

Summary of U.S. Geological Survey Sensitive Species Protocols

U.S. Geological Survey Protocols – The U.S. Geological Survey Protocols for piping plover, American oystercatcher, colonial nesting birds, sea turtles, and seabeach amaranth provide three management options for each species, each offering varying levels of protection. In general, these protocols recommend the following buffer distances for habitat closures to protect nests from disturbance at Cape Hatteras National Seashore. Option A is most restrictive; Option C is least restrictive. Additional specific management measures for each option that may increase or decrease these distances are described below for each species.

Piping Plover	50m
Least Tern	100m
Other Colonial Waterbirds	200m
American Oystercatcher	150m
Sea Turtles	50m
Seabeach Amaranth	10m

Piping Plover

Option A: Close all potential piping plover nesting, roosting, and foraging habitat (ocean and soundside intertidal zone and other MOSH (Moist substrate habitat, excluding high-wave energy intertidal zone. Particularly mud flats, sand flats, ephemeral pools, and shores of brackish ponds, ocean backshore, dunes, dry sand flats, overwashes and blowouts) to all recreation, 24 hours a day, year-round, at Bodie Island Spit, Cape Point, South Beach, Hatteras Spit, North Ocracoke, South Ocracoke. In other areas of the Seashore, there should be a zone of ocean backshore at least 10-meter wide and running the length of the site that is closed to recreation. A 50-meter buffer zone should be placed around all nests to reduce the risk of damage by essential vehicles or monitors.

Option B: Close all potential piping plover nesting, roosting, and foraging habitat (ocean and soundside intertidal zone and other MOSH, ocean backshore, dunes, dry sand flats, overwashes and blowouts) to ORV traffic, 24 hours a day year-round, as described under option A. Permit pedestrians within a narrow corridor extending landward from the mean high tide line, from sunrise to sunset, on the oceanside only. Prohibit recreation at these sites from sundown to sunrise. Narrow or close the pedestrian corridor to provide a recreation-free buffer zone 50 meters wide (or the distance recommended for other avian species using the area, whichever is greatest) around all areas of MOSH, all overwash corridors, and any place that courtship behavior or scrapes are observed. Widen buffer to 100 meters any place that disturbance of plovers by recreation is observed, then to 200 meters if disturbance persists. Throughout the remainder of the Seashore, narrow the current 50-meter ORV corridor such that a zone of ocean backshore at least 10 meters wide and running the length of the site is free of ORV traffic. For nests, prohibit pedestrians from approaching within 50 meters of the nest, or the distance recommended for other avian species if any of them are nesting nearby (whichever is greatest). Expand buffer on a nest-by-nest basis if monitors determine 50 meters to be inadequate to prevent disturbance to a particular pair (first time expand to 100 meters, and then to 200 meters). If a monitor is unavailable to alter the buffer area, the beach should be closed for 200 meters around the nest until the fence can be restructured. Within one week of the expected hatch date of a nest, prohibit ORVs in all plover habitat within 1,000 meters of the nest. After hatch, the closed area should be 1,000 meters on either side of the brood's center of activity.

Option C: Restrict all recreation to a 50-meter corridor on the ocean side, from the mean high tide line landward, from sunrise to sunset, in the areas described under option A. This corridor will be narrow enough to provide adequate nesting, foraging, and roosting habitat for piping plovers given the size and configuration of the habitat at these sites in 2005. Alteration of the

habitat by storms or other natural processes may require a narrowing of the corridor, and at a minimum no recreation should be permitted in bay intertidal zone or other MOSH (except ocean intertidal zone), dunes, dry sand flats, overwashes and blowouts, and a 10-meter wide strip of ocean backshore.

American Oystercatcher

Option A: Close all areas used by nesting and foraging American oystercatchers during the last 10 years to recreational activities from March 15 to August 15. Close winter roosting areas to recreation during times to be determined from winter roosting surveys in the future. Erect signs 200 meters from nests to warn personnel of the nesting pair and reduce disturbance in the area by other biologists, law enforcement, and managers. Move signs to boundaries of chick foraging areas after hatching so that the vast majority of foraging area is protected.

Option B: Close specific areas for nesting American oystercatchers in coordination with closure of beaches for nesting colonial waterbirds and piping plovers. Important nesting areas and ones that have been closed in the past for oystercatchers are Hatteras Island: Cape Point, South Beach, Hatteras Inlet; Bodie Island: Bodie Island flats; and Ocracoke Island: areas from Ramp 59 to Ramp 72 in addition to sites mentioned in option B for colonial waterbirds. Place signs 200 meters from nesting birds to warn persons of the nesting areas. Allow pedestrians only in oystercatcher territories and limit walking corridors to 50 meters from high tide line.

Option C: Restrict all ORV and pedestrian recreation to a corridor within 50 meters of the oceanside mean high time line from sunrise to sunset at all sites used in the last 10 years by nesting American oystercatchers. This should be in effect from March 15 to August 15 for nesting birds. The corridor should be reduced or closed during the hatchling stage (assuming the pair were successful) to reduce chick mortality from ORVs. It should remain closed until August 15 or until 60 days after last hatching date if nests were monitored in the area. Areas should be closed from sunset to sunrise for all recreation activities.

Colonial Waterbirds

Option A: Close all waterbird nesting, foraging (ponds, pools) and roosting habitat that has been used in the past 10 years to all recreational activities from April 15 to September 30. Bodie Island Spit, Green Island, Hatteras Island (Cape Point, South Beach, and Hatteras Inlet), and North and South Ocracoke Island should all be posted with area closure signs with the dates posted. In the spring (April 15 to late May) and fall migration (August to September 30) periods, all vehicles and personnel (NPS, researchers) should try to avoid tips of spits and inlet areas where colonial species often stage, or court (spring migration).

Option B: Close all potential breeding, roosting, and foraging habitat to ORV traffic at all sites where any terns or black skimmers have nested in the past decade, from April 15 until September 30. Even if no colony is established early in the season, late-season nesting by least terns and skimmers is common, and renesting may occur as late as August in some years. This should include Bodie Island Spit, Green Island, Hatteras Island, including Cape Point, South Beach, and Hatteras Spit, and Ocracoke Island, including North Ocracoke (inlet area), and South Ocracoke. In these areas, pedestrians should be allowed within a narrow walking corridor at the high tide line from sunrise to sunset. At the remaining beach habitat outside these areas, the ORV corridor should allow at least 10 meters of ocean beach from the toe of the primary dune seaward to remain vehicle-free during the April 15 to September 30 period. If a colony becomes established, the ORV access may need to be modified for a section of beach to allow buffer. At each colony where nests are initiated (including nest scrapes), resource closure signs with string should be erected. For least terns, signs should be placed 100 meters from the perimeter of the colony. For other species of terns and black skimmers, the buffer distance should be 200 meters. Should a colony become established along a beach outside of a focal site, ORV access to the beach zone should be closed after young begin hatching, with the length of the beach closure depending on the dimensions of the colony.

Option C: Option C includes elements of B but, restricts all ORV and pedestrian recreation to a corridor within 50 meters of the oceanside mean high tide line from sunrise to sunset, at all sites where colonial waterbirds have been documented in the past decade from April 15 to September 30. Even if no colony is established early in the season, late-season nesting by least terns and skimmers is common, and renesting may occur as late as August in some years. This includes the seven sites referred to in option B above. The corridor should be narrowed (or eliminated at certain segments of beach) if the buffer distance from an active nesting colony intercepts the ORV corridor, or when young hatch from a colony. Any area with nesting birds should be closed from sunset to sunrise to all recreation.

Sea Turtles

Option A: Close all potential sea turtle nesting habitat to all recreational activities all day, all year, but at least from April 1 to November 15 or until the hatchlings from the last known sea turtle nest have emerged and entered the sea (whichever is later), wherever sea turtles nested, left false crawls, or otherwise attempted to nest from 1995-2005. Install a 10-meter fenced buffer zone around all nests. Establish a 10 mile per hour speed limit for essential vehicles in the intertidal zone. Essential vehicles should avoid driving in sea turtle habitat from sundown to sunrise. Sea turtle monitors may conduct their activities by ORV and should drive only in the ocean intertidal zone, but avoid the wrack line, at speeds not to exceed 10 mph. If monitoring must occur when the intertidal zone is not available, sea turtle monitors should consult with other protected species monitors prior to entering the field. For all nests more than 50 days into incubation, all vehicle tracks should be smoothed nightly between the nest and the sea. Essential vehicles should make extra effort to not drive in the vicinity of a nest from 50 days until hatch. Continue trapping of potential nest and brood predators prior to the onset of the nesting season. Avian predation can be further controlled by enforcing proper trash disposal and anti-wildlife feeding regulations. Protect nests with predator enclosures if nest predation becomes prevalent in a particular area. Enact turtle-friendly lighting regulations and conduct outreach with adjacent communities toward the aim of enacting lighting regulations there. Relocate nests imperiled by impending erosion or flooding. Assist stranded turtles according to the guidelines in the Handbook for Sea Turtle Volunteers in North Carolina. Outside of the restricted period detailed in option A, closures may be lifted unless doing so would conflict with protocols for other protected species in a particular area.

Option B: Close all potential sea turtle nesting habitat to ORV traffic from sunset to sunrise from April 1 to November 15 as described under option A. Pedestrians may be allowed in sea turtle habitat at night, but pets should be prohibited at night (and during the day, at the option of Cape Hatteras National Seashore). Pedestrians should be prohibited from sea turtle habitat at night in any area where nighttime closure is recommended in the protocols of other protected species. Prohibit wildlife feeding and trash disposal in sea turtle habitat, 24 hours a day, year-round. If pedestrians are allowed on the beach at night, they should first be required to participate in an educational program on proper conduct in the habitat of protected species.

Close segments of sea turtle habitat to recreation 24 hours a day from April 1 to November 15. Prohibit artificial light sources, including electric lights, campfires, and fireworks from all sea turtle nesting habitat April 1 to November 15 with the following exceptions: Pedestrian recreationists in sea turtle habitat at night may use light sources with red filters; Essential vehicles should use the bare minimum of lighting necessary for the performance of their duties. Throughout Cape Hatteras National Seashore, narrow the current 50-meter ORV corridor such that a zone of ocean backshore at least 10 meters wide and running the length of the site is free of ORV traffic. This zone should be adjacent to the toe of the primary dune wherever a primary dune exists. A 50-meter fenced buffer zone should be placed around each nest in any place where recreation occurs. Random spot checks should be made at these closures. If more than three violations of the protected area around a particular nest are observed, the buffer distance should be expanded to 100 meters, then to 200 meters if necessary. Where recreation does not occur, a 10-meter buffer zone should be used to prevent harm by essential vehicles. For all nests more than 50 days into incubation, in areas where recreation occurs expand the buffer zone to 200 meters and smooth all ORV tracks between the nest and the sea each evening. This option

includes all the management recommendations under option A starting with and following the 10 mile per hour speed limit provision.

Option C: Require all recreationists (including ORV operators and passengers) that wish to enter sea turtle habitat at night to first participate in an educational program. Prohibit pets from entering sea turtle habitat at night (and during the day, at the option of Cape Hatteras National Seashore), and prohibit trash disposal and wildlife feeding 24 hours a day, year-round. For all nests more than 50 days into incubation, close the beach for 1000 meters on either side of the nest to ORV traffic. This will reduce the risk that headlights will affect emerging hatchlings. Close segments of sea turtle habitat to recreation 24 hours a day from April 1 to November 15. Prohibit artificial light sources, including electric lights, campfires, and fireworks from all sea turtle nesting habitat from April 1 to November 15, with the following exceptions: Pedestrian recreationists in sea turtle habitat at night may use light sources with red filters. ORVs must turn off their headlights or place red filters over their headlights whenever they are parked. Essential vehicles should use the bare minimum of lighting necessary for the performance of their duties. This option also includes all buffer requirements listed under option B above.

Seabeach Amaranth

Option A: Completely close all potential seabeach amaranth habitat to all recreational activities year round. During August, efforts should be directed to carefully monitor seabeach amaranth plants at all sites where it has been noted in the past decade or in any new suitable habitats. Essential vehicles (law enforcement, NPS personnel, and approved researchers) should only enter restricted areas subject to the guidelines in the Essential Vehicles section of Appendix G of the Revised Recovery Plan for the piping plover. Vehicles should not exceed 10 mph. Locate and eliminate all individuals of beach vitex (*Vitex rotundifolia*), an invasive beach plant that is a threat to coastal dune habitats.

Option B: Completely close all potential seabeach amaranth habitat to ORV traffic and boat landings from April 15 until November 30. This could include areas on Bodie Island Spit, Green Island, Hatteras Island, including Cape Point, South Beach, and Hatteras Spit, and Ocracoke Island, including North Ocracoke (inlet area), and South Ocracoke. At the seven sites mentioned, pedestrians should be allowed within a 50 m corridor (ca. 150 ft) from the high tide line landward, from sunrise to sunset. At areas of CAHA outside of the seven focal areas, monitoring for *A. pumilis* should be conducted during August (see Monitoring section below). Where plants are found, resource closures (10 m diameter) with signs should be erected to protect each plant.

Interpretive signs about the trampling susceptibility of *A. pumilis* should be placed at all ORV entry points to CAHA, at all boat ramps and marinas, and at Park kiosks.

Option C: Restrict all ORV and pedestrian recreation to a corridor within 50 m (ca. 150 ft) of the oceanside mean high tide line from sunrise to sunset, at all potential *A. pumilis* habitat (as defined by historic and extant populations within the last 10 years) from April 15 to November 30. This includes the seven sites referred to in Option B # 1 above. In August, monitor the areas for *A. pumilis* plants as prescribed below. Vehicle speed should not exceed 10 mph.

The full text of the protocols is currently available on the Interim Protected Species Management Strategy Web site at

<http://parkplanning.nps.gov/document.cfm?parkID=358&projectId=13331&documentID=12970>