

Mattamuskeet

National Wildlife Refuge



Mixed flock at Mattamuskeet NWR, Allie Stewart, USFWS

Mattamuskeet National Wildlife Refuge is located on the Albemarle-Pamlico Peninsula in Hyde County, North Carolina. Established in 1934, the 50,180-acre Refuge consists of open water, marsh, forest and croplands. The centerpiece of the Refuge is the shallow Lake Mattamuskeet. At 40,100 acres, it is North Carolina's largest natural lake.

The Refuge's strategic location along the Atlantic Flyway makes it a vitally important site for migrating and wintering waterfowl. Over the past 35 years, up to 80 percent of the Northern Pintail and up to 30 percent of Green-wing Teal that annually migrate along the Flyway utilize Mattamuskeet. In total, the Refuge attracts more than 200,000 ducks, geese and swans from November through February.

About 58,000 visitors use the Refuge annually to hunt, fish, and observe and photograph wildlife.

Refuge History

In the early 20th century, farmers and developers attempted to drain Lake Mattamuskeet, building the world's largest pumping plant at the time. The lake was drained for certain periods to convert the lake bottom to farmland. Eventually, the effort was abandoned as impractical and too expensive.

After the U.S. Government acquired the land in 1934 to establish the Refuge, the Civilian Conservation Corps converted the former pumping plant into a hunting lodge that was operated until 1974. The Mattamuskeet Lodge was placed on the National Register of Historic Places in 1980, and it was transferred to the North Carolina Wildlife Resources Commission in 2007.

Habitat and Wildlife

A system of 14 manmade wetland impoundments totaling nearly 2,500 acres surround the south, east and west sides of the lake, providing feeding and resting areas for wintering waterfowl and many other species of migratory birds as well as resident wildlife. The impoundments are managed by pumps and water control structures. Bald cypress trees, mixed hardwood forest, grassland, cropland and scrub-shrub habitat contribute to the diversity of habitat on the Refuge.

In addition to waterfowl, the Refuge is home to a diverse population of wildlife, including deer, bobcat, gray fox, black bear, the endangered red wolf, largemouth bass, crappie, blue crab, blueback herring and American eel. The rich diversity of habitats provides a haven for amphibians and reptiles such as bullfrogs, southern

leopard frogs, spring peepers, snapping turtles, yellow-bellied sliders, eastern fence lizards and 31 species of snakes. There are also more than 240 resident and migratory bird species including the Osprey and Bald Eagle.

Lake Mattamuskeet is 18 miles long and 5 to 6 miles wide, with an average depth of 2 feet. Swans, diving ducks and some puddle ducks eat the abundant beds of submerged aquatic vegetation that grows in the lake. Lake levels fluctuate by rainfall, wind tides, and evaporation during summer months.

Frequently Asked Questions

Does the Refuge manage lake levels?

The Refuge does not actively manage water levels in the lake. The primary purpose of the Refuge is to protect and conserve migratory birds and other wildlife through the protection of wetlands. The best way to achieve that end is to allow the lake level to rise and lower naturally. Specifically, flapgates facilitate the flow of water from the lake



Mattamuskeet NWR is in a strategic location along the Atlantic Flyway, a bird migration route.



Great Blue Heron, USFWS

to Pamlico Sound when lake levels are higher than sound levels. When the lake falls below the levels of the sound, the gates close to prevent saltwater from entering the lake. Lake levels tend to be higher during the rainy season (winter) and lower during the dry season (summer). The lower lake levels in the summer spur the growth of emergent and submergent wetland plants that are used by migrating and wintering waterfowl.

The Refuge also periodically dredges portions of the four canals connecting the lake to the sound. Maintaining the original depth of the canals improves their flushing capacity, which keeps the lake healthy by removing excess nutrients and sediments and allows the canals to move more water during storm events to prevent flooding. In addition, fish utilize the deeper water in the canals when the lake temperature rises.



A Green-winged Teal with four American Coots, Jeff Lewis.

Is the salinity in the lake increasing?

No, not year to year. However, due to evaporation, salinity increases slightly during the summer months mainly around the mouths of the major outlet canals.

Are there fewer largemouth bass in the lake today than previous years?

Most likely. Based on survey results, it appears there has been a gradual decline in largemouth bass populations in recent years. Possible causes include a lack of fish stocking, degraded water quality, decreased spawning success and high predation rates. No fish have been stocked in the lake since 2007. The Service is working with the North Carolina Wildlife Resources Commission's fisheries staff to study the health and well-being of the largemouth bass population and other popular game species.

Why can anglers catch both freshwater and saltwater species in the lake?

A series of manmade canals connect the lake to the sound. Species such as white perch, flounder, spot, croaker and blue crab have a wide salinity tolerance and can live in the fresh to low salinity waters of the lake. Anglers have been catching both freshwater and saltwater species dating back to at least the 1940s.

Why is Phragmites growing in the lake?

Phragmites (*Phragmites australis*), is a non-native, invasive plant that is found in coastal areas throughout the eastern U.S. A common reed, it has been found on the Refuge since the 1960s. The Refuge actively controls the reed to promote native wetland plants in the wetland impoundments using chemical and mechanical methods. Plans to expand management efforts to include the lakeshore will proceed when more funding becomes available.

Is the lake's aquatic community healthy?

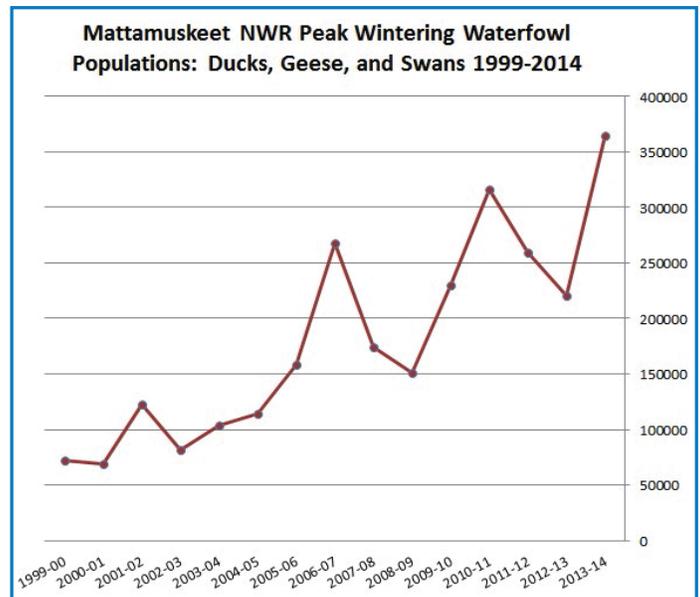
Our research and monitoring results have found the aquatic vegetation on the east side of Highway 94 to be healthy and vibrant, able to support large concentrations of waterfowl, other birds, fish and blue crab. The water on the west side of Highway 94 has



Bobcat kitten, Allie Stewart, USFWS

much less submerged aquatic vegetation and has experienced algal blooms. The Refuge is investigating the cause of the diminished water quality.

For more information, please go to www.fws.gov/mattamuskeet or contact Pete Campbell, Refuge Manager, at pete_campbell@fws.gov or 252/926 4021.



Since the winter of 1999-2000, the number of wintering waterfowl at Mattamuskeet NWR has more than tripled.