObs	Jun 5 2008	Christina; Trapani	1	FTST	I	<u>Yes</u>
<u>600000</u>	SppObs	May 25 2008	Linda; D'Eri	1	FTST	I	<u>Yes</u>
<u>601318</u>	SppObs	Feb 24 2008	Gwen; Lockhart	1	FTST	I	<u>Yes</u>
<u>367003</u>	SppObs	Jan 1 1900		1	FTST	I	<u>Yes</u>

<a href="#">367004</a>	SppObs	Jan 1 1900		1	FTST	I	<a href="#">Yes</a>
<a href="#">503323</a>	CWB	Jun 4 2013	Beck	8	ST	I	<a href="#">Yes</a>
<a href="#">212526</a>	CWB	Jun 12 2008	Watts and Paxton, The Center for Conservation Biology, College of William and Mary	4	ST	I	<a href="#">Yes</a>
<a href="#">210246</a>	CWB	Jun 1 2003	Beck, R.	6	ST	I	<a href="#">Yes</a>

Displayed 32 Species Observations

**Selected 51 Observations** [View all 51 Species Observations](#)

### Habitat Predicted for Aquatic WAP Tier I & II Species

N/A

### Habitat Predicted for Terrestrial WAP Tier I & II Species ( 2 Species )

[View Map of Combined Terrestrial Habitat Predicted for 2 WAP Tier I & II Species Listed Below](#)

ordered by Status Concern for Conservation

BOVA Code	Status*	Tier**	Common Name	Scientific Name	View Map
030067	CC	IIa	<a href="#">Terrapin, northern diamond-backed</a>	Malaclemys terrapin terrapin	<a href="#">Yes</a>
040186		IIIa	<a href="#">Tern, least</a>	Sterna antillarum	<a href="#">Yes</a>

### Virginia Breeding Bird Atlas Blocks ( 4 records )

[View Map of All Query Results](#)  
[Virginia Breeding Bird Atlas Blocks](#)

BBA ID	Atlas Quadrangle Block Name	Breeding Bird Atlas Species			View Map
		Different Species	Highest TE*	Highest Tier**	
61043	<a href="#">Little Creek, CW</a>	5		II	<a href="#">Yes</a>
60044	<a href="#">Norfolk North, CE</a>	1		II	<a href="#">Yes</a>
60041	<a href="#">Norfolk North, NW</a>	4		II	<a href="#">Yes</a>
60046	<a href="#">Norfolk North, SE</a>	67		II	<a href="#">Yes</a>

**Public Holdings:** ( 1 names )

Name	Agency	Level
U.S. Naval Air Station	U.S. Dept. of Navy	Federal

**Summary of BOVA Species Associated with Cities and Counties of the Commonwealth of Virginia:**

FIPS Code	City and County Name	Different Species	Highest TE	Highest Tier
650	<u>Hampton City</u>	397	FESE	I
710	<u>Norfolk City</u>	445	FESE	I

**USGS 7.5' Quadrangles:**

Norfolk North

Little Creek

**USGS NRCS Watersheds in Virginia:**

N/A

**USGS National 6th Order Watersheds Summary of Wildlife Action Plan Tier I, II, III, and IV Species:**

HU6 Code	USGS 6th Order Hydrologic Unit	Different Species	Highest TE	Highest Tier
CB26	<u>Lower Chesapeake Bay-Little Creek</u>	94	FESE	I
CB47	<u>Lower Chesapeake Bay</u>	78	FESE	I
JL56	<u>Elizabeth River</u>	75	FESE	I
JL57	<u>Willoughby Bay</u>	50	FTSE	I
JL59	<u>Hampton Roads Channel</u>	97	FESE	I

Compiled on 11/15/2019, 10:50:29 AM I1002139.0 report=all searchType= R dist= 4022 poi= 36,57,00.9 -76,16,29.9

PixelSize=64; Anadromous=0.033138; BBA=0.071112; BECAR=0.024048; Bats=0.02419; Buffer=0.153322; County=0.108208; HU6=0.160031; Impediments=0.026726; Init=0.229674; PublicLands=0.050691; Quad=0.082309; SppObs=0.316492; TEWaters=0.039699; TierReaches=0.063021; TierTerrestrial=0.236124; Total=1.811238; Tracking\_BOVA=0.201603; Trout=0.029851; huva=0.07644

# **ATTACHMENT J-2: VDCR NATURAL HERITAGE REPORT**





Common Name/Natural Community	Scientific Name	Scientific Name Linked	<a href="#">Global Conservation Status Rank</a>	<a href="#">State Conservation Status Rank</a>	<a href="#">Federal Legal Status</a>	<a href="#">State Legal Status</a>	Statewide Occurrences	Virginia Coastal Zone
Mabee's Salamander	Ambystoma mabeei	<a href="#">Ambystoma mabeei</a>	G4	S1S2	None	LT	17	Y
<b>BIRDS</b>								
Piping Plover	Charadrius melodus	<a href="#">Charadrius melodus</a>	G3	S2B,S1N	LT	LT	16	Y
Gull-billed Tern	Gelochelidon nilotica	<a href="#">Gelochelidon nilotica</a>	G5	S2B	None	LT	19	Y
<b>COLEOPTERA (BEETLES)</b>								
Northeastern Beach Tiger Beetle	Cicindela dorsalis dorsalis	<a href="#">Cicindela dorsalis dorsalis</a>	G3G4T2	S2	LT	LT	18	Y
<b>FISH</b>								
Atlantic Sturgeon	Acipenser oxyrinchus	<a href="#">Acipenser oxyrinchus</a>	G3	S2	LE	LE	2	Y
<b>REPTILES</b>								
Canebrake Rattlesnake	Crotalus horridus [Coastal Plain population]	<a href="#">Crotalus horridus [Coastal Plain population]</a>	G4T4	S1	None	LE	18	Y
<b>VASCULAR PLANTS</b>								
Virginia Least Trillium	Trillium pusillum var. virginianum	<a href="#">Trillium pusillum var. virginianum</a>	G3T2	S2	SOC	None	37	Y
<b>Norfolk (City)</b>								
<b>BIRDS</b>								
Peregrine Falcon	Falco peregrinus	<a href="#">Falco peregrinus</a>	G4	S1B,S2N	None	LT	36	Y
<b>FISH</b>								
Atlantic	Acipenser	<a href="#">Acipenser</a>	G3	S2	LE	LE	2	Y

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Common Name/Natural Community	Scientific Name	Scientific Name Linked	<a href="#">Global Conservation Status Rank</a>	<a href="#">State Conservation Status Rank</a>	<a href="#">Federal Legal Status</a>	<a href="#">State Legal Status</a>	Statewide Occurrences	Virginia Coastal Zone
Sturgeon	oxyrinchus	<a href="#">oxyrinchus</a>						

**Note: On-line queries provide basic information from DCR's databases at the time of the request. They are NOT to be substituted for a project review or for on-site surveys required for environmental assessments of specific project areas.**

**For Additional Information** on locations of Natural Heritage Resources please submit an [information request](#).

**To Contribute information** on locations of natural heritage resources, please fill out and submit a [rare species sighting form](#).