

## Trail Information

### Town Marsh Nature Trails

- Two nature trails can be reached at the northwest beach on Town Marsh. Both trails pass through man-made upland as well as natural marsh habitats.
- Trail lengths and difficulty
  - Outer Loop Trail (blue)** - 1.1 mile, easy, trail only accessible at low tide and may be muddy.
  - Inner Loop Trail (green)** - 0.9 mile, easy.
- Bird Shoal, a ~1.5 mile stretch of beach, is a short walk from the southern-most point of both trails.

### Carrot Island Boardwalk

- The boardwalk near the eastern end of the site can be reached by boat. It is directly across from the N.C. Wildlife Resources Commission boating access area at 2370 Lennoxville Road, Beaufort.
- The viewing platform overlooks North River Channel, providing scenic views of Middle Marshes and Shackelford Banks. This is an excellent place for birding and learning about the estuary environment through interpretive signs.

## Rachel Carson Reserve

During the 1940s, Rachel Carson did research at what is now the reserve site named in her honor. The reserve includes Town Marsh, Bird Shoal, Carrot Island, Horse Island and Middle Marshes.

### Creation of the Reserve

In 1977, Beaufort residents, civic organizations and environmental groups worked together to prevent the development of a resort on what is now the Rachel Carson Reserve. The N.C. Chapter of The Nature Conservancy purchased 474 acres of Carrot Island that year. The State of North Carolina acquired Town Marsh, Carrot Island, Horse Island and Bird Shoal in 1985, with the addition of Middle Marshes in 1989.

### Purpose of the Reserve

This natural area is one of 10 sites that make up the North Carolina Coastal Reserve & National Estuarine Research Reserve. Preservation of the Rachel Carson Reserve allows this coastal ecosystem to be available as a natural outdoor laboratory where scientists, students and the general public can learn about coastal processes, functions and influences that shape and sustain the coastal area. Traditional recreational uses are allowed as long as they do not disturb the environment or organisms or interfere with research and educational activities.

## Rules and Tips for Visitors

- The trails and boardwalk are open year-round.
- Do not remove or disturb plants or wildlife and do not feed the wildlife or horses.
- To protect natural features, please stay on designated trails and leave nothing behind except your footprints.
- Camping, fires and littering are prohibited.
- Leash and clean up after your pets. It is the law and unrestrained dogs are susceptible to potentially fatal horse kicks.
- While observing feral horses, keep a safe distance away (at least 50 feet).
- Canoe and kayak launches are at designated areas along Front Street.
- There are no facilities. Plan ahead and be prepared for changing conditions on this exposed and remote site.

## How To Find Us

The Rachel Carson Reserve is a complex of small islands just south of the historic town of Beaufort in Carteret County, N.C. It is only reached by private boat or passenger ferry. Motor boats can be launched from the N.C. Wildlife Resources Commission boating access area located at 2370 Lennoxville Road in Beaufort. Ferry services are located along the Beaufort waterfront on Front Street.



### North Carolina Coastal Reserve & National Estuarine Research Reserve

101 Pivers Island Road  
Beaufort, NC 28516  
(252) 838-0883  
[www.nccoastalreserve.net](http://www.nccoastalreserve.net)

The Rachel Carson Reserve is managed through a federal-state partnership between NOAA and the N.C. Division of Coastal Management to protect the islands' ecosystems for research, education and compatible recreational uses. This site is also a dedicated state nature preserve.

The North Carolina Coastal Reserve & National Estuarine Research Reserve is part of the N.C. Division of Coastal Management, a division of the N.C. Department of Environment and Natural Resources.

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## Rachel Carson Reserve Beaufort, NC



# Rachel Carson Reserve

## Feral Horses

- A local physician introduced horses to this site in the late 1940s. Years later, the animals were allowed to roam the entire site, eventually becoming feral. The Rachel Carson Reserve is now home to a small herd (less than 35) of feral horses that are managed by the State of North Carolina.
- Studies conducted on the site show that feral horses can have a significant negative impact on island vegetation. To preserve the natural environment and protect herd health from the detriments of overpopulation, select female horses receive a birth control vaccine annually.
- Feral horses can be unpredictable and dangerous. In rare instances, feral horses have been known to bite or kick humans and dogs when threatened. Keep dogs leashed. Exercise extreme caution when in the area of fighting stallions or a mare protecting her foal. Maintain a distance of **at least** 50 feet from the horses at all times.

## Salt Marsh

### *Town Marsh, Carrot Island and Middle Marshes*

- Lunar tides flood the intertidal salt marshes twice each day. Supratidal marshes remain above water except during occasional spring tides and storm tides.
- Saltmarsh cordgrass dominates the intertidal marsh. It is adapted to dramatic changes in salinity and temperature. This abundant, tall plant regulates salt concentrations in its cells by releasing excesses through pores on its blades.
- Plants found in the supratidal marsh include black needlerush, sea oxeye and seaside aster.
- Animals of the intertidal marsh are either permanent residents or species from nearby habitats that forage in the marsh. Permanent residents include parchment tube worm, marshperiwinkle, ribbed mussel, oyster, mud snail, fiddler crab and several species of whelk.

## Tidal Flats

### *Between Town Marsh and Bird Shoal*

- Expansive and seemingly barren mud flats are easy to see at low tide. Decaying marsh grass, or detritus, is deposited with each tide. These nutrients support a food web of crabs, fish, snails and mussels.

- Wading birds and shorebirds come to the exposed mud flats to feed during low tide. The sediments sometimes have a "rotten egg" smell due to the presence of hydrogen sulfide gas.

## Dredge Spoil Upland Habitat

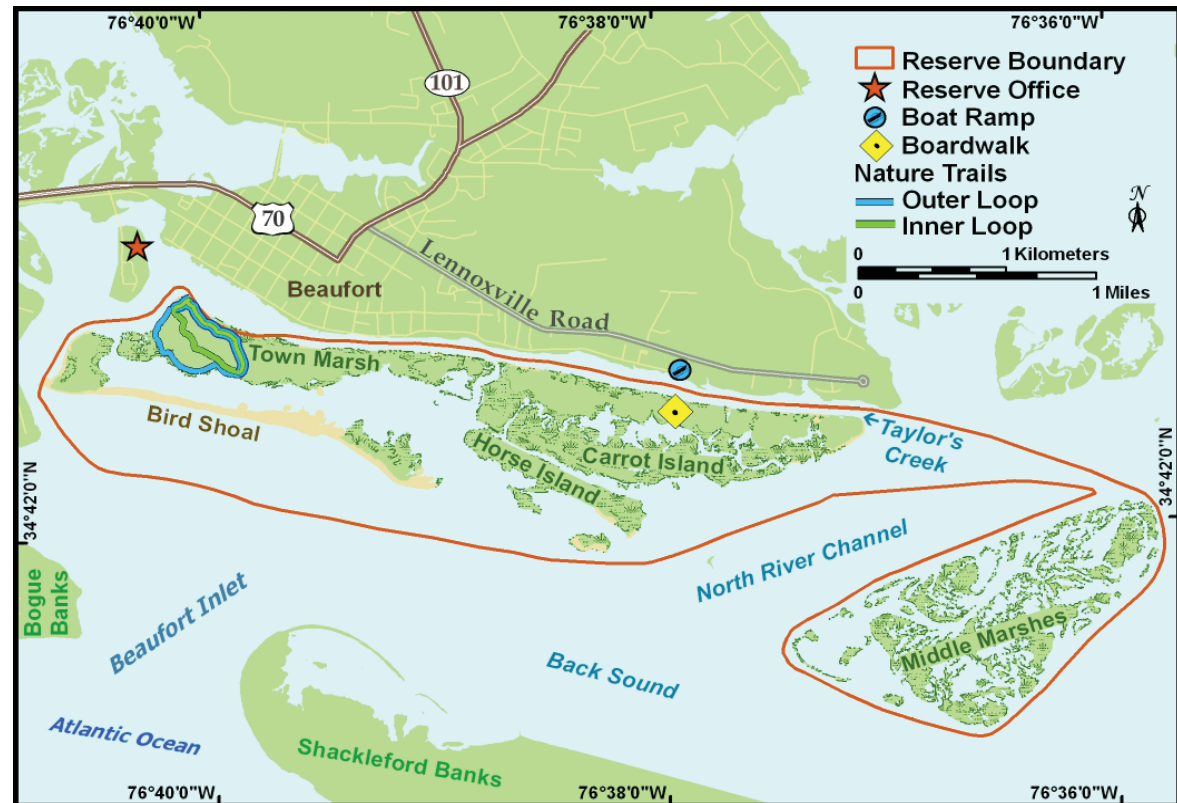
### *Carrot Island and Town Marsh*

- The U.S. Army Corps of Engineers holds a permanent easement for depositing dredge materials on the site to maintain channel depth in the adjacent creek.
- Deposited sediments are colonized by fast growing plants that provide stabilization. Initial, or primary plant species like pennywort, panic grass and morning glory give way to a progression of herb and shrub, shrub thicket and finally maritime forest habitats. The progression can take more than 45 years.
- Ground nesting bird species typically found in naturally occurring sandy areas also use these open grounds. Common nighthawk, killdeer and Wilson's plover are among the species occasionally found nesting here.

## Maritime Shrub Thicket

### *Town Marsh, Carrot Island and Middle Marshes*

- This habitat consists of a dense mixture of vines, shrubs and small trees. Depending on the level of exposure to sea breezes, the seaward edge of the thicket may be dramatically angled by the salt-laden air.
- Plants that often dominate the thicket include live oak, yaupon, wax myrtle, red cedar and silverling. Growing over and through the shrubs and trees are vines such as catbrier, Virginia creeper, pepper vine and poison ivy.



- Birds that use the thickets for nesting include painted bunting, catbird, cardinal, Carolina wren, egrets and herons.

## Mammals

- Feral horses, river otter, gray and red fox, Norway rat, raccoon, marsh rabbit and cottontail rabbit inhabit the islands. The Atlantic bottlenose dolphin swims in the deeper waters around the site.

## Reptiles

- The Atlantic loggerhead sea turtle is among approximately 10 reptile species that have been identified on or around the complex of islands.
- The diamondback terrapin is found in the marshes and creeks. This reclusive creature has a distinctive shell with diamond-shaped scales. It feeds primarily on fish, crustaceans, worms and mollusks. Terrapins can live 25 years or more.

## Birds

- More than 200 species of birds have been observed at the site, which is located within the Atlantic Flyway. Many of these birds are rare or decreasing in number.
- The site is a feeding area for Wilson's plover in summer and piping plover in winter. Middle Marshes has breeding colonies of egret, heron and American oystercatcher.