

U.S. Fish & Wildlife Service

Florida Panther

National Wildlife Refuge





Florida Panther National Wildlife Refuge is one of over 540 National Wildlife Refuges administered by the U.S. Fish and Wildlife Service. The mission of the National Wildlife Refuge System is to administer a national network of lands for the conservation, management, and where appropriate, the restoration of fish, wildlife, and plant resources and their habitats with the United States for the benefit of present and future generations of Americans.

Cover: Florida Panther, Puma concolor coryi; left: Clamshell orchid, Prosthechia cochleata, is a rare epiphytic orchid that is found in several remote swamps on the Refuge; right: Cypress forests are a dominant habitat type that is flooded for a majority of the year.

The National Wildlife Refuge System

For over a century, the National Wildlife Refuge System has been the hidden jewel among our nation's public lands. Nearly a century after Theodore Roosevelt's 1903 Executive Order established Pelican Island Refuge in Florida, the System has grown to nearly 100 million acres and more than 540 refuges and 3,000 waterfowl production areas in 50 states and several U.S. territories. The system provides sustenance for migrating waterfowl and songbirds, open spaces for elk and pronghorn antelope, and protection for endangered species. This system of lands is unmatched anywhere in the world.

Introduction

Florida Panther National Wildlife Refuge was established in June



1989 under the authority of the Endangered Species Act to protect the Florida panther and its habitat. The refuge consists of 26,400 acres and is located within the heart of the Big Cypress Basin in southwest Florida. The refuge encompasses the northern origin of the Fakahatchee Strand, the largest cypress strand in the Big Cypress swamp. Florida Panther Refuge is located 20 miles east of Naples, Florida at the northwest corner of the intersection of Alligator Alley (I-75) and State Road 29. The refuge is due west of the Big Cypress National Preserve and due north of Fakahatchee Strand State Preserve and Picayune Strand State Forest.

History

For hundreds of years, towering cypress trees up to 130 feet tall and 25 feet in circumference dominated the landscape of what is now Florida Panther National Wildlife Refuge.



By 1914 the area was purchased by the Lee Tidewater Cypress Company.

Logging of the cypress started in 1944 in response to wartime needs. An average of 1,000,000 board feet per week was harvested. The trees were removed from the swamp via

temporary railroads, which were built on roadbeds created by draglines. Many of these “tram roads” are still visible and are used by the staff to access remote areas of the refuge. The logging operations started in the south in what is now Fakahatchee Strand State Preserve, and moved north through the refuge area.



Top: wildfires have long since been a natural part of the landscape, however, drought and human intervention have had severe impacts; bottom: a green tree frog clings to a grass stem where it can rest until its next meal.

By 1957, the last trees were harvested. Destructive wildfires followed the logging operations, further altering the habitat.

Unfortunately, the harvest of these mighty trees decimated associated plant species such as the beautiful ghost and cowhorn orchids. Slowly the cypress swamps have recovered as a new generation of cypress replaces the fallen giants. Many of the logging scars on the landscape have healed over the past five decades. Today, the only significant remaining stand of virgin cypress within the Big Cypress basin is located in Audubon’s Corkscrew Swamp Sanctuary, 20 miles northwest of the refuge.

Immediately prior to refuge establishment, the land was owned by the Collier family and was primarily used for private hunting leases and cattle grazing. A few home sites and hunting camps were located on the land. In 1989, the Service purchased the initial 24,300 acres from the Collier family for \$10.3 million dollars. In 1996, the refuge was expanded to 26,400 acres with the addition of more Collier family land through the Arizona-Florida Land Exchange Act of 1988.



Florida panther, Puma concolor coryi, remains one of the most endangered mammals in the world.



Top: the common grass pink, Calopogon tuberosus, is a terrestrial orchid that flowers among the saw grass prairies; bottom: few people will ever see a Florida panther; but identifying a panther track is a sure sign they are around.

Florida Panthers

The tawny Florida panther (*Puma concolor coryi*), is one of the most endangered large mammals in the United States. The Florida panther was eliminated over much of its historical range by the late 1800's by human persecution and habitat destruction. By the time the panther was granted protection (State-1950; Federal-1967), the animal was already in danger of extinction. A single wild population in southern Florida, estimated to contain 80-100 adults, is all that remains of an animal that once ranged throughout most of the southeastern United States. This remnant population utilizes landscapes totaling approximately 2,000,000 acres, about half of which is in private ownership.



Top: less than two weeks old, these blue-eyed Florida panther kittens are completely dependent on their mother for every need, bottom: slash pine, Refuge's only pine species, towers over all other vegetation as the dominant upland habitat type.



*The much-renowned ghost orchid, *Dendrophylax lindenii*, is one of three leafless species at home in the swamps; just a cluster of epiphytic roots, except for a gorgeous bloom in the early summer.*

Where do panthers live?

Panthers establish very large home ranges and require habitats that provide protective cover for feeding and resting. Among the most preferred south Florida habitats are hardwood swamps and upland pine and oak hammock forests that also provide cover and food for their primary prey — white-tailed deer, wild hogs and other small mammals such as raccoons, armadillos and rabbits. These types of habitat are found on large, public-owned lands, such as the Florida Panther National Wildlife Refuge, but also include nearby Big Cypress National Preserve, Fakahatchee Strand State Preserve, Picayune Strand State Forest and large private ranches. Panthers generally avoid urban areas and intensively managed agricultural areas.



A curious white-tailed deer fawn and mother feed on tender shoots that spring up just weeks after a prescribed fire in the pines.

What research is being done?

Intensive radio-instrumentation and monitoring was initiated in 1981 by the Florida Fish and Wildlife Conservation Commission. Information from tracking radio-collared panthers helped determine preferred habitat, home range size, dispersal behavior, and provided information on birth rates and causes of death. The research also indicated that the panther was suffering health



Top: Female Panther #78, with its eye reflecting the remote camera flash, leads its 2-month old kitten down a trail one night (photo by Ricky Pires); bottom: a female belted kingfisher roosts in a cypress tree at night, when panthers are most active.

and reproduction problems due to inbreeding. In 1995, eight female Texas cougars (*Puma concolor stanleyanai*), were relocated to south Florida. These females bred with Florida panther males, increasing the genetic health of the panther population. Since 1995, the population of Florida panthers has increased from less than 50 to more than 80 due to the influence of the Texas genes. The offspring of the Texas cougars are considered to be Florida panthers and are protected under the Endangered Species Act.

What are the threats to panthers?
The most profound and continuing threat to their survival can be traced to an increasing human population. As available habitat disappears due to human development and conversion to agriculture, the cats are squeezed into smaller areas, resulting in increased intra-specific aggression, which is the leading cause of panther mortality.

Additionally, more development means more roads and more panthers killed by collisions with vehicles. Diseases, such as Feline Leukemia, a disease transmitted to panthers by domestic cats, also kill these magnificent animals.

Why is the Refuge important?

The Refuge area has long been known as important Florida panther habitat. The Refuge is the core of several cats' home ranges, and also functions as a travel corridor for animals traveling between the northern regions of Big Cypress National Preserve and the Fakahatchee Strand State Preserve. Female panthers routinely den and raise kittens on the Refuge. Each month, five to eleven radio-collared panthers utilize the refuge.

Habitats on the Refuge include dense undergrowth and brush ideal for panthers to rest among and make their dens.



Refuge Habitats

Florida Panther National Wildlife Refuge is characterized by



Right and above: the epiphytic night-fragrant and the terrestrial many-flowered grass pink orchids represent contrasting swamp and upland pine habitats, respectively.

lush tropical vegetation. There are over 700 species of plants on the Refuge. Rare orchids, bromeliads, royal palms, and cypress intermix with stands of oaks, cabbage palms, and gumbo limbo. Slash pine with saw palmetto understory lies adjacent to wet prairies blooming with glades lobelia, tickseed and prairie milkweed. This diversity of habitats depends upon the seasonal dry and wet cycles that define the south Florida climate. Summer brings daily rain showers that flood much of the refuge. The water slowly sheet-flows across the flat landscape. This water is not only the lifeblood of the refuge, but recharges the underground aquifers that supply the Refuge's urban neighbors. As the days shorten, the daily rain showers disappear, and for the next six months, the wet prairies and swamps dry out.



Top: looking like dancing black bears, these two are probably juveniles sparring with each other until the day when they become serious about territories (photo by Ricky Pires); below: a glossy ibis walks the shallows of a swamp probing for food; bottom: a great egret, in breeding plumage, stands majestically between feedings of small fish.



Wildlife

The rich diversity of plant life on the Refuge is mirrored by its equally diverse wildlife. Florida panther and black bear prowl the forest while wild turkey and white-tailed deer forage in the hammocks, pinelands, and prairies. Tufted titmouse and northern parulas nest in the oak hammocks, as wood storks and other wading birds utilize the seasonal wetlands for foraging. Pig frogs grunt their chorus from the swamps and swallow-tailed kites soar overhead. As night falls, barred owls silently hunt for prey as bats dive after the myriads of mosquitoes. A total of 126 bird species, 46 species of reptiles and amphibians, 22 species of mammals and a large variety of fish are found on the Refuge. By protecting habitat for the Florida panther, we protect habitat and water quality for the entire ecosystem. The panther is an *umbrella* species, an animal that once protected, provide protection for any other species that lives within its umbrella-like range.

Top: from a helicopter a prescribed fire marches through the pines below, seldom killing mature trees but recycling old shrubbery into new growth for wildlife; bottom: a bobcat, often confused with the larger Florida panther, also benefits from management conducted for panthers.

Habitat Management

All habitat management activities on the Refuge benefit the Florida panther and are intended to improve, restore, and maintain optimal conditions for the panther and the other plants and animals that depend on healthy native habitats.

Prescribed burning and non-native plant removal are two of the most important habitat management techniques.

Why do we burn the refuge?

The Refuge staff utilizes fire to maintain healthy native vegetation communities on the refuge. Fire is set under “prescribed” conditions.

These prescribed burns are only conducted if the winds, temperature and humidity are within a designated range and the refuge has adequate staff and equipment. By conducting burns under particular conditions, the staff can control the location, intensity, and duration of the fire. In Florida, fire is an important part of the natural ecology of many vegetation communities, such as pinelands and wet prairies.



Fire is needed to maintain these communities and prevent the encroachment of shrubs such as wax myrtle and willows. Fire also reduces hazardous build up of debris and dead vegetation which can fuel wildfires.



Top: saw palmetto, Serenoa repens, is a native species that can be harmed by encroaching exotic vegetation. Its berries are a valuable food source for bears and deer; bottom: the American alligator, once endangered, is a popular swamp inhabitant.

Why do we remove non-native invasive plants from the Refuge?

As people moved into Florida, they brought non-native plants with them. Some of these plants escaped cultivation and became established in the natural areas of Florida. Several of the most prolific species are Brazilian peppertree, Australian pine, Melaleuca, and old world climbing fern. These species are extremely invasive and can limit or prevent native plants from growing in natural areas.



Wood ducks, including this male, are sometimes seen on ponds and among the stands of flooded cypress.

Large acreages of these invasive plants change the fire regime of the area, reducing fire in some cases and increasing its destructive effects in other circumstances. Non-native plants also degrade wildlife habitat. By removing these plants from the environment through the use of mechanical removal, herbicides, or biological means (e.g. release of specific insects that parasitize or consume a specific plant species), vegetation communities are improved for wildlife.



Above: the butterfly orchid, Encyclia tampensis, is one of the most common epiphytic orchids in the swamps. Below, top: in contrast, the Florida star orchid, Epidendrum floridense, is one of the rarest; middle: the cigar orchid, Cyrtopodium punctatum, is a rare orchid that once grew near the tops of cypress trees prior to logging in the 40's and 50's. They are now being reintroduced to the Refuge and elsewhere in south Florida; bottom: Michaux's orchid, Habenaria quinqueseta, is widespread throughout the state.



What is the Native Orchid Restoration Project?

Among the native plant species on the Refuge are perhaps as many as 45 species of orchids. Many species of native orchids have been decimated by habitat destruction and illegal collecting. Most of the species found on the Refuge are rare and on the State endangered species list.



Orchids have sensitive and intricate life history requirements. Refuge staff are working with scientists to restore orchid populations by collecting seed pods and using naturally occurring fungus to germinate seeds. The germinated seeds are then grown in climate-controlled labs and greenhouses, until transplanted to their natural environment. The orchid restoration project's goal is to restore native orchids within their natural range on public lands in south Florida.





Top: the endangered wood stork periodically nests on the Refuge when water in the swamps remains unusually high throughout the winter months. Middle: the gray fox, also called the swamp fox, is a common but rarely seen mammal. Like the panther and the bobcat, but much smaller, it is generally most active at night. Bottom: a radio-telemetry study in the early 90's indicated that the Florida black bear was popular on the Refuge and took advantage of the rich vegetative communities as its major food source.



Public Use Opportunities

Public access to the refuge is very limited because various outdoor recreational activities could disturb panthers and their prey, which would be inconsistent with the refuge purpose of providing optimal panther habitat and protection.

Top: look up often and you stand a good chance of seeing the common barred owl; middle: use caution and keep your distance if you encounter the seldom seen eastern diamondback rattlesnake. Remember that they are protected too; bottom: the Florida snapping turtle may be seen near water where it spends most of its time.

Hiking Trails

Two hiking trails provide limited public access to the Refuge. These trails are located in an area that receives very little panther use. The trails are accessible from State Road 29, approximately 0.25 miles north of Alligator Alley (I-75).

The trail system consists of two concentric loop trails, including an unimproved 1.3 mile trail that is closed seasonally due to flooding and a 0.3 mile improved trail that is wheelchair accessible. There is no charge for use of the trails.



Top to bottom: the smallest of the heron species, the green heron often hides among the dense wetland vegetation, but can often be heard cackling when disturbed; with bright red legs and bill during the breeding season, a white ibis walks through the water picking up aquatic insects, frogs and small fish; common within ponds, water lilies share their affinity for sun alongside the American alligator.



Refuge Hours

The trails are opened during daylight hours only. Contact the Refuge for current trail conditions.

Wildlife Observation

Nature observation and photography are encouraged. Late winter and spring are excellent times to look for the wide variety of wildflowers along the trails. In the early morning and late afternoon hikers may see deer foraging in the wet prairie. A lucky observer may catch a glimpse of a bear. Watch the ground for bobcat, bear and deer tracks and the sky for red-shoulder hawks.



Volunteering on the Refuge

Volunteers are needed to help refuge staff with a variety of work projects. From routine office work, to maintenance work around the field office, to exotic plant control, there are jobs for all skill levels. For more information, contact the Refuge.

The Friends of the Florida Panther Refuge, a non-profit organization dedicated to the support of the Refuge and Florida panthers, utilizes volunteers to help as tour guides on

the trails, assist with various refuge projects, and as advocates for panther protection through programs such as “Panthers and Pavement,” an educational outreach program to bring awareness to drivers to be careful when driving in panther territory.

The “Florida Panther Posse” is a partnership between the Friends of the Florida Panther



Totally dependent on shallow wetlands for their supply of fish, wood storks are as affected by habitat loss as the Florida panther.

Refuge, Florida Fish and Wildlife Conservation Commission and Florida Gulf Coast University’s “Wings of Hope” program. The Panther Posse educates students (fourth, fifth and sixth graders in five southwest Florida counties), teachers, and the community about the endangered Florida panther. For more information, please contact the Refuge.



Top: Florida panther; below: various species of ferns provide a lush green foliage throughout the Refuge swamps.

Enjoying the Refuge

Please use caution as you walk the trails. Bring water, insect repellent and sunscreen. Please do not leave valuables in your vehicle, and allow time to return to your vehicle and leave the refuge before the entrance gate closes at sunset. All government property including natural, historic, and archaeological features are protected by Federal Law. Do not pick flowers or other vegetation, or harass, capture or remove wildlife.

Firearms

Firearms are prohibited on the Refuge.

Pets

Pets of any kind are prohibited.

Littering

Please do not litter. No trash barrels are supplied by the Refuge, so you must take any trash with you when you leave.

Vehicle Access

Off-road vehicles are not permitted on the trails.

Bicycles

Bicycles are prohibited on the refuge.

Administrative Office

The Refuge headquarters is located within the Comfort Inn at 3860 Tollgate Boulevard, Suite 300, Naples, Florida, exit 101, off of I-75.

All photos USFWS/Larry Richardson unless otherwise indicated.

Florida Panther National Wildlife Refuge

Big
Cypress
National
Preserve



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I-75 (Alligator Alley)

Fakahatchee
Strand
State
Preserve

Big
Cypress
National
Preserve

29

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