

AMPHIBIANS



Amphibians like reptiles, are “cold blooded.” Amphibians are animals who commonly spend the first part of their life in the water, breathing through gills. As adults, they may still live in the water but use lungs to breathe. They include frogs, toads, and salamanders. Many are common, but are more often heard than seen because they are out only at night (nocturnal) or are very well camouflaged. The eighteen species of amphibians found in the Everglades include the smallest frog in North America, the little grass frog.

Frogs and Toads

No more than 5/8” long, the **little grass frog** is the tiniest frog in North America. Often, people think they are seeing a baby frog when they sight this species. It is found clinging to sawgrass a few feet above the water. Although it is seldom seen, you can hear its breeding choruses at night during the summer. The sound of two marbles clicking together, then becoming faster, could be **cricket frogs** which can be heard at Shark Valley throughout the year. These and many other species of treefrogs- clinging to trees, buildings or blades of grass- are amphibians commonly encountered on a visit to South Florida.

If you come to Everglades National Park’s Main Visitor Center during the summer, you are likely to hear large choruses of **oak toads**. They are found in hammocks, pinelands, and wet sawgrass communities and are often active during the day. The **pig frog’s** grunt-like call can be heard night or day, year round, at the Anhinga Trail and at Shark Valley. It is found throughout the fresh water marshes of the park and is related to the bullfrog. Pig frogs are edible, and are sometimes hunted for “frog legs.”

Much attention and research is being focused on amphibians around the world, because they are disappearing at an alarming rate. Since amphibians have permeable skin which allows them to exchange air, they are susceptible to pollution from the air as well as the water. Scientists are concerned that the disappearance of amphibians may be due to a global cause. Since frogs have been around since the time of dinosaurs, their decline may be a sign that there is something wrong with the global environment.

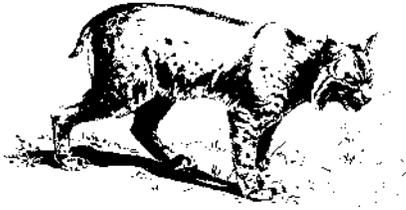
Amphibians are an important part of the food chain in South Florida. Birds, snakes, and lizards depend on them for sources of food. The eggs and tadpoles may be food sources for many wetland predators like fish. South Florida’s national parks help to protect habitat for these members of the food chain.

Salamanders

The **Everglades dwarf siren** is a salamander known to be found only in the Everglades. When a plant or animal is found in only one particular place in the world, scientists say it is endemic to that place.



MAMMALS



South Florida is home to an interesting variety of mammals. Mammals are distinguished from other vertebrate animals, such as birds or reptiles, by several unique features. They are covered with hair or fur over much of their body and the females have mammary glands that produce milk for their young. Over forty species of mammals are found in South Florida. Many species commonly associated with drier habitats of forest and fields have adapted to the semi-aquatic environment which constitutes much of the Everglades. White-tailed deer are commonly seen wading through the sawgrass prairie, or a bobcat may be foraging for food in the mangroves.

Land Mammals

There is only one representative of the rabbit family frequently found in South Florida national parks. **The marsh rabbit** is common in higher fresh water marshes, pinelands, and coastal prairies. It is not uncommon to see the marsh rabbit swimming, for it has adapted to its “wet world.” **Cottontails** do occur in the park, but very infrequently. **Raccoons** and **opossums** are creatures common to most habitats. These creatures are omnivores with varied diets, although the raccoon primarily eats turtle eggs and small aquatic animals. The opossum is the only marsupial (pouched) animal in the Everglades (and in North America). **Bobcats** and **black bear** are also found in Everglades. While bobcats are seen fairly often, bears are less common.

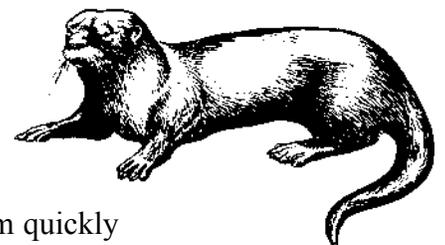


The **mangrove fox squirrel** or **Big Cypress fox squirrel** is found only in southwestern Florida. It is a beautiful animal, varying in color from black to gray to orange, but they almost always have a black face and a white nose. These squirrels make nests in trees, but come down to the ground to look for food. They eat seeds from pine and cypress cones, palm fruits, mushrooms, and insects. Never very common, this squirrel has become very rare, mostly due to habitat destruction. It is now listed as a threatened species. Its cousin, the **gray squirrel** is also infrequently seen in the Everglades. A few are occasionally seen near Royal Palm Hammock.

The **gray fox** is a shy animal that usually hunts at night. In the Everglades it lives in hardwood hammocks and pinelands. The diet of the fox includes small mammals, birds, reptiles, insects, and plants. Gray foxes, unlike other types of foxes, are sometimes seen climbing trees. They are able to climb up the trunk, leaping from limb to limb. The gray fox likes bushes, and makes its den in the ground under roots and in the hollows of trees.

Streamlined **river otters** are sometimes observed in the spring at the Anhinga Trail, at Shark Valley, and in the Big Cypress/Loop Road area. They are long, shiny, brown, seal-like animals which are often called the playboys of the “Glades.” Their webbed back feet allow them to swim quickly

through the water and they are usually seen feeding on turtles, fish, and an occasional baby gator. Otters, like all plants and animals in national parks, are protected. In the rest of Florida, however, otters are still hunted for their winter hide which is used to make coats. **White-tailed deer** are the same as those



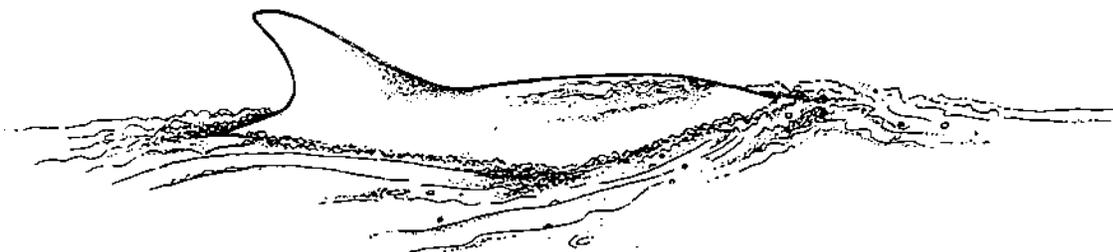
found throughout the eastern United States, but are smaller here because they do not need an extra layer of fat to protect them from the winter cold. The “glades” deer bed in hammocks when they are not feeding in the open sawgrass. Fawns are born in the spring months and are white-spotted for camouflage.

The **Florida panther** is an endangered species. It originally occurred throughout most of the southeastern United States, but due to expanding urban development, it has been virtually eliminated. Panther sightings have been reported in some southeastern states, but they probably do not exist in any of the eastern states except Florida. The Florida panther is a large, long-tailed, pale brown cat, which may be up to six feet in length. Panther litters usually contain two or three young, and female panthers breed only once every two or three years. Panthers are nomadic animals that have the ability to travel up to twenty miles in one journey. They feed primarily on deer and wild hogs; however, some, particularly the younger cats, feed on smaller animals. State and federal agencies have initiated studies to determine protection necessary for their survival. The Florida Panther Inter-Agency Committee (FPIC), charts the progress of protecting this animal. In 1986, scientists began collaring panthers with electronic tracking equipment to determine their territories. It was believed that in 1990 there were less than fifty surviving Florida panthers. They found that habitat destruction has been only partially responsible for the decline of the panther. The panthers’ decline can also be attributed to genetic inbreeding, shootings, mercury poisoning, and the fact that many are killed along our highways due to high-speed vehicle traffic.

Marine Mammals

The **West Indian manatee**, or sea cow, is a massive, thick-skinned mammal with paddle-like forelimbs. It is grey-brown in color, weighs between 790 and 1,190 pounds, and is eight to fifteen feet in length. Manatees inhabit slow-moving rivers, shallow estuaries, and salt water bays where they feed on aquatic vegetation. They are essentially gentle animals and have been used as agents for aquatic weed control. It is thought that about 1300 manatees live in Florida’s waters. The manatee is an endangered species. Its survival is threatened due to injuries from boat propellers, vandal attacks, poaching, getting caught in canal gates, and habitat destruction. Manatees are protected by the Endangered Species Act of 1973, and by the Marine Mammal Protection Act of 1972, although neither law protects them from boat propellers or vandals. For more information on endangered species, see pp. 178-180.

Another marine mammal that lives in coastal waters is the **Atlantic bottlenose dolphin**. It likes to hunt for schools of silver or striped mullet, and can often be seen along the mangrove shorelines.



FISH

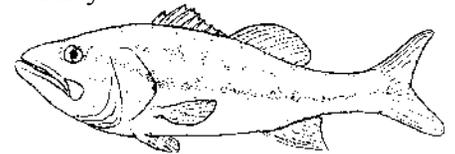


Fish are water-dwelling vertebrate animals that breathe through gills. Because they lack internal mechanisms for raising the body temperature above that of their environment, fish are said to be “cold-blooded.” Some fish live only in fresh water; others only in salt water.

Freshwater Fish

There are thirty species of native fresh water fish in Everglades National Park. They are the main source of food for larger fish, wading birds, and even alligators. Native fish also do a great job of controlling the insect population. During the summer (wet) season, the water level in the park is high and fish are scattered. In the winter (dry) season, the fish move into deeper water and “gator holes,” where standing water is still available.

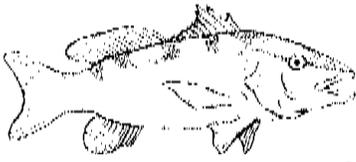
The **Florida gar** is a long (up to three feet in length), slender, predatory fish with sharp teeth and an armor of thick scales. It is often seen near the water’s surface swallowing air. If unable to rise to the surface for air, it can suffocate. Once gar lay their eggs, they abandon them. Fortunately for the gar, their eggs are poisonous to “warm-blooded” animals, so they are not often preyed upon. **Mosquitofish** are the most common freshwater fish in the Everglades. Once the water level rises (May or June), this two-inch insect-eater rapidly begins to reproduce throughout the park. It is even found in the salt water of Florida Bay. Aquatic invertebrates are its primary food. Birds and larger fish feed on mosquitofish. The **least killifish** is one of the smallest fish species (one inch long) in the United States. Most fish lay eggs, but least killifish, like mosquitofish, bear live young. They are so small, they can only have one baby at a time. It makes up for that by having one baby a day throughout the few weeks of its adult life. A very efficient assembly line! It has to be productive, because the least killifish is a favorite food of birds in the sawgrass and spike rushes. The least killifish feeds on tiny insects and plant material. The **sailfin molly** is a small (five-inch long) live-bearer that lives in both fresh and salt water. It is the only true herbivore (plant eater) of the freshwater fish. Some of you may have one in your aquarium. **Largemouth bass** are a favorite among fishermen. In Everglades National Park, fishing is allowed in some of the fresh water areas. Fishermen should pick up a copy of the fishing regulations at the park entrance station. Scientists have recently discovered that largemouth bass have a lot of the metallic element, mercury, in their bodies. They are not sure where the mercury is coming from, but they do know it is poisonous to humans and wildlife. In some areas, exotic species (see the exotics species section) of fish are crowding out the bass, competing for limited food resources and available egg laying sites.



All of the fish in the Everglades need clean water to survive. During periods of long drought, up to 90% of the fish in the park may die. If the fish die, there is no food for the birds, and they die as well. You can help. Conserve water, and never release exotic fish from your aquariums into the canals.

Saltwater Fish

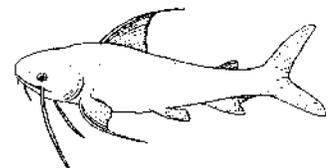
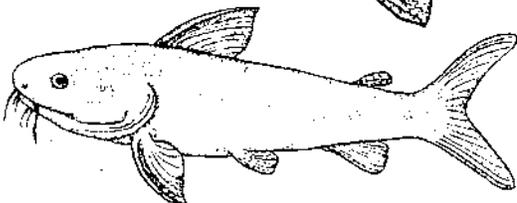
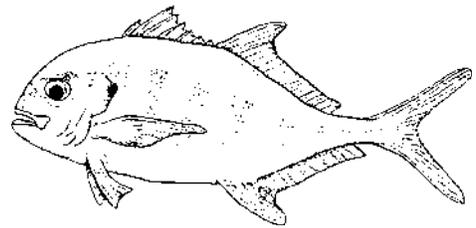
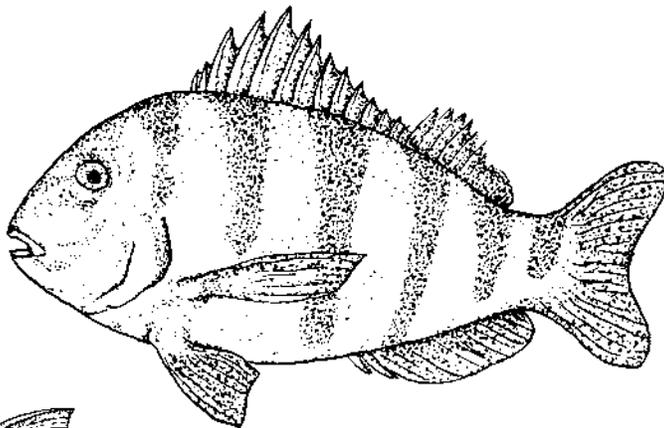
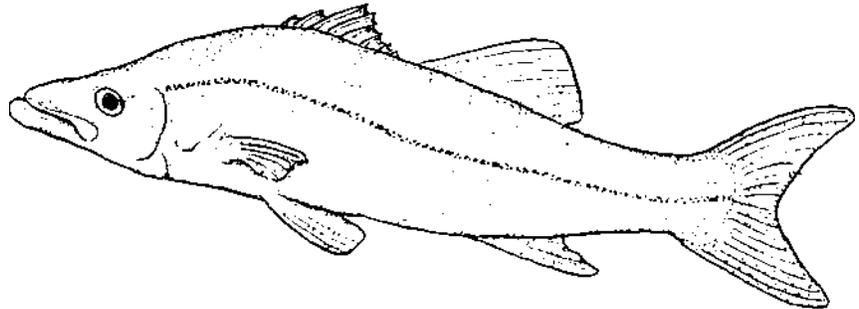
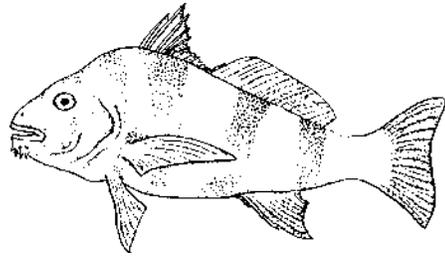
Over 100 species of marine fish have been identified in Florida Bay. Game fish such as **bonefish, tarpon, snook, red drum, and seatrout** abound in these rich waters. Without this protected area, a 300 million dollar sport fishery (in and around the Everglades National Park) and a 100 million dollar commercial fishery, adjacent to the park, would be in jeopardy. Commercial fishing is prohibited within Everglades



and Dry Tortugas National Parks, but allowed in Biscayne National Park. Sport fishing is closely monitored and regulated in all national park areas. These actions are an attempt to protect against overharvesting, to maintain a sustainable breeding stock, and to ensure a balanced ecosystem for future generations.

Other species which call this area home include **bonnethead, black tip, nurse and hammerhead sharks**. **Stingrays** hide in the soft mud and feed on mollusks and crustaceans.

Along Biscayne National Park's coral reefs are more than 200 types of fishes. Some of them are flamboyantly colored like the **angelfish**, the **wrasses**, and the **neon gobies**. It's believed that the eye-grabbing colors of the wrasses attract other fish so that they can clean them of parasites and dead tissue (and in return, get a free meal). The camouflaging colors of the **moray eel** help it blend in with the surrounding reefs. One interesting inhabitant of the reef is the sharp-beaked **parrotfish**. It can be seen munching on coral. Not so strange, since along with the rock (which passes through its digestive system), the parrotfish is devouring algae and coral polyps.



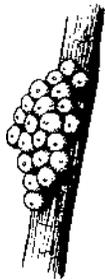
Invertebrates are animals that do not have backbones. They include insects and spiders, but also snails, worms, clams, sponges, crabs, lobsters, shrimp, and crayfish to name a few. Because of their lower position on the food chain, these creatures are critical to the diets of many South Florida fish, birds, mammals, and reptiles.



Snails

Snails are classified within a group of invertebrate animals known as mollusks. Their name means soft-bodied and also includes chitons, clams, octopuses, and squids. The most obvious feature of a snail is its spiral shell. There are many different types of snails in South Florida. A freshwater snail, a land snail, and a marine snail are described below.

The **apple snail** is found throughout the freshwater habitats of the Everglades. This air-breathing snail feeds on algae and decaying matter found on plants and rocks in the water. It has an opening, or door, called an operculum. The operculum opens as the snail's body emerges. As the snail crawls along, it feeds on algae by scraping it from plants and rocks. Every few minutes, the snail returns to the water's surface to breathe air. This is when the snail is most vulnerable. Wading birds, young alligators, and other predators take advantage of the snail's visit to the surface of the water.



The endangered snail kite (a hawk) eats only apple snails. It has a specialized hooked beak adapted for extracting the snail from its shell. If the snail manages to survive the predators of the swamp, it will lay its eggs. The snail lays about twenty-five clustered, pearly white eggs on plant stems just above the water's surface (in the fall). Approximately three to four weeks later, the eggs hatch and the baby snails crawl down the plant into the water. Water levels play an important role in snail survival. If the water levels rise above normal, the covered eggs will drown. Human interference with the natural South Florida water systems has created situations where water was released into the park too fast, causing damage to the snail eggs and the wildlife that depends on them.

Colorful **Liguus tree snails** live in the tropical hardwood hammocks of the Everglades. There are over fifty different color variations. The Liguus tree snail is a tree-dwelling species, feeding on minute lichens, algae, and fungi that grow on the bark and leaves of trees.

Tree snails, like their favorite host, the lysiloma tree, are tropical species. Originally from Cuba, these snails arrived in South Florida thousands of years ago on floating logs and were blown ashore during hurricanes. They were once found on tree islands from Key West to Fort Lauderdale. In September, the snail crawls to the base of the tree and twists itself into the ground where it lays ten to thirty eggs. After covering the eggs with soil, the adult snail crawls up the tree to find a sheltered spot for winter. The snail emits a substance, that like glue, seals its shell to the tree's bark.

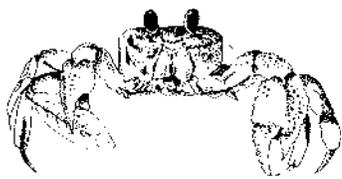
Through this process of estivation, the snail conserves moisture during the dry winter months. With the first spring rain, the adult snail comes out of estivation. This is also when the eggs hatch and the young climb up the



tree. All summer, the moist hammock provides the perfect growing habitat for the snails. As they eat, they grow, adding to the size of their shell. Under good conditions, Liguus tree snails live to the ripe old age of eight years. Raccoons and crows are their natural predators. Animals like the armadillo, dig up and eat the snail's eggs.

Tree snails have other problems, too, including loss of habitat and spraying for mosquitoes. The mosquito spray falls on the tree trunk, and the snail eats the spray as it crawls along. It may eventually die from the effects of the spray. The snail shells are also highly prized by collectors. (Tree snail collecting is now prohibited in South Florida.) Several color forms that were once found in Florida are now extinct. Florida tree snails are listed by the state as a "Species of Special Concern" because of their restricted range and their vulnerability to exploitation or environmental changes.

The **conch**, pronounced "konk," is a marine snail that makes a large, thick shell, prized as a souvenir by South Florida tourists. Two of the conchs found in South Florida seas are the **Queen conch** and the **Hawk wing conch**. Conchs move using their foot, upon which a claw-like structure (the operculum) is located. Primarily plant eaters, conchs feed on algae and edible debris in grass beds and reef areas. Loggerhead turtles are known to crush adult Queen conchs, but by far the most common predators are people. The meat of the conch makes tasty salads, fritters and chowders. Florida's conchs are protected, and the conch meat sold here is mostly from other countries, like Jamaica.

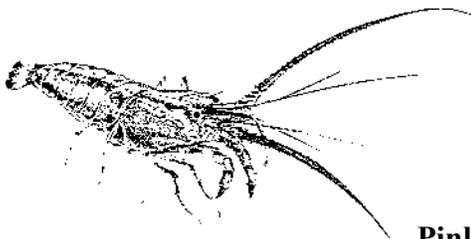


Lobsters, Shrimp, Crabs, Spiders, and Insects

Lobsters, shrimp, crabs, spiders, and insects, are in a group of invertebrates called arthropods because they have jointed legs and a hard outer skeleton. The Arthropods are further divided into three groups - crustaceans (which includes lobsters, shrimp, and crabs), arachnids (which includes spiders and scorpions), and insects (which includes mosquitoes, butterflies, wasps, and ants). Some of the more obvious of these creatures are discussed below.

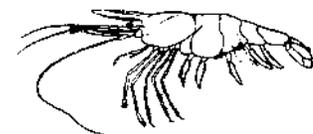
Crustaceans

Lobsters, shrimp, and crabs are an important commercial fishery in South Florida. The highly valued **Florida spiny lobster** is established off South Florida's southeast coast by larvae that arrive from the ocean, floating on the currents of the Gulf Stream from islands in the Caribbean. The lobsters hide under rocks and ledges during the day, and come out to find food at night - usually mollusks, worms, or dead animals. At about five years old, lobsters are 8-10 inches long and breed for the first time. Overfishing of the population has drastically reduced the spiny lobster population and there are strict limits on the harvesting of lobster in South Florida (it is protected within Biscayne, Everglades, and Dry Tortugas National Parks).

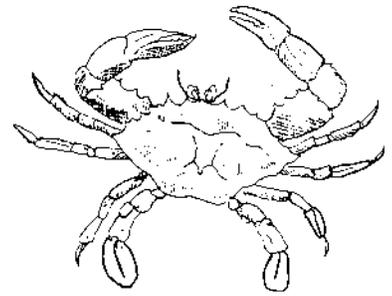


where the adults lay their eggs. During the spring and summer the tiny shrimp emerge and float with the currents to Florida Bay, where the mangroves and less salty water provide a nursery with food and shelter. The shrimp grow throughout the summer, maturing into adults. In the fall and winter they return to the warmer waters of the Dry Tortugas to continue the cycle.

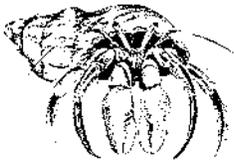
Pink shrimp are harvested near the Dry Tortugas (outside the of the park)



True crabs resemble folded up lobsters. Their abdomens are folded tightly beneath their bodies, and they have four pairs of walking legs and two legs with claws. The **blue crab** has paddles on the end of its last legs, which helps it to swim. Like shrimp and lobster, the blue crab is a commercially important species. They live in estuaries like Florida Bay. The **fiddler crab** is another frequently seen crab. Male fiddler crabs have one greatly enlarged claw. They burrow in sand and mud beaches and coming out of their burrows at low tide to feed on detritus.



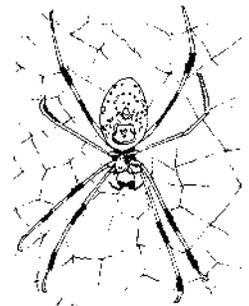
Horseshoe crabs and **hermit crabs** are not true crabs. Although they are arthropods, the horseshoe crab is more closely related to scorpions. Often seen washed up on beaches at low tide, the horseshoe crab uses its long tail as a rudder while plowing through the sand and muck looking for burrowing mollusks and worms. A hermit crab's abdomen is not tucked under it like a true crab. To protect its soft body, the hermit crab lives in empty snail shells. As the hermit crab grows it must find and move into larger shells.



Arachnids

Spiders are fascinating creatures that are distinguished from insects by having eight legs instead of six. All true spiders produce silk, but they vary in how they use it- building a web, making egg cases, producing a climbing rope, or for ballooning to float long distances in the wind. All spiders kill their prey by injecting venom. (They then use juices from their digestive glands to liquefy the insides of their prey before sucking it into their mouths.) Spiders dine mostly on insects. Fear of spiders is unnecessary. None eat humans, and biting a human is a desperate line of defense as it wastes venom. Two North American spider species, the brown recluse and the black widow, are considered poisonous to humans but are rarely seen. Much more common are the non-poisonous **argiope**, **thorn**, **orchard** and **wolf spiders** to name just a few.

The **golden orb weaver** is a beautiful yellow, white, and black spider that spins its golden web into intricate patterns in the hammocks of the Everglades. The fine web traps unsuspecting flying insects. Once trapped in the web, the struggling victim is wrapped in silk. The spider may wait for the struggling victim to die before it begins feasting on its body fluids. Golden orb weavers clean their webs daily to free them of leaves and small twigs. If not cleared of debris, the web would be easily seen, thus alerting potential victims of the danger that lies in wait.

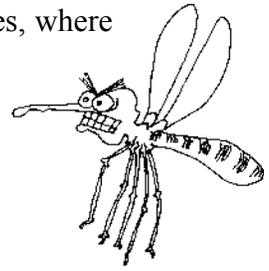


Insects

There are hundreds of insects and other small creatures in the four South Florida parks; too many, in fact, to discuss here. They range in size from the giant diving beetle to tiny ants. Their varied adaptations are true wonders of nature. Butterflies are among this group of wonders. Everglades/South Florida national parks have over fifty species of butterflies, several of which are tropical species. The **atala butterfly** is an extremely rare species, found in the park's pinelands. We have selected a few of the area's most visible insect inhabitants to describe.

Mosquitoes are not considered to be friends to people. But, in fact, they truly are, especially in the Everglades. They are an important part of the food chain in the mangrove estuary. Only the female mosquito bites. After sucking blood from a host, she uses the blood to produce approximately 150 eggs. These eggs are deposited in the water or on a damp place. Soon, fish and other aquatic dwellers feed on the larvae, or wrigglers, as they are called. In turn, larger fish like bream may eat these fish. Bass then eat the bream,

gar fish eat the bass, and the alligator eats the gar fish. The alligator digs water holes, where adult mosquitos lay their eggs -thus creating an Everglades food chain! If you visit the park in the buggy summer months, you can make a blood donation to the park's food chain.



- There are 68 species of mosquitoes in Florida and 1,500 worldwide.
- An anti-coagulant left by the mosquito after she bites you causes the itch from a mosquito bite. This substance stays under the skin for a few hours until the body absorbs it.
- Mosquitoes bite to get the protein found in blood to use in the formation of their eggs.
- Human blood is not always the best; reptiles, other mammals, and birds' blood provide higher concentrations of the needed amino acids.
- A square foot of shallow water under the right conditions can produce 100,000 mosquitoes.
- Male mosquitoes feed on flowers and fruits, extracting the sugar from them while at the same time pollinating them.
- Most are more active in the early morning hours or at dusk, but anytime will do if a feeding opportunity is near.

Dragonflies are curious-looking insects that can be seen flying throughout the wetland areas of Florida. They have large, bulging eyes on a head that rotates at angles in many directions. Net-like veined wings are in sets of four and are horizontal most of the time. Body color may range from blue, brown, and a combination of green and black. The dragonfly is a predator that feeds on other insects, especially mosquitoes. The mosquito hawk is another name for this flying wonder that has an adult life span of six months. They gather food while in flight, using their basket-like legs for capturing prey, often eating their catch while in flight. Females deposit their eggs in the water on aquatic plants. Once the egg hatches, the nymph searches its watery home for food. It has a large appetite and, depending on its stage of development, it may feed on larvae, protozoan, or small fish. The nymph breathes by extracting oxygen from the water through a gill located in the intestine. After a period ranging from three months to five years, depending on the species, the nymph completes its life cycle by crawling out of the water. Once out of the water, it slowly dries its newly developed wings and legs. It is during this drying period that the dragonfly is most vulnerable to predators.

There is no mistaking the two-inch-long **lubber grasshopper**. The adults are yellowish with black markings, and they have a red cast to their wings. Even though they have wings, they cannot fly. Sharp spikes on their hind legs offer protection from possible predators. Eighty or more eggs can be laid in the ground anytime from June to August. The eggs hatch in 90 to 120 days. The young are black with red or yellow lines. After hatching, the young can be seen traveling like a small army across Florida roadways. Both the young and the adults feed on a variety of plants. Adults have been seen eating other already dead lubbers. Their life may span up to one year.

Fire ants are believed to be an exotic species in South Florida, but are now common throughout the mainland. The sandy mounds can be from six inches to three feet across, and up to two feet high. Each mound supports a dense colony of small ants, bright red to dark brown in color. These ants have a potent sting so use CAUTION near their nest mounds.



Wasps have a stinger at the end of their abdomen that is connected to a poison gland. These insects normally do not sting unless disturbed. One of the more common wasp nests seen in the area, is the dried mud tube of the **mud dauber wasp**. Usually found on sheltered surfaces like porch walls where they are protected from the rain, the female builds several mud tubes side by side which contain the egg or larva. Female mud daubers prey ferociously on spiders, packing them into the larval cell, to provide food for the developing mud dauber. Mud daubers are most active from April through October.



EXOTIC SPECIES

“Exotics” are plants and animals that have been introduced to South Florida by humans. Since they have not evolved in association with the other plants and animals living here, many exotic species have detrimental effects to the native flora and fauna.

Certain plants and animals are native to the Florida peninsula. These plants and animals either walked here, were blown here by the wind, washed up on the sand, or, as with seeds, were flown here in the bellies of birds. Such residents of an area are called native species. Each has its own job (niche) in the habitat.

Plants or animals that live hundreds or perhaps thousands of miles away from Florida have evolved with features often very different from the native species of Florida. When humans bring these non-natives (exotics) to Florida and release them, often the results are disastrous for the native Florida creatures. Away from their original habitats, these exotic species lack natural controls, such as disease and predation, that help keep the balance between species. In the Everglades, there is a serious problem with many invasive exotic species. They are crowding out many of the natives.

Perhaps the most harmful exotic species in the Everglades is a tree that was brought here from Australia. It is called the **Australian paper tree** or **Melaleuca**. If planted in someone’s backyard, the seeds will quickly blow to wild areas. There, dense areas of Melaleuca trees quickly shade out other plants and dry out the soil. Melaleuca forests use four to five times more water than a sawgrass prairie, and these forests can

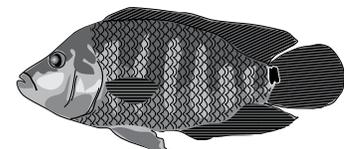
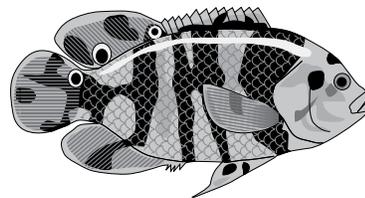


be so thick that many animals can no longer walk through or live in that area. Another plant, **latherleaf** or **Colubrina asiatica**, is a high climbing, woody vine that blankets forests and kills the trees.

It already has done serious damage to the buttonwood forests and tropical hammocks all across the south coast of Everglades National Park. Other plants causing similar problems include the **Brazilian pepper** and the **Australian pine**. National Park staff are experimenting with procedures for removing these invasive species from our wild areas, but some methods are very costly or impractical because of the remote locations of these plants. By using native species in our landscaping, we can help to reduce the spread of exotic plants.

Exotic plants are not the only species causing problems. Animals not native to Florida are impacting our native fish, amphibians, reptiles, and mammals. Fish like **oscars**, **mayan cichlids**, **blue tilapia**, and **walking catfish** have escaped from fish farms or have been dumped into nearby canals from home aquariums; they quickly move into the Everglades, where they compete with native bass and bream for precious food and breeding space.

The exotic **Cuban tree frog**, which is slightly larger than the native tree frogs, not only competes for habitat but actually eats the smaller natives! Likewise, the **Cuban brown anole** is outcompeting our native green anole. **Wild hogs**, were introduced to Big Cypress to provide another game animal for hunters. Although



the hogs provide food for the panther, they also root up plants in the native hammocks and destroy tree snail and wild turkey eggs.

There are dozens of examples of non-native species that have been released into wild South Florida. Not all of them are invasive and crowd out the natives, but many scientists believe that the ones that do form one of the greatest threats to our natural areas. In almost all cases, exotic species cause increased difficulty for the native species to compete for the limited food, water, shelter, and space in South Florida habitats. When an exotic species is as invasive as the Melaleuca it can change the habitat to the point of causing extinction of some species. Each time a species becomes extinct, we lose another piece of the puzzle of life on earth. We lose our food supply, the source of a potential new medicine, or a source of beauty and enjoyment.

What can you do to help? Never release an unwanted pet into a wild area. Encourage your family to landscape your yard with native plants. Talk to your teachers about writing letters that will encourage your community to adopt laws banning exotic species in your area. If we all work together, there is hope to



ENDANGERED SPECIES*

Endangered: A species, subspecies or isolated population that is, or soon may be, in immediate danger of extinction unless the species or its habitat is fully protected and managed for its survival.

Threatened: A species, subspecies or isolated population that is very likely to become endangered in the near future unless the species or its habitat is fully protected and managed for its survival.

This text and list of endangered and threatened species is taken from: "Threatened & Endangered Species of South Florida's National Parks" brochure produced 3/97 by the Florida National Parks & Monuments Association in cooperation with the National Park Service. Revised by: Oron L. Bass, Jr., and William B. Robertson, Jr. (February, 1995). Introduction written by Shirley Beccue and revised (March 95) by Suzanne White.

"Threatened," "endangered," and "extinct" are words that have become all too common in our 20th century vocabulary. Today, with our desire for land and raw materials, our continued pollution, and our indiscriminate hunting, plants and animals that have evolved over millions of years are going extinct in a single human lifetime.

Perhaps nowhere is our impact on other species more evident than in South Florida: drainage of wetlands, alteration of overland water flow and uncontrolled hunting have all contributed to species decline. The Everglades, once known for its abundant bird life, has seen its wading bird population decline drastically since the turn of the century. The Florida panther, once common throughout the state, is on the verge of extinction. In fact, within the boundaries of Everglades National Park, Biscayne National Park, Big Cypress National Preserve, and Dry Tortugas National Park, there are 14 endangered and 9 threatened plant and animal species. The mere physical boundaries of a national park, though, do not guarantee species survival.

Maintaining harmony between "20th century progress" and wilderness areas required research, legislation, and public awareness. For the last decade, the South Florida Natural Resources Center in Everglades National Park has been studying how changes occurring outside the parks influence the fragile areas within their boundaries. Research going on today may lead to a brighter future for many species. Legislation such as the Endangered Species Act of 1973 has also afforded some measure of protection of wildlife. The Act provides for the classification of wildlife species as "endangered" or "threatened," and mandates legal protection for species so listed. In justification for such protection, the Act recognizes that various species of plants and animals have aesthetic, educational, historic and scientific value.

Public support is vital for species preservation. You can help by:

1. Becoming informed about threatened and endangered species in your state.
2. Not purchasing products that you suspect are made from endangered or threatened species of plants or animals.
3. Reporting people who are known dealers in endangered or threatened plants and wildlife.
4. Supporting conservation legislation.

Today, it is not enough merely to appreciate nature; we must work actively to protect it. What we do today toward that goal will be the legacy we leave our children and their children. The extinction of a species is final... Whether our children's children will see plants and animals we cherish today is largely up to us.

Endangered Species**

<u>Insects</u>	<u>Park</u>	<u>Status</u>
Schaus Swallowtail Butterfly	Biscayne National Park	Breeding
	Everglades National Park	Casual ?

Reptiles

American Crocodile	Everglades National Park	Breeding
	Biscayne National Park	Casual
Hawksbill Turtle	Biscayne National Park	Resident
	Dry Tortugas National Park	Resident
	Everglades National Park	Casual
Green Turtle	Dry Tortugas National Park	Breeding
	Everglades National Park	Casual
	Biscayne National Park	Casual
Atlantic Ridley Turtle	Everglades National Park	Casual
	Dry Tortugas National Park	Casual
Leatherback Turtle	Biscayne National Park	Breeding
	Everglades National Park	Casual ?
	Dry Tortugas National Park	Casual?

Birds

Wood Stork	Everglades National Park	Breeding
	Big Cypress National Preserve	Breeding
	Biscayne National Park	Casual
Snail Kite	Everglades National Park	Breeding
	Big Cypress National Preserve	Casual
Red-Cockaded Woodpecker	Big Cypress National Preserve	Breeding
	Everglades National Park	Formerly
Cape Sable Seaside Sparrow	Everglades National Park	Breeding
	Big Cypress National Preserve	Breeding

Mammals

Key Largo Cotton Mouse	Everglades National Park	Casual ?
Key Largo Wood Rat	Everglades National Park	Casual ?
West Indian Manatee	Everglades National Park	Breeding

	Biscayne National Park	Resident
	Big Cypress National Preserve	Casual
	Dry Tortugas National Park	Reported

Florida Panther	Everglades National Park	Breeding
	Big Cypress National Preserve	Breeding

Threatened Species**

Plants

Garber's Spurge	Everglades National Park	Resident
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Invertebrates

Stock Island Tree Snail	Everglades National Park	
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Reptiles

American Alligator	Everglades National Park	Breeding
	Big Cypress National Preserve	Breeding
	Biscayne National Park	Casual

Eastern Indigo Snake	Everglades National Park	Breeding
	Big Cypress National Preserve	Breeding
	Biscayne National Park	Casual

Loggerhead Turtle	Everglades National Park	Breeding
	Biscayne National Park	Breeding
	Dry Tortugas National Park	Breeding

Birds

Southern Bald Eagle	Everglades National Park	Breeding
	Big Cypress National Preserve	Breeding
	Biscayne National Park	Breeding

Arctic Peregrine Falcon	Everglades National Park	Wintering
	Biscayne National Park	Wintering
	Dry Tortugas National Park	Migrant
	Big Cypress National Preserve	Migrant

Piping Plover	Everglades National Park	Wintering
	Dry Tortugas National Park	Migrant

Roseate Tern	Dry Tortugas National Park	Breeding
	Everglades National Park	Wintering

** These are federally listed endangered and threatened species. This list may vary from the state list of endangered and threatened species. A species status may change. For updates call the Florida Game & Freshwater Fish Commission.