

U.S. Fish & Wildlife Service

# Pocosin Lakes

*National Wildlife  
Refuge*





*"Wherever you meet this sign, respect it. It means that the land behind the sign has been dedicated by the American people to preserving, for themselves and their children, as much of our native wildlife as can be retained along with modern civilization."*

Boundary sign created by J.N. "Ding" Darling

## Introduction

In 1903, President Theodore Roosevelt established the National Wildlife Refuge System, by creating Pelican Island National Wildlife Refuge in Sebastian, Florida. There are now more than 540 National Wildlife Refuges. In 1989, through the donation of 93,000 acres to the U.S. Fish and Wildlife Service from The Conservation Fund in conjunction with the Richard Mellon Foundation, Pocosin Lakes National Wildlife Refuge (NWR) became part of this nationwide network of lands.



*Quote to the left by Rachel Carson, author of "Silent Spring," scientist and chief editor for the U.S. Fish and Wildlife Service from 1932- 1952*

The refuge is located in northeastern North Carolina, and stretches through Hyde, Tyrrell, and Washington Counties. The refuge includes the Pungo Unit, which was originally established in 1963 as Pungo National Wildlife Refuge.

Today, the refuge encompasses 110,000 acres which are used to provide habitat for migratory birds and waterfowl, protect and enhance the pocosin habitat, protect and enhance habitat for those species which are classified as endangered, threatened or of special concern, and provide opportunities for wildlife interpretation, outdoor recreation and environmental education.

## What is a Pocosin?

The term Pocosin is an Algonquian Indian word meaning “swamp on a hill.” Though there are no obvious hills, the land is slightly elevated compared to the surrounding landscape. Pocosin wetlands are extremely flat and their natural drainage is poor. The top layer of soil is comprised mostly of organic material, more commonly referred to as peat, varying in thickness throughout the refuge. This organic matter is made up of leaves, sticks and other organic debris that was once submerged in water and decomposed slowly. Once lost, it takes over 100 years to create one inch of peat soil. The pocosin habitat is unique in that it is a fire tolerant shrub/scrub complex with a pond pine over story growing on organic soils with depths up to 12 feet. A large portion of the land that is now refuge had been ditched and drained for farming and mining of the peat soils by previous owners.

## Refuge Management

The refuge staff manages its resources through protection of lands from wildfires, water management, cooperative farming, law enforcement, restoration of native habitat, removal of invasive species, public hunting, environmental education/interpretation, and partnerships with other agencies.

### *Wildfire Protection and Suppression*

A large portion of the refuge was ditched and drained, then cleared to support farming. The altered state of the soils make the lands more susceptible to disastrous wildfires during periods of hot, dry weather. The refuge staff and its cooperators work quickly to suppress wildfires to prevent them from growing into large, catastrophic fires like ones seen in past years. The fire management program has also enhances habitat through prescribed burning of selected areas.



*Habitat management through prescribed burning*

### *Prescribed Burning*

While fire during time of drought can damage the organic soils of the pocosin, fire is a very useful tool for habitat management when used under appropriate weather conditions. Fire will release nutrients back into the soil, remove undesirable vegetation, and stimulate growth of early successional plants that are eaten by a variety of wildlife. It also serves as a tool to prevent large wildfires from occurring. Once a prescribed burn has occurred, the fuels from the land will have burned and will not burn again, or will not burn as intensively compared to lands that were not burned.



*AWC stand*

### *Restoration of Native Habitat*

In an effort to restore a native habitat type, a restoration project of the Atlantic white cedar (AWC), commonly known as

Juniper is under way on the refuge. The AWC has been classified by The Nature Conservancy as a globally threatened ecosystem. Several AWC stands have been planted throughout the refuge. One of the stands is being restored through a partnership with the local community.



### *Water Management*

Water control is a key tool for managing the pocosin habitat and other habitats used by migratory birds and waterfowl. Lakes, marshes, moist soil areas, and open water provide a resting area as well as a feeding area for waterfowl. Diving ducks, such as the canvasback can feed in deep waters. Dabbling ducks, such as the wood duck can only feed in 12 inches (or less) of water. Another important aspect of water management on the refuge is the prevention of flooding of adjacent private lands and habitats.

### **Water Bodies Found on the Refuge**

Pocosin Lakes NWR owns or has lands surrounding five major water bodies: the Scuppernong River, Pungo Lake, New Lake, the northwest and southwest forks of Alligator River, and Lake Phelps. These water bodies interspersed in the vast pocosin landscape led to the refuge's name – Pocosin Lakes.

### *Scuppernong River*

The Scuppernong River runs along several tracts of refuge land providing habitat for wildlife, recreational opportunities, and the water resource for forested wetland habitat.



### *Pungo Lake*

Believed to have been formed by a ground fire which later filled up with rain water, the 2,800 acre Pungo Lake provides habitat to more than

*Tundra swans on Pungo Lake*

80,000 snow geese and tundra swans. These birds arrive for the late fall and winter months and use the area as a wintering ground in between their migrations from and to the Arctic. Waterfowl use the lake as a resting and/or roosting site, leaving the lake during the day to feed in



*School group on  
Scuppernong  
River  
Interpretive  
Boardwalk  
behind the  
Walter B. Jones,  
Sr. Center for the  
Sounds*

fields and moist soil units and returning to the lake at dusk. The black color of the water in the lake is caused by tannins and particles from peat soil and native vegetation. Since the dark water does not allow light penetration, there is no submerged aquatic vegetation found in Pungo Lake. Pungo Lake is also used as a site to catch and band waterfowl. The banding program is used to gather information and data to manage the birds throughout the flyway.

#### *New Lake*

New Lake is approximately 4,900 acres in size, 4,200 of which are owned by the refuge. Access to New Lake is difficult and hunting is prohibited. New Lake is also a black water lake used as a roosting/resting area by migratory waterfowl.

#### *Northwest and Southwest Forks of Alligator River*

The northwest and southwest forks are some of the headwaters of the Alligator River. They drain most of the eastern portion of Pocosin Lakes NWR.

#### *Lake Phelps*

Approximately 16,600 acres in size, Lake Phelps is owned by Pettigrew State Park. The refuge owns approximately four miles of shoreline on the south side of the lake. Lake Phelps offers great opportunities for fishing, as well as a wintering site for thousands of waterfowl.

## What Can You Expect to See on the Refuge?

Throughout the refuges 110,000 acres, more than 300 different species depend on the habitat that is provided. There is a diverse range of fish and wildlife that inhabit the refuge. Everything from fish, to amphibians, reptiles, mammals, and birds all make the refuge their home throughout the various seasons.

### *Fish*

Fishing is allowed on the waters of the Pungo Unit and New Lake from March 1 to October 31. All other waters are open year round. Fishing in canals is popular during spring and summer months. The primary species caught include black fish, black crappie, several species of sunfish, and catfish. Though fishing on New Lake is permitted, access is difficult.

*Top to bottom:  
green tree frog;  
rainbow snake;  
yellow-bellied  
sliders*



### *Amphibians*

This class Amphibia spend part of their lives in water and part on land. Of the more than 36 species of amphibians on the refuge, a few are the eastern newt, spotted salamander, and dwarf mudpuppy. Toads and frogs, such as the eastern spadefoot toad, oak toad, green tree frog, bullfrog, or spring peeper may also be observed.



### *Reptiles*

The class Reptilia includes turtles, lizards, snakes, and alligators. Reptiles are air-breathers and have a dry outer covering of scales or scutes which provides protection from dehydration. Of the more than 40 species of reptiles on the



refuge, a few are the American alligator (North Carolina is its most northern range), snapping turtle, yellowbelly slider, slender glass lizard, cottonmouth snake, copperhead snake, and the pigmy rattlesnake.

*Black bear  
with cubs*



#### *Mammals*

Pocosin Lakes NWR is home to more than 40 species of mammals. The refuge supports a large population of black bears and white-tailed deer. Other mammals include the endangered red wolf, raccoon, red fox, gray squirrel, cotton-tail rabbit, marsh rabbit, bobcat, gray fox, eastern mole, big brown bat, and the coyotes.

#### *Birds*

The forests of the refuge become painted with a variety of beautiful songs and colors, as more than 200 species of birds make their appearances at the refuge throughout the year. Some of the birds are migratory such as the tundra swan, snow goose, hooded merganser, ruddy duck, least sandpiper, and a variety of warblers and sparrows. Many other species make the refuge their year round residence, including the yellowthroat, northern towhee, eastern meadowlark, northern cardinal, northern mockingbird, eastern screech owl, and the endangered red-cockaded woodpecker.



## What are We Doing for Endangered Species?

*Above: flock of red-winged blackbirds;  
below: red wolf release*

In 1973, Congress passed the Endangered Species Act. The purposes of this Act are to conserve the ecosystems upon which endangered and threatened species depend and to provide programs to protect such species. According to the Act, endangered and threatened species are of aesthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people. The U.S. Fish and Wildlife Service is instrumental in providing protection and recovery efforts for endangered and threatened species. Two endangered species found on Pocosin Lakes NWR are the red wolf and the red-cockaded woodpecker.



The refuge has been working on re-introducing red wolves (*Canis rufus*) to the wild in efforts to prevent extinction of the species and to restore the habitat in which

red wolves once occurred. On the brink of extinction, the eastern North Carolina red wolf population had been eliminated from the wild and the total population was believed to be less than 100 individuals. Through the cooperation of many agencies, private organizations and local citizens, the red wolf numbers are slowly increasing and there are now

close to 100 animals in their native habitat in eastern North Carolina.

The red-cockaded woodpecker makes its home in mature pine forests. Long-leaf pines (*Pinus palustris*) are most commonly preferred, but other species of southern pine are also acceptable. While other woodpeckers bore out cavities in dead trees where the wood is rotten and soft, the red-cockaded woodpecker is the only one which excavates cavities exclusively in living pine trees. Cavities generally take from one to three years to excavate. The red-cockaded woodpecker plays a vital role in the intricate web of life of the southern pine forests. Refuge management for this woodpecker includes protecting nest trees such as Pond pine, inventory of the population and providing mature trees for future nests.

*Red-cockaded woodpecker*



## **Pocosin Lakes NWR Partners**

Many of the ongoing projects and programs at the refuge are championed by our partners. The refuge is one of several organizations concerned about the environment in eastern North Carolina. Pocosin Lakes NWR relies on the support and coordination of several key groups in order to succeed.

### *Partnership for the Sounds*

The Partnership for the Sounds (PFS) promotes ecotourism in the Albemarle-Pamlico Region by appealing to those who enjoy and appreciate the sustainable use of an area's natural, cultural, and historic resources. The PFS was instrumental in obtaining support for the construction of the Walter B. Jones, Sr., Center for the Sounds.

### *Pocosin Arts*

The mission of Pocosin Arts is to expand understanding of the relationship between people and places, culture and environment through the exhibition, production

and teaching of the arts of the Pocosin region. Founded by Executive Director, Feather Phillips, Pocosin Arts has been a crucial link between the worlds of science, art and culture.

*Red Wolf Coalition*

The Red Wolf Coalition advocates for the long-term survival of red wolf populations by teaching about the red wolf and by fostering public involvement in red wolf conservation. The Coalition works very closely with the U.S. Fish and Wildlife Service to stay apprised of events and needs within the red wolf program.

*Pettigrew State Park*

Pettigrew State Park, which is one of 30 state parks, is located at Lake Phelps. The park and refuge staff work together on paralleling activities, including prescribed burns, water control management, environmental education and outreach, wildlife recovery and management, and providing recreational opportunities for the public. With more than 1,200 acres of land and 16,600 acres of water, Pettigrew State Park is an ideal blend of nature, history and recreation. Explore Lake Phelps and examine dugout canoes as ancient as the pyramids. Or cast your line into crystal-clear waters where largemouth bass reign. Pettigrew exhibits its history among picturesque natural surroundings. Majestic cypress trees tower above as the branches of tulip poplar and swamp chestnut oak provide perches for songbirds. Wildflowers decorate the landscape with a splash of color.

**Visitor Opportunities**

The U.S. Fish and Wildlife Service has established its "Big 6" visitor use activities which are hunting, fishing wildlife observation, wildlife photography, environmental education, and interpretation. These



six activities are given priority consideration within the National Wildlife Refuge System, but all public uses must be compatible with the wildlife mission of a refuge to be allowed. Pocosin Lakes NWR offers all six uses, but some are restricted to designated areas.



*Hunting*  
Hunting is a popular activity on the refuge and is allowed in specific areas.

*Above: white-tailed deer;  
below: fishing on the Scuppernong River*

White-tailed deer is one of the more popular species hunted, yet small game such as rabbits, squirrels, and waterfowl are hunted as well. All State regulations apply and a permit is required in order to participate in any hunt. Hunters need to obtain a current hunting regulations brochure from the refuge office in Columbia, North Carolina. The brochure becomes your permit once signed, lists federal hunting regulations, and depicts which areas are open to hunting.

### *Fishing*

Fishing is a popular activity among both lone anglers and families. As with hunting, State regulations apply. Visitors are usually most successful fishing in the canals around Pungo Lake. More than 20 species of fish exist on the refuge, including flier, bullhead, and channel catfish. For specific regulations, please check the Hunting and Fishing Regulations brochure.



*Observation on Pungo Lake*

*Wildlife Observation*  
Early mornings and late afternoons are the best times to observe wildlife. Bear and deer can often be observed along refuge roads or

feeding in farm fields in the Pungo Unit. Large concentrations of waterfowl can be viewed in the late fall through the winter in impoundments (a manmade pond), farm fields, or Pungo Lake. The best way to observe wildlife is via a vehicle or bicycle. Not all roads are open to vehicular traffic.

#### *Wildlife Photography*

Photography opportunities are endless at Pocosin Lakes NWR: from shooting photos of a black bear with her cubs as they forage and feed on sweet cane along the roadside, to tens of thousands of migrating waterfowl, to a leaping white-tailed deer as it darts into the forest, to a snake that has slithered out of a canal to sun itself on the road next to a canal, to a sunset over the Scuppernong River from our boardwalk. With a little patience and a spare roll of film, any visitor can discover limitless possibilities to capture the beauty of the refuge.

#### *Environmental Education*

Since the refuge is located within three counties, there are many diverse opportunities for a variety of environmental education programs. In addition to activities held in the refuges' indoor and outdoor classrooms, there is a national wildlife celebration almost monthly. Local schools are encouraged to discover their neighboring refuge by participating in a variety of activities. If there are any specific needs you

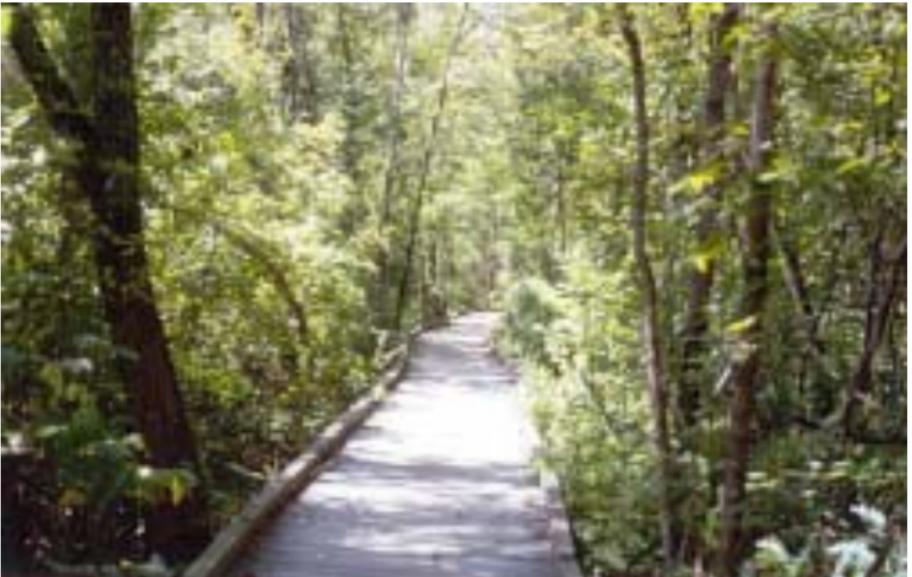


may have, please contact the refuge office to arrange a tour or to host an environmental activity.

*Interpretation*  
The Walter B. Jones, Sr.

*Refuge staff sharing conservation vision with school children.*

Center for the Sounds located at refuge headquarters in Columbia, NC is a great way to see and learn about the wildlife that exists on the refuge. The Center gives visitors the opportunity to examine displays of some of the wildlife they otherwise would be unlikely to see on their own.



*Scuppernon River Interpretive Boardwalk*

The Scuppernon River Interpretive Boardwalk offers a wonderful opportunity to explore the wetlands along the Scuppernon River. Strolling along the boardwalk is a great and accessible way to see a variety of small animals and birds. Interpretive signs placed throughout the self-guided walk explain the wildlife found in this type of habitat and encourage visitors to look, listen and learn. The boardwalk was constructed by the Tyrrell County Youth Corps in 1995. The project was sponsored by the Eckerd Family Foundation and funded by the Partnership for the Sounds.



## How You Can Help

*Volunteer Opportunities*  
The volunteer program provides individuals who want to give back to their communities, land stewards, retirees, and passionate people who enjoy the outdoors, hands-on opportunities to engage in wildlife conservation and be involved on lands that belong to them.



*Intern Program*  
The refuge relies

*Top: refuge volunteer conducting outreach and environmental education at annual Farm City Festival; below: interns work with refuge staff on black bear study.*

heavily on its intern program for conducting research and many of the on-the-ground projects. Available year-round, internships will typically last 12-16 weeks.

*Youth Conservation Corps (YCC)*  
The purpose of the Youth Conservation Corps program is to further the development and maintenance of the natural resources of the United States by America's youth, and in so doing to prepare them for the ultimate responsibility of maintaining and managing these resources for the American people. The youth are provided an opportunity to increase their self-esteem and learn self-discipline.

## Refuge Policies

The refuge is open from 30 minutes before legal sunrise until 30 minutes after legal sunset except for certain hunting activities. Pungo Lake, New Lake, Duck Pen Road, the Pungo



*YCC student teaches a visitor about wildlife on the refuge.*

Lake banding site, Jones Dike, Shepard's Dike, the Riders Creek banding site, and the Dunbar Road banding site are closed to all public entry from November 1 through the last day of February annually. The Pungo Unit is closed to all public entry,

except for permitted hunters, during the special, two-day Pungo Deer Gun Hunts in late September and October.

Refuge roads can become hazardous if driven on when wet. When rainy conditions occur, the roads become impassable and are closed to vehicles until they dry out. There are no towing services available. When in doubt, do not attempt to drive on wet refuge roads. You may need to consider parking and walking in to access the refuge.

## **How to Get Here**

There are two main sites for visiting the refuge. One is our headquarters and Walter B. Jones, Sr. Center for the Sounds, along with the Scuppernong River Interpretive Boardwalk, located immediately south of Route 64 in Columbia. Following Route 94 South, many recreation opportunities exist west of Route 94.

The other main access points to the refuge are located south of Shore Drive in Creswell, and east of Routes 45 and 99.

The most up-to-date map can be found at [fws.gov/pocosin-lakes/map](https://www.fws.gov/pocosin-lakes/map)

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