FRESHWATER BIRDS

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With so many wetlands and miles of coastline, Florida is a bird watcher's paradise. Most of these wild birds aren't hunted, so many of them have grown accustomed to being around people. Indeed, some have adapted enough to survive and even prosper in some local areas, while living among 16 million Floridians. People from around the world, ecotourist birdwatchers, come to spot our birds, each year spending more than $1 billion to do so.


White ibis

During the day, most water birds search for food, usually fish, but also snails, crayfish and other small aquatic animals. Many birds also look for certain plants, dining on leaves, stems and seeds. The **waders** stalk the shallows, constantly stabbing into the mud with their long beaks. The **divers** prowl underwater for many seconds at a time. The **paddlers** move about on the surface, sticking their heads into the water to spot food. The **aquatic birds of the air** soar overhead, sometimes fighting over fish, their huge nests encumbering many waterside trees.

AQUATIC PLANTS AND BIRDS

Aquatic plants, as well as aquatic plant management, are essential to the survival of Florida's water birds. In their work, aquatic plant managers attempt to take into consideration the needs of water birds and other aquatic animals.

Aquatic plants are used by birds directly as food, for hunting grounds, for nest building, and for protection. Some birds are adapted to submersed vegetation habitats: their legs are just long enough, their beaks are shaped just so, their very eyesight and calculated movements all contribute to the feeding strategies certain birds have developed to take advantage of submersed vegetation and to catch the fish, shrimp and other small animals living amongst the plants.

Some bird species are adapted to tallish emersed plant habitats where they pick small animals from the sides of the plants. Other bird species stand on floating vegetation in deeper water while they hunt for the small fish, insects and other animals beneath.

Some birds eat the plants themselves. It has long been known that certain aquatic plants are excellent food for ducks and other water birds. And some birds use aquatic and wetland plants for nest building and nursery areas.

Aquatic Plants Used by Birds
Among the native aquatic plants that are especially important to Florida's water birds are:
the submersed plants of these genera: *Ceratophyllum*, *Chara*, *Najas*, *Potamogeton*, *Ruppia*, *Utricularia*, and *Vallisneria*;
the tallish emersed plants of these genera: *Carex*, *Cladium*, *Crinum*, *Cyperus*, *Distichlis* *Echinochloa*, *Eleocharis*, *Eriocaulon*, *Fimbrystilis*, *Juncus*, *Leersia*, *Panicum*, *Paspalum*, *Phragmites*, *Polygonum*, *Pontederia*, *Rhynchospora*, *Sacciolepis*, *Scirpus*, *Spartina*, *Typha*, *Xyris*, *Zizaniopsis* and *Zizania*;
and the floating and floating-leaved plants of these genera: *Brasenia*, *Lemna*, *Nelumbo*, *Nymphaea*, *Spirodela*, and *Wolffia*.

It isn't easy to manage large areas of plants without accidentally harming native plants and animals. However, plant managers try to do no harm. For example, aquatic plant management agencies that work in the Lake Okeechobee and Kissimmee chain of lakes areas consider the needs of the endangered Everglades snail kite by curtailing plant management operations on plants and in areas where the snail kite forages and lives. The plants not controlled in these areas include water lilies (*Nymphaea* spp.) and spikerushes (*Eleocharis* spp.) that are home to the apple snail, the primary food of the snail kite. Managers also leave certain areas of cattail (*Typha*) and bulrushes (*Scirpus*) unmanaged because, though the snail kite prefers small trees such as the

southern willow, pond apple and buttonbush for nest building, the birds do also make nests in cattails and bulrushes. Another example of how managers must consider how their actions will affect wildlife: cattail control will have negative impacts on least bitterns, red-winged blackbirds and boat-tailed grackles, but positive impacts on wading birds, ducks and rails. **For more about water birds and aquatic plants,** see this article on this web site.

Little blue heron

Great blue heron

Night heron

Tricolored heron

Florida has a colorful and uneasy history with its water birds. Back in the early 1900s, the fashion industry began using bird feather plumes in ladies' hats and accessories. An ounce of bird feather plumes was soon worth twice its weight in gold. Nesting rookeries packed with these birds made the easiest targets and were plundered by the plume hunters. Even when laws were passed and protective measures taken, the black market persisted. One Audubon game warden was killed by bird poachers in the Everglades. This drew public outrage, increased awareness, and ultimately, more protection. When hat fashions changed and demand dropped off, the carnage was finally over. Water birds made a comeback because much of Florida was still undeveloped in those early years. However, bird populations dipped again with increased human population and development. Human encroachment on marshes, lakes, and rivers is now the number one threat to Florida's water birds.

Working the marina

Today, all of Florida's wading water birds **are protected by law.**

Water birds are dependent upon wild wetlands, which continue to dwindle. Though Florida has more than 7,800 lakes, many are now shared by people - whose numbers increase daily. Vegetation and shorelines are altered in many ways, as is the natural food chain.

Some water birds adapt to people, while others retreat. Some birds, like the snowy egret, sandhill crane, blue heron, and wood stork work the marinas and boatslips for their daily meals and become quite used to being around people.

TYPES OF WATER BIRDS

Some of Florida's water birds are endangered, threatened or species of special concern. For definitions of these terms and a list of freshwater plants and animals in Florida that are in peril, go to this page of our web site.

WADING BIRDS

Waders include the **herons, egrets, ibis, wood stork, limpkin, roseate spoonbill, bittern,** and the **native flamingo**. Egrets and herons feed by wading in the shallows and depend on their keen eyesight to spot any tempting morsels. You won't see one of the waders actually swimming, unless the bird is in dire shape.

			
Great egret	**Great blue heron**	**Limpkin**	**Glossy ibis**
			
Reddish egret (white phase)	**Tricolored heron**	**Flamingo**	**Spoonbill**

Wading birds thrive best in shallow water, but are very adaptive. The **snowy egret** can do a tightrope act on a dock rope, spearing fish below. The **great egret** has been seen hunting in the shrubbery of commercial buildings on early mornings, catching lizards before cars and customers arrive. The brightly colored **roseate spoonbills** and **flamingos** filter mud for tiny bits of food, so they spend a lot of time with their heads beneath the water.

Wood stork

Wingspan to 5 feet

The endangered wood stork, the only stork in North America, is a large wader which grows to more than 4 feet tall, with a wingspan of more than 5 feet. In the 1930s there were about 60,000 wood storks; by 1988 there were about 10,000 remaining. The wood stork eats fish, baby gators, snakes, and crayfish. It feeds in shallow water by slowly wading along sweeping its opened bill from side to side in the water; when a fish is touched, the bill snaps shut (in about 25 milliseconds), raises its head and swallows its food with a backward jerk. Wood storks nest in the tops of cypress and mangrove trees. To learn more about wood storks, go to this U.S. Fish and Wildlife Service web page.

LAND GRAZING WATER BIRDS

Some water birds spend much of their time on land, grazing and carousing.

Sandhill Cranes and Whooping Cranes

Grazing sandhill cranes

Sandhill crane nest

By a city sidewalk

A married pair

Sandhill cranes and whooping cranes are among the largest birds in the world, and they are Florida residents for at least part of the year. Sandhill cranes are listed as endangered in the U.S., but the Florida sandhill crane is listed as threatened. The sandhill crane makes its nest from aquatic plants (in order of preference): maidencane, beakrushes, pickerelweed, spikerushes, yellow-eyed grasses, swamp lily, sawgrass, water lily, and pipeworts. The cranes pick the plants and carry them to the site, evenually making a mat nest that is up to a foot-and-a-half above the water, and up to five feet across. For an unknown reason, sandhill cranes make several nests during the

season, eventually choosing one for egg-laying. Usually between February and mid-March, an average of two eggs are layed on top of the open nest.

Whooping crane

Whooping cranes are the tallest North American bird, to 4.5 feet in height. The whooping crane reached the edge of extinction before intensive efforts to save them were begun. In 1994 only 146 individuals were known to exist. The U.S. Fish and Wildlife Service has captive-reared and released whooping cranes in Florida with the goal of establishing a non-migratory population. In the mid-1990s there were 15 whooping cranes in the state. See more about the whooping crane rescue efforts at this FWS web site. In northern Canada, whooping cranes make their nests mostly from *Scirpus validus*, *Typha latifolia* and *Carex aquatilis*, all aquatic plants.

Cattle egret

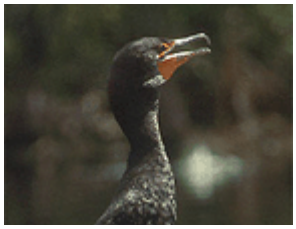
EXOTIC WATER BIRD

The **cattle egret**, native to Africa, was first seen in South America in the 1930s and in Florida in the 1950s, and now is a very common bird here and in the rest of the eastern U.S. The cattle egret wades in the water like other egrets, and breeds in aquatic rookeries with other egrets, herons and ibises. (Actually, all egrets are herons.) The cattle egret, though, prefers feeding with the ruminants, and is often found following in the footsteps of cattle and horses, pouncing on disturbed insects and other animals. (In Africa, it follows hippos and rhinos...) It sometimes is seen perching on the backs of cattle.

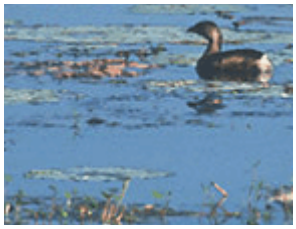
DIVING BIRDS

Cormorants in Gulf

Anhinga and friend



Cormorant in canal



Pied-billed grebe

Non-duck divers in Florida include the **anhinga**, the **doubled-crested cormorant**, the **pied-billed grebe** and the **common loon** (which winters in Florida). All four swimmers feed during the day by prowling around underwater, grabbing fish. All four birds swim more gracefully than they fly. The **anhinga** has no oil in its feathers, and thus no waterproofing so it must dry off several times each day. Likewise, the **cormorant** can be seen stretching its wings on occasion too, though it is certainly more waterproof. The cormorant is a fine fisher and has increased its numbers to a dramatic degree. As a result, it has depleted many ponds (including hatchery ponds) of stocked fish - and now faces predation control in some areas. The **grebe** can submerge vertically, not having to plunge forward. The grebe has a vertically compressed beak, rather than a duck's flattened beak; the grebe's toes are not webbed, but scalloped. The grebe makes its floating nest from aquatic plants such as maidencane. As for the **loon**, its haunting cry carries far across the bigger Florida lakes, an echo of lakes far to the north in Canada.

PADDLING BIRDS

Paddlers are made up mostly of **coots and other rails, gallinules, geese, swans** and **ducks**.

American coot

Common gallinule

Purple gallinule
(a rare bird)

The **American coot** is a rather comical, blackish bird with a white bill. It is often found in large social groups on many Florida lakes during winter. The coot has lobed feet which enable it to run across the water to reach takeoff speed. Like the gallinule, the coot feeds among aquatic plants such as cattail, bulrush, spatterdock and water lilies, looking for aquatic beetles and other morsels. Coots, like ducks, consume aquatic plants directly, including pondweeds (*Potamogeton*), water lilies (*Nymphaea*), naiads (*Najas*), bladderworts (*Utricularia*), coontail (*Ceratophyllum*), duckweeds (*Lemna* and *Spirodela*), and hydrilla (*Hydrilla verticillata*). The **common gallinule**, also called the

"moorhen", has a red forhead and beak. The plentiful common gallinule is often seen swimming with coots. The **puple gallinule** is as colorfully beautiful as it is very rare. Coots and gallinules are easy prey for alligators and bald eagles. Alligators are slow (or hibernating) during winter, unless the weather is warm. But the eagles are swift and deadly year-round.

		
Mallard	**Wood duck**	**Muscovy**

	
Black-bellied whistling duck	**Teals**

Migrating **geese and swans** are a rarity in Florida, but a number of **ducks** migrate into the state with the advent of winter, or pass through on the way to Cuba or Central America. Among the first to arrive each September are the bluewing and greenwing. Then, in autumn, the usual ducks arrive for the winter - the pintail, widgeon, ringneck, scaup and a scattering of other species. Ducks may be recognized from other birds seen on the water by their flattened beaks. As noted above about coots, ducks feed on many kinds of aquatic plants in Florida.

AQUATIC BIRDS OF THE AIR

Florida's hunting birds of the air, which require aquatic sites for their survival, include the **eagle, osprey, kingfisher, kites** and **hawks**, as well as the **barred owl**.

Snail kite

Bald eagle

Osprey with fish

Red shouldered hawk

Belted kingfisher

Barred owl

America's national bird, the **bald eagle** is a common raptorial bird of Florida's wetlands. The eagle is listed as "threatened" in the U.S. With its white head and tail, it is unmistakable. Its wingspan is to 7.5 feet. Eagles eat fish, coots, snakes and other animals, which it may grab from the water or may boldly steal from the osprey. Most eagles leave Florida during the summer, flying as far north as Alaska, returning to our lakes and rivers during the fall.

The osprey, also known as the fish hawk, is found throughout the U.S., and all over Florida. This large bird has a white head with a black area from the back of the head to the eye. Seen flying, the osprey's wings are bowed in the middle area; the tail has a black band. Osprey dive for fish from varying heights.

The endangered **Everglade snail kite** is a hawk with a wingspan of almost four feet. In 1988 there were an estimated 500 individuals. The snail kite lives in Florida's open freshwater marshes of sawgrass (*Cladium jamaicense*) and spikerushes (*Eleocharis*). It spends much of its time searching for apple snails, the bird's exclusive diet, that have climbed up the stems of emersed plants such as spikerushes. With its very hooked beak the snail kite grabs and is able to extract the freshwater apple snail. Aquatic plant management is essential to the recovery of the snail kite: infestations of water hyacinth (*Eichhornia crassipes*) prevent the bird from spotting apple snails. The snail kite usually

makes its nest in small trees such as southern willow and pond apple, but sometimes makes its nest among cattail and bulrushes. To learn more about the Everglade snail kite and the U.S. Fish and Wildlife Service recovery plan, go to this FWS web page.

The **barred owl**, a large night hunter, is found throughout Florida. It too depends on swamps and forested streams as its preferred habitat and hunting grounds. This two-foot tall bird takes mice, rabbits, fish, crayfish and frogs. In Florida, it chooses the hollow of a tree and nests starting in late January.

An interesting search continues for a bird that is (or most likely, was) dependent on lowland forests and river bottom timber for survival. This was the huge **ivory-billed woodpecker**, of which the last confirmed bird was shot in a north Florida swamp by taxidermists back in 1924. The hunt for this bird has lately resumed in Louisiana's Pearl River Swamp after one was allegedly heard. This particular woodpecker species was likely doomed because of man's encroachment, logging practices, and the bird's inability to adapt. Each nesting pair of ivory bills required six square miles (or 3,800 acres) of prime forest, often in swamp land, for their food supply.

WATER BIRD SPECIES RICHNESS

According to research, bird abundance and species richness tend to increase on eutrophic and hypereutrophic lakes, because these lakes have greater natural food resources. However, wild bird populations under normal situations do not significantly impact the trophic status of lakes.

Research has shown that aquatic vegetation is vitally important to bird populations using lakes. The removal of submersed aquatic weeds from lakes may have no real effect on average bird abundance. Instead of reduced numbers of birds, the bird species composition changes. For example, when submersed aquatic plants are removed it was found that the ringneck duck may be replaced by an open water bird species such as the double-crested cormorant.

As for shoreline vegetation, research shows that shoreline alteration can be detrimental to wading bird populations. It seems that as shorelines are developed for homes and parks, much vegetation is (unfortunately for the birds) removed so people can view the lake. Removing that vegetation can affect not only how many birds are present on the lake, but also which species leave and which stay.

			
Great egret	**Least bittern**	**Bald eagle**	**Snowy egret**

WATER BIRD DISEASES

Crowded bird populations on a water body can result in an increased chance of diseases spreading among the birds, such as avian cholera or duck plague. This problem is more prevalent in other parts of the country, in regions with less water, which invites bird crowding. In a watery state like Florida, a lake crowded with wading birds is often a sign of dropping water levels, which concentrates water birds' natural food, such as fish. However, a crowd of birds will add bird droppings (guano) and resulting bacteria to the water, which can lead to bird epidemics.

One finds aggressive muscovy ducks and domesticated mallards on many water bodies where people live in close proximity. These birds live all year in Florida, unlike their wild cousins. The muscovy and tame mallards are not recommended on Florida lakes and ponds because they carry avian diseases that can foul smaller water bodies and ultimately spread to wild duck populations.

It is illegal to release tame mallards onto state waterways. Aside from the health risks to wild waterfowl, they breed with wild Florida mottled ducks, hybridizing the species. For more about mallards in Florida, and the new mallard possession rule, go to the Florida's Waterfowl page of the Florida Fish and Wildlife Conservation Commission web site. Click on "new mallard rule".

WATER BIRDS AND WEST NILE VIRUS

One disease of special concern is West Nile virus, which has been spreading through the bird population down the eastern seaboard into Florida. The disease is carried by mosquitoes and kills birds. It then spreads, again by mosquitoes, to people. In Florida, it has been detected in great blue herons, least bitterns, double-breasted cormorants, and green herons. West Nile virus is expected to spread to additional bird species. See USGS Health Alert #01-02.

WATER BIRDS AND POLLUTION
Water birds are susceptible to a variety of pollutants in water. A constant diet of fish can build up various toxins or heavy metals (such as mercury) in these birds, a process called bioaccumulation. One problem was solved years ago, by banning DDT. Before that happened, a build-up of DDT in water birds sometimes meant that their egg shells became too thin to survive in the nest. That made for poor hatching success. This was especially prevalent in pelicans and eagles.

The National Wildlife Association has a good web site called Effects of Water Pollution on Wildlife.
Also see this site for more information on mercury concentrations in feathers of wading birds in Florida.

FOR MORE BIRD PICTURES on our web site, go to this page.

FOR EVEN MORE BIRD PICTURES on our web site, go to this page.

FOR MORE INFORMATION ABOUT FLORIDA WATER BIRDS, especially ducks,
go to Florida's Waterfowl Web Site of the Waterfowl Management Section of FFWCC.

Other recommended web sites concerning Florida water birds:

How **different varieties** of wading birds **hunt** for food
http://www.dearcroft.com/wade.html

Wading birds and **agriculture** in Florida
http://edis.ifas.ufl.edu/BODY_UW139

American bittern
http://www.mbr-pwrc.usgs.gov/id/mlist/h1900.html

Anhinga
http://www.geocities.com/Heartland/5960/anhing.html
http://www.mbr-pwrc.usgs.gov/id/mlist/h1180.html

Audubon's crested caracara
http://endangered.fws.gov/i/b/sab6e.html

Bachman's warbler
http://endangered.fws.gov/i/b/sab0z.html

Cape Sable seaside sparrow
http://endangered.fws.gov/i/b/sab03.html

Double-crested cormorant
http://www.mbr-pwrc.usgs.gov/id/mlist/h1200.html
http://www.geocities.com/Heartland/5960/dccormorant.html

Everglade snail kite
http://endangered.fws.gov/i/b/sab0v.html

Glossy ibis
http://www.mbr-pwrc.usgs.gov/id/mlist/h1860.html

Great blue heron
http://www.geocities.com/Heartland/59 60/bheron.html

http://www.mbr-pwrc.usgs.gov/id/mlist/h1940.html
Great egret
http://www.mbr-pwrc.usgs.gov/id/mlist/h1960.html
Great white heron
http://www.mbr-pwrc.usgs.gov/id/mlist/h1920.html
Green heron
http://www.geocities.com/Heartland/5960/gheron.html
http://www.mbr-pwrc.usgs.gov/id/mlist/h20 10.html
Limpkin
http://www.mbr-pwrc.usgs.gov/id/mlist/h2070.html
Little blue heron
http://www.mbr-pwrc.usgs.gov/id/mlist/h2000.html
Least bittern
http://www.mbr-pwrc.usgs.gov/id/mlist/h1910.html
Reddish egret
http://www.mbr-pwrc.usgs.gov/id/mlist/h1980.html
http://magazine.audubon.org/birds/birds0007.html
Roseate spoonbill
http://www.mbr-pwrc.usgs.gov/id/mlist/h1830.html
Sandhill crane
http://www.mbr-pwrc.usgs.gov/id/mlist/h2060.html
Snowy egret
http://www.geocities.com/Heartlan d/5960/egret.html
http://www.mbr-pwrc.usgs.gov/id/mlist/h1970.html

Tri-color heron
http://www.geocities.com/Heartland/5960/tricolor.html
http://www.mbr-pwrc.usgs.gov/id/mlist/h1990.html
Wood stork
http://endangered.fws.gov/i/b/sab5z.html
http://www.mbr-pwrc.usgs.gov/id/mlist/h1880.html
White ibis
http://www.mbr-pwrc.usgs.gov/id/mlist/h2030.html
http://www.petersononline.com/birds/month/whib
Whooping crane
http://endangered.fws.gov/i/b/sab6t.html
Yellow-crowned night heron
http://www.mbr-pwrc.usgs.gov/id/mlist/h2030.html

The Creators
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Main Index

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varamey@nersp.nerdc.ufl.edu

http://aquat1.ifas.ufl.edu/guide/watbirds.html