

West Indian Manatee

Trichechus manatus

I. Species Summary

The West Indian manatee (*Trichechus manatus*; Figure 1) is currently listed by the U.S. Fish and Wildlife Service (USFWS) under the Endangered Species Act (ESA) as “threatened” across its range (82 FR 16668 - 16704). The species may be present in estuaries, inlets, and freshwater streams in North Carolina’s coastal plain. Major threats to the species include degradation and loss of foraging and wintering habitats, watercraft collisions, harassment, climate change, and exposure to cold. The USFWS species profile for the West Indian manatee can be found at <https://www.fws.gov/species/manatee-trichechus-manatus>. No critical habitat has been designated in North Carolina for this species.

II. Biological Information



Figure 1. West Indian manatee, swimming (USFWS)

The West Indian manatee includes two distinct subspecies, the Florida manatee (*Trichechus manatus latirostris*) and the Antillean manatee (*Trichechus manatus manatus*). While morphologically distinct, both subspecies have many common features. Manatees have large, seal-shaped bodies with paired flippers and a round, paddle-shaped tail (Figure 1). They are typically gray in color (color can range from black to light brown) and occasionally spotted with barnacles or colored by patches of green or red algae. The muzzle is heavily whiskered and coarse, single hairs are sparsely distributed over the body. Adult manatees, on average, are about nine feet long (3 meters) and weigh about 1,000 pounds (~450 kilograms). At birth, calves are between three and four feet long (1 meter) and weigh between 40 and 60 pounds (30 kilograms). A calf may remain with its mother for about two years. Calving intervals range from two and three years.

Manatees are herbivores that feed opportunistically on a wide variety of marine, estuarine, and freshwater plants, including submerged, floating, and emergent vegetation. Common forage plants include, but are not limited to, cord grass, alga, turtle grass, shoal grass, manatee grass, eel grass, and other plant types. Calves initially suckle and may start feeding on plants when a few months of age.

Weaning generally takes place within a year of birth. Manatees also require sources of freshwater, obtained from both natural and anthropogenic sources.

III. Suitable habitat

The historical range of West Indian manatee includes Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, Puerto Rico, South Carolina, and Texas. The species is found in tropical and subtropical coastal and river waters along the southeast U.S. coast, the Caribbean coast of Central and South America, and locally throughout the West Indies. The Florida manatee subspecies is a year-round resident in Florida. During the warm months, an unknown portion of the Florida manatee population migrates northward into Georgia and the Carolinas, and westward along the Gulf coast into Alabama, Mississippi, and Louisiana -- manatees are most frequently sighted in North Carolina coastal waters from April through October. They are rarely sighted during the colder months of the year; however, recent reports have noted their presence year-round.



Figure 2. Seagrass – suitable forage for Manatee
(R. Gittman, Eastern Carolina University)



Figure 3. Wanchese Harbor – Manatee suitable habitat (Chris Hannant)

Manatees range freely between marine and freshwater habitats, and often travel through areas congested with watercraft. They have been sighted in North Carolina in the Atlantic Intracoastal Waterway (AIWW), in marina basins, in seagrass beds in the sounds, and in freshwater rivers and streams on the coast (**Figures 2 and 3**). Florida manatees have little tolerance for cold waters. Historically, this subspecies has sought out natural, warm-water sites, including springs, deep water areas, and areas thermally influenced by the Gulf Stream, as refuges from the cold. Manatees are also attracted to warm water discharges at industrial sites, such as power generating plants and factories, and have been documented at multiple industrial warm water sites north of Florida, including in North Carolina. During spring warming, manatees leave the warm-water sites and may travel great distances throughout the summer.

Individuals have been sighted as far north as Massachusetts. They will return south to warm water sites beginning in the fall.

Habitats used by manatees in North Carolina include nearshore ocean waters, tidal creeks, estuaries, and the lower reaches of the Cape Fear, New, White Oak, Neuse, and Tar-Pamlico Rivers. They can sometimes be seen in marinas, but may be difficult to spot in dark, tannic or turbid waters (**Figure 4**).

In North Carolina, the West Indian manatee may be present in the following counties:

Beaufort	Craven	Martin	Perquimans
Bertie	Currituck	New Hanover	Pitt
Brunswick	Dare	Onslow	Tyrrell
Camden	Hyde	Pamlico	Washington
Carteret	Jones	Pasquotank	
Chowan	Lenoir	Pender	

IV. Agency Authority

This SLOPES details how the U.S. Army Corps of Engineers (USACE), Wilmington District, Regulatory Division and Civil Works, will make determinations of effect to the West Indian manatee when USACE is the lead Federal agency for a project, and it is applicable to activities regulated pursuant to Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act in the state of North Carolina. Note that if another Federal agency is the lead for a project, procedures for satisfying the requirements of Section 7(a)(2) of the ESA will be dictated by that agency and will not be applicable for consideration under this SLOPES.

Two USFWS offices are responsible for ESA Section 7(a)(2) compliance in North Carolina: the Asheville Ecological Services Field Office is responsible for the western 41 counties, and the Raleigh Ecological Services Field Office is responsible for the eastern 59 counties (**Figure 7**). This SLOPES formalizes the coordination between the USACE and the Raleigh Ecological Services field office for effect determinations and the need for further consultation.

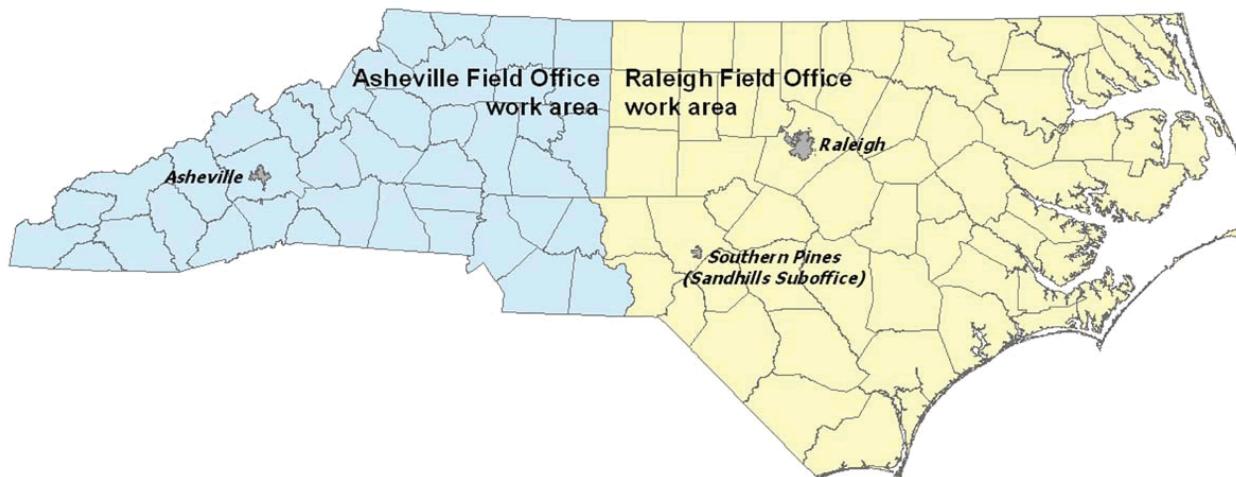


Figure 5. USFWS Ecological Services Field Office work areas in North Carolina

Endangered Species Act (ESA) (16 USC § 1531 et seq.), Section 7(a)(2), requires that Federal agencies, in consultation with the USFWS and the National Marine Fisheries Service, take such actions as necessary to ensure that any action authorized, funded, or carried out by the agency is not likely to jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of habitat of such species, which is determined by the Secretary of the Interior or Secretary of Commerce, as appropriate, to be critical.

Section 404 Clean Water Act (CWA) (33 USC § 1344) requires authorization from the Secretary of the Army, acting through the USACE, for the discharge of dredged or fill material into waters of the U.S., including wetlands. Discharges of dredged or fill material generally includes, without limitation, placement of fill that is necessary for the construction of any structure or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; dams and dikes; artificial islands; property protection or reclamation devices such as riprap, groins, seawalls, breakwaters, and revetments; beach nourishment; levees; fill for intake and outfall pipes and sub-aqueous utility lines; fill associated with the creation of ponds; and any other work involving the discharge of dredged or fill material. A USACE permit is required whether the work is permanent or temporary.

Section 10 of the Rivers and Harbors Act (RHA) of 1899 (33 USC § 403) requires authorization from the Secretary of the Army, acting through the USACE, for the construction of any structure in or over navigable waters of the U.S., and to conduct certain activities under navigable waters of the U.S. Work or structures outside the limits defined for navigable waters of the U.S. require a Section 10 permit if the work or structure affects the course, location, or condition of the water body. The law applies to any dredging or disposal of dredged materials, excavation, filling, re-channelization, or any other modification of a navigable waters of the U.S., and it applies to all structures, from the smallest floating dock to the largest commercial undertaking. It further includes, without limitation, any wharf, dolphin, weir, boom breakwater, jetty, groin, bank protection (e.g., riprap, revetment, bulkhead), mooring structure such as a piling, aerial or sub-aqueous power transmission line, intake or outfall pipe, permanently moored floating vessel, tunnel, artificial canal, boat ramp, aid to navigation, and any other permanent or semi-permanent obstacle or obstruction.

V. Determination of Effect to the West Indian Manatee

The consultation for the West Indian Manatee includes all tidal waters and accessible adjacent freshwater streams in coastal North Carolina. Refer to the species list at the USFWS Information for Planning and Consultation (IPaC; <https://ipac.ecosphere.fws.gov/>) website or the USACE Regulatory Viewer to determine if impacts to manatees need to be considered for your project.

The USACE will make determinations of effect for the West Indian Manatee in accordance with the procedures in **Appendix A - West Indian Manatee Effects Determination Key**.

Species Guidance

The action area for this SLOPES is USACE's defined action area (action area) and those areas that may be affected by a disturbance (e.g., in-water work or changes to hydrology [impeding water flow], water quality [physical and/or chemical], or streambed substrate [sedimentation], or impeding aquatic life passage [dams, weirs, or improper culvert installation]).

This SLOPES addresses effects to the West Indian manatee only. Effects to other federally listed species and/or to federally designated critical habitat (critical habitat) will be processed via traditional consultation methods unless separate SLOPES or other agreements with the USFWS have been reached for those species and/or critical habitat.

Activities Covered under this SLOPES

USACE Civil Works:

- Dredging and dredged material placement
- Shoreline protection
- Other in-water activities funded or conducted by USACE

USACE Regulatory Division: USACE authorization of activities conducted under all current Nationwide Permits (NWPs) and all current Wilmington District (SAW) Regional General Permits (RGPs) or Programmatic General Permits (PGPs). Additionally, this SLOPES Agreement covers USACE authorizations of activities conducted under any Individual Permits (IPs)/Letters of Permission (LOP) where the USFWS has received a Public Notice from the USACE, Regulatory Division, and provided no comments explicitly restricting use of the West Indian Manatee SLOPES.

VI. Conservation Recommendations

Conservation recommendations for the West Indian manatee can be found in **Appendix B**. These recommendations are optional and, if implemented, would support the agency's goals toward recovery. These recommendations are to be used at the discretion of USACE.

VII. Geographic Information System Data

The USFWS' IPaC website contains current geographic information system (GIS) data for the West Indian manatee. The USACE will review all projects via IPaC or an internal GIS system (Regulatory Viewer), which uses this data.

VIII. Administration of this SLOPES

- A. This SLOPES may be modified or amended only by written mutual agreement of the parties.
- B. This SLOPES may be terminated, in its entirety, by written mutual agreement of the parties. An individual party to this agreement may withdraw from the agreement after providing 30 days written notice of such intent to withdraw to the other participating signatories.
- C. Acknowledgement that the authority and responsibilities of the parties under their respective jurisdictions are not altered by this SLOPES.
- D. This SLOPES is intended only to improve the working relationships of the participating parties in connection with decisions regarding compliance with Section 7(a)(2) of the ESA for the federally listed West Indian manatee, and it pertains to actions authorized, funded, or conducted in North Carolina pursuant to Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbor Act of 1899 when USACE is the lead Federal agency for a project.
- E. The terms of this SLOPES are not intended to be enforceable by any party other than the signatories hereto.
- F. The participating parties intend to fully carry out the terms of this SLOPES.

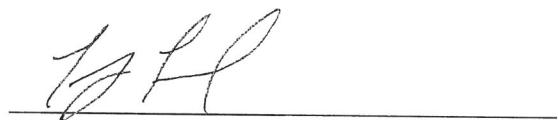
SLOPES Manual: Manatee – North Carolina
February 2025 - V.1

ACCORDINGLY, the parties have signed this SLOPES on the dates set forth below and it shall be effective as of the date last signed.



Date: 4 March 2025

Catheren B. Gill, P.E., Chief,
Engineering, Construction, and Planning Division
U.S. Army Corps of Engineers
Wilmington District



Date: 3 MAR 2025

Tommy Fennel, Chief
Regulatory Division
U.S. Army Corps of Engineers
Wilmington District

THOMAS
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Digitally signed by THOMAS
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Date: 2025.02.28 12:24:45 -05'00'

Date: February 28, 2025

Thomas Augspurger, Ph.D., Acting Field Supervisor
Raleigh Ecological Services Field Office
U.S. Fish and Wildlife Service



Appendix A – West Indian Manatee Effects Determination Key

Note that when USACE is the lead Federal agency for a project, it is responsible for determining (1) the ESA action area for that project, and (2) the effects to federally listed species and/or designated critical habitat.

ORM2 No.: _____ Date _____

USFWS IPaC Project Code: _____

1. Is the action area¹ located in a manatee consultation area (is West Indian manatee listed on your project-specific IPaC species list, or shown in the Regulatory Viewer as potentially present)?

- a. No..... No effect¹. Section 7 consultation complete.
- b. Yes..... Go to 2.

2. Will the project occur in tidal waters that are accessible to manatees? NOTE: Lakes and other water bodies upstream of structures such as dams, weirs, grated culverts, and fish ladders are normally not considered accessible to manatees.

- a. No..... No effect². Section 7 consultation complete. Make a note to the file and/or include documentation as appropriate.
- b. Yes..... Go to 3.

3. Will the project require one of the following activities:

- In-water blasting or other detonation activity (e.g., for channel deepening and/or widening, geotechnical surveys or exploration, bridge and structure removals, filming (TV or movie), military shows, or special events)
- Modification or construction of warm or fresh-water discharges from industrial sites, power plants, water treatment facilities, etc., or natural springs or artesian wells.

- a. No..... Go to 4.
- b. Yes..... Consultation Required³

4. Does the project involve in-water construction (e.g. dredging, bulkhead or pier construction or repair, riprap, bridge, in-water sediment discharge, mooring buoys, living shoreline, mariculture, etc.) **and** will the project be required to comply with the USFWS Guidelines for Avoiding Impacts to the West Indian Manatee (Attached)?

- a. No Go to 5
- b. Yes NLAA⁴. Section 7 consultation complete. Include documentation of this D-key result in the project file.

5. If the USACE or applicant does not elect to incorporate the most current manatee protection guidelines according to the guidance of this key, or the activities directly or indirectly affect manatees in a manner not covered by this key then consultation with the USFWS is required³.

¹Please contact the appropriate USACE representative for any questions as to the size of the action area. For a list of USACE representatives, please see the contact list at: <https://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Contact/>.

²No effect - The proposed project would result in no effect to this species and/or its federally designated critical habitat (if applicable). Further consultation with the USFWS Raleigh Ecological Services Field Office is not necessary for the project as described.

³Consultation required - Further consultation with the USFWS Raleigh Ecological Services Field Office is necessary to discern if the activity would result in a “no effect,” “not likely to adversely affect,” or “likely to adversely affect” determination.

⁴NLAA - The proposed project may affect but is not likely to adversely affect this species and/or its designated critical habitat (if applicable). NLAA determinations for projects made pursuant to this key require no further consultation with the USFWS Raleigh Ecological Services Field Office, therefore, consultation is considered complete for this species.

Additional Information _____

Appendix B – Conservation Recommendations

These recommendations are optional and if implemented would support the agency's goals toward recovery. These recommendations are to be used at the discretion of the USACE, but any measures that avoid and minimize effects to the species are highly encouraged by the USFWS.

The USFWS offers the following recommendations to promote recovery of the West Indian manatee:

1. Require or fund the posting and maintenance of educational signs about manatees at public waterfront facilities (in tidal creeks, rivers, and estuaries). Depending on the purpose of the facility, the sign may provide general education or information for boaters. The Service can assist the with development of such signs.
2. Contribute financially to efforts for collection and analysis of telemetry data to determine movements, distribution, habitat use patterns, and population structure. Satellite or telemetry data on long-term movements of manatees and habitat use in North Carolina would help inform population recovery actions.
3. Help protect the quality and quantity of manatee habitats in North Carolina through permit conditions or contract requirements, including:
 - a. Ample food sources (including submerged, floating, and emergent vegetation);
 - b. Quiet, secluded areas for calving, nursing, and resting;
 - c. Safe travel corridors connecting important areas and allowing migration through North Carolina; and
 - d. Sources of fresh drinking water.