THE CYPRESS SWAMP

The cypress swamp can look very eerie with its massive cypress trees draped with Spanish moss and cypress knees jutting out from the black, inky water. Each swamp probably has in its history a fair share of ghost stories and imaginary creatures. Part of the swamp’s reputation as a dangerous place comes from the fact that, in the past, escaped convicts and bootleggers found the swamps a haven due to their inaccessibility.

Cypress swamps are not dangerous or treacherous, but are important retreats for wildlife and places of great beauty and solitude. Step into the misty Delta Swamp exhibit and experience the sounds, smells and sights of this wonderful wetland habitat.

“BLACKWATER SWAMPS”

Swamps often look black and murky. When poured into a glass, swamp water is actually amber in color. Dyes from roots called tannins and decaying leaves of plants provide the tea-like coloring. When the dark organic debris on the swamp floor is seen through the amber water, it does indeed look like “blackwater.”

Cypress swamps are found throughout the lowlands of the Atlantic Coast from Delaware southward, along the Gulf Coast and into the Mississippi Valley. There is a variety of vegetation in the swamps, and the most prominent tree is the bald cypress.

The swamps experience flooding during the rainy season and may become dry during periods of drought. The cycle of wet and dry seasons is thought to be the underlying factor responsible for the staggering diversity of organisms found in these southern floodplain forests. The wet season floodwater brings nutrients that support the animal and plant life. The dry season permits new plant growth and helps many organisms progress through important growing stages of their lives.
BALD CYPRESS TREE
*Taxodium distichum*

The bald cypress is actually not a true cypress tree. It is in the redwood family (*Taxodiaceae*) along with the impressive giant sequoias. Cypress trees are noted for their large size, as well as their longevity. There have been cypress trees that have measured over 140 feet high and 1600 years old! The name “bald cypress” comes from the fact that although the tree belongs in the conifer family, it sheds its needles every fall.

The bald cypress is opportunistic and is one of the first trees to invade newly cleared lands. Taking root in mudflats that border rivers, the bald cypress has developed a distinctive and unusual root system that consists of numerous anchoring “sinkers” called tap roots.

A wide-spreading lateral system of shallow roots serve as support, and from these arise peculiar cone-like structures known as “knees.” These conical knees can grow to more than 6 feet in height, and are usually just a little taller than the high-water mark. The biological function of the knees is in dispute, but it is thought that they may be involved in the tree’s respiration process, as well as provide anchorage in the muddy soil. Like a few other types of swamp trees, the bald cypress has a swollen or buttressed base. The combination of the widened base, deeply sunk tap roots, and horizontal roots that are pinned down by the knees help the bald cypress withstand high winds and heavy flooding.

The bald cypress tree’s preferred habitat would be in a damp area that does not flood. It is confined to the swamplands because it cannot compete with the hardwood trees and other vegetation found in its preferred area. The bald cypress has successfully adapted to the fluctuating swamplands, often surviving and thriving as the predominant tree species. Though some young trees may be eaten by foraging animals such as rabbits and the swamp rodent, nutria, many seeds and cones are dispersed by floating on the water to another area. Some dispersal is thought to occur by way of wood ducks and other birds that eat the seeds then carry them in their crops or stomachs as they travel from one feeding area to another.
**CYPRESS TREE FACTS**

- With the exception of the chestnut tree, the bald cypress has had the greatest reduction in numbers over the past century than any other tree. While the chestnut trees were eradicated by disease, the cypress trees were harvested for timber and cleared for development.
- Each cypress cone is a little smaller than a golf ball and contains 20 - 30 cypress seeds.
- The cypress is known as the “wood eternal” because of its durability and resistance to decay. It has been used to make water pipes, gutters, bridges and even caskets.
- The age of a bald cypress cannot be accurately determined by examining its growth rings. “False rings” form during short growth spurts that follow times of drought. Instead of one growth ring per year, a bald cypress may have 3.
- Cypress trees are susceptible to a fungus disease known as “pecky cypress” which destroys all but the outer shell of the tree.
- A resin obtained from bald cypress cones is used as an analgesic for lesions of the skin.

**ALL SORTS OF TREES, IF YOU PLEASE!**

The bald cypress trees in the Tennessee Aquarium’s Delta Swamp exhibit have varied origins. Some are real live trees; others are actual dead trees that were airlifted from the wreckage of Hurricane Hugo in South Carolina in 1988; and the remaining bald cypress trees are amazing fabricated specimens of fiberglass, wire mesh and rubber.

**BUNDLES OF TINY PLANTS!**

The tangles of Spanish moss (*Tilandsia usneoides*) that hang from tree branches are colonies of little plants called epiphytes. Epiphytes, or "air plants," do not need to root in soil. They attach to trees for support and receive their water and nutrients from the moisture in the air and rainwater.
Wonderful Wetlands

We know that a wetland is an area such as a swamp, marsh or bog. When we think of wetlands, we conjure up images of mosquito infested, dismal, muddy places. Do we really know how important wetlands are as an ecosystem? Do we know the benefits they provide to people and the environment? Wetlands provide a multitude of benefits ranging from wildlife habitat to water purification. Each type of wetland is different but equally important. The main benefit that all wetlands provide is habitat for thousands of life forms. An incredible diversity of life can be found in a wetland including fish, snakes, turtles, birds, salamanders and plants.

Wetlands also serve many other purposes. They serve as natural water purification devices and help to improve overall water quality. Many wetlands function as pools which remove sediment, a major water pollutant, thus improving water quality downstream. In that sense, they act like sponges. Wetlands rich in plant life increase the opportunity for removal of sediment along with many toxic chemicals, such as pesticides. These chemicals adhere to the sediment and are trapped or filtered out. The retention of this toxin-laden sediment lengthens the lifespan of the downstream ecosystem and reduces the need for costly activities such as dredging. Wetlands that remove nutrients such as nitrogen and phosphorous help to slow the process of eutrophication. Eutrophication is an aging process. Excess nutrients left in the area can lead to rapid plant growth. Eventually, the wetland becomes a forest, thus wiping out a valuable habitat. Plants play an important role in water purification by absorbing many nutrients from the water. These plants, such as water hyacinths, exhibit the ability to remove runoff pollution. Plants also function to stabilize shorelines during coastal storms. The vegetation reduces the impact of waves, and the plant roots help to hold bottom sediment in place.

AMAZING DIVERSITY
It has been estimated that over 500 animal species and 5,000 plant species require a wetland habitat during some part of the year. Along with many common animals, 45% of the nation’s listed endangered animals and 26% of the listed plants are found in or rely on wetlands.
Water, Water, Everywhere

Wetlands are just that, a “wet land.” They provide drinking holes for all types of wildlife and are a source for crop irrigation. Many wetlands also provide drinking water for people. Much of our water supply comes from underground reservoirs called aquifers. Water from wetlands seeps down into the ground, eventually reaching the aquifer. This water is often cleaner than other surface water due to the filtration process wetlands provide.

Wetlands provide us with many benefits and serve as a vital habitat resource. If you have never visited a wetland such as the Okefenokee Swamp or the Everglades National Park, you have missed seeing one of the most productive ecosystems in the world. A good place to begin your wetland introduction, however, is right here in Chattanooga. Visit the Amnicola Marsh on Amnicola Highway, a half mile past the Riverport entrance. This marsh is a very important place for many birds in this area and an example of a vital habitat that is rapidly being lost. Due to the efforts of the Tennessee Ornithological Society, the marsh and 52 surrounding acres is now a Wildlife Observation Area managed by the Chattanooga Parks and Recreation Department. A riverwalk borders the marsh, making it easy to view many of the marsh dwellers “up close and personal.”

For further information concerning wetlands and their protection, visit www.epa.gov/owow/wetlands/vital/protection.html. Scientists learn more about wetlands every day, but until we all realize the value of this precious ecosystem, the world will continue to lose this valuable resource and the wondrous biodiversity that accompanies it.

WHAT ARE WE DOING TO HELP PROTECT WETLANDS?

- Section 404 of the Federal Clean Water Act regulates discharge of dredged or fill materials into wetlands.

- U.S. Fish and Wildlife purchases wetlands each year with federal funds in order to protect them.

- The Water Bank Program pays landowners to protect waterfowl habitat.

- The 1985 Swampbuster Program removed most federal flood and crop insurance and price support from farmers who convert wetlands to farmland.

- The EPA established an Office of Wetlands Protection in 1986 to provide leadership to protect wetlands.
Diversity of Life in the Swamp

Animals that make their home in the swamp may include fishes such as the gar, largemouth bass, bowfin, topminnow and carp. The gar and bowfin are ideally suited for life in the swamp. They have a swim bladder that allows them to breathe air at the surface when the water level falls and the amount of oxygen dissolved in the water is depleted.

Fish are not the only blackwater inhabitants of the southern swamp. A plethora of turtles ranging from the small razorback musk turtle to one of the largest freshwater turtles in the world, the alligator snapping turtle, can be found lurking amidst the vegetation. Other members of the reptile family found here are various water snakes as well as the more terrestrial rattlesnakes and copperheads.

Many birds, including the wood duck, egret and rail make the swamp their permanent home. Others use the swamp as a seasonal refuge. The horned grebe, black duck, American avocet, Virginia rail and a variety of shorebirds are winter residents, while the summer inhabitants include the purple gallinule, fulvous whistling duck, songbirds such as the beautiful painted bunting and several species of colorful wood warblers.

Delta Birds

Snowy Egret
*Egretta thula*

Members of the family Ardeidae, the herons, egrets and bitterns are a worldwide group of long-legged, long-necked, beautifully plumed wading birds. The snowy egret is one of the most attractive of the heron family. Smaller than many of its cousins, the snowy egret stands about 2 feet tall. Its wingspan may range from 38-45 inches. The Aquarium’s egret is a rehabilitated bird with a wing injury that rendered it flightless.

Egrets are actually herons but were given their name from their long plumes - *aigrettes* - worn during the breeding season.
The herons and egrets are colonial birds living in large rookeries. These rookeries can contain thousands of birds, and cohabitation among different species of herons is not unusual. They are patient, stealthy hunters. Fish are the predominant part of the diet but egrets will also eat frogs, snakes, fiddler crabs and crayfish. Studies have shown, however, that herons and egrets consume only a small amount of large game fish. The birds are actually beneficial as they create a culling effect by feeding mostly on small fish.

Sporting breeding feathers of long filamentous plumes on the back, lower neck, or head, the herons and egrets have paid a high price for their beauty. The fashions of the late 1800s and early 1900s made the birds' plumes highly sought after and very costly. Once in such demand by the millinery trade, plume hunters in 1903 were offered $32 an ounce for plumes. During this period, heron populations plummeted to a dangerous level reaching their lowest numbers in the early 1900s. In 1916 herons and egrets gained protection under the law with the presidential signing of the international agreement called the Migratory Bird Treaty Act. This treaty sought to protect birds that migrate between Canada and the United States. Similar treaties were enacted with Mexico and Great Britain in 1936 and have undergone various amendments over the years. Also stemming from this initial federally backed conservation treaty are such acts as the Bald Eagle Act of 1940, the Endangered Species Preservation Act of 1966 and the Endangered Species Conservation Act of 1969.

Wood Duck

*Aix sponsa*

The wood duck's scientific name is a fitting description of the male's strikingly handsome coloration. The Latin meaning of *sponsa* actually means betrothed, bride or "promised one" in reference to its exquisite plumage as though it were arrayed for a marriage.

As its common name suggests, the wood duck is most at home around wooded rivers and swamps and often nests in tree cavities several feet above the ground or water. This cavity nesting habitat and also its ability to nest as much as a mile from water enable the wood duck to breed in areas that many other duck species would find unsuitable. Also, wood ducks readily accept man-made nesting cavities which further exemplifies their adaptable natures. Wood ducks have many enemies with which to contend. Sharing their wooded habitat with common and alligator snapping turtles, juvenile wood ducks are especially susceptible to these well camouflaged and highly efficient predators.
EASTERN BLUEBIRD
*Sialia sialis*

The male Eastern bluebird, with its brilliant blue back, rusty brown flanks and creamy white underside is one of the most striking of the southeastern songbirds. The Aquarium bluebirds have produced well over 100 baby bluebirds over the last 20+ years that have been sent to facilities all over America. A frequent nester in constructed, above-ground bluebird boxes, the Eastern bluebird is a favorite of backyard birdwatchers. In many parts of the country the return of the bluebirds from winter habitats signals the end of winter.

**TENNESSEE WATCHABLE WILDLIFE**

The Eastern bluebird had the honor of being chosen by the Tennessee legislature to adorn one of the state's "Special Wildlife License Plate". Portions of the proceeds from the purchase of these plates were deposited in the Tennessee Wildlife Resources Agency's Watchable Wildlife Fund. The choice of the bluebird was based on various criteria including its Blue List status. This list consists of North American birds that are of special concern to conservationists because they are currently giving indications of non-cyclical population declines or deteriorating geographic range. (The Blue List should not be confused with official Endangered status.) In the past 25 years Eastern bluebirds have become uncommon in the southeast. Although the reasons are still somewhat unclear, serious competition for nesting holes with introduced species such as the European starling may be a critical factor.

Sora
*Porzana Carolina*

The Sora is a member of the Rail family and is a small gray-brown rail with a black patch on the face and throat and a short yellow bill. It winters along the Atlantic coast from Virginia to Florida and across the southern US from Florida to southern California. Brackish marshes, wet meadows as well as fresh water streams are the habitat of choice. This bird is an omnivore, eating seeds along with snails and other aquatic invertebrates.
**None on exhibit as of Fall 2013 but we hope to obtain more in the future!!**

Look quickly! The hooded merganser is not one to hang around for long. A small, beautifully plumed duck, the hooded merganser is a lightning fast diver that swims with a flying motion using its wings and feet. Its speed is not confined to its swimming ability. A hooded merganser rises from the water and is on the wing immediately, not needing the "runway" that many other duck species require. If alarmed, the hooded merganser is among the fastest flying of North American ducks.

Hooded mergansers are most often found in pairs or small flocks of a dozen or less. They are usually found feeding in ponds and other gently moving waters. Swift-flowing streams are also frequented when their preferred habitat is frozen. With such excellent diving skills, the hooded merganser is quite adept at catching fish, crayfish, aquatic insect larvae, frogs and tadpoles. If suspicious of danger, a hooded merganser will sink until the water is almost level with its back.

Hooded mergansers nest in almost any hole or tree cavity that is large enough for the female to enter. They will even nest in an opening of a fallen log or a hole in the ground.

**MALE OR FEMALE?**

During the summer months, it may be difficult to distinguish the male merganser from the female. In summer, the male is in eclipse plumage, a dull, female-like plumage into which many brilliantly colored male ducks molt. At this time, the male completely loses his primary feathers and is flightless. While in this plumage, they are said to "go into eclipse" for a month or so as they lay low and hide from enemies during this vulnerable flightless period.
BROWN THRASHER

Toxostoma rufum

Brown thrashers belong to the same family as the Mockingbird and appear very similar in body shape. The brown thrasher's gray relative is quite different in disposition, however. The mockingbird is quite gregarious, often adapting well to an urban environment. Conversely, the brown thrasher is quite retiring and secretive, preferring thickets and woodland borders. The call of the brown thrasher and mockingbird is very similar in sound. The repetitions will give away the identity of the singer, however. Brown thrashers repeat the musical phrase twice; whereas, mockingbirds sing in repetitions of three or more.

FEATHER CARE

The development of feathers is what separates birds from all other animals. A tiny hummingbird may have as many as 1,000 feathers, while the large swan is covered in over 25,000 feathers! To work effectively, a bird's feathers must form a smooth, continuous surface so that the air will flow over them easily when in flight. Daily wear and tear on feathers is tremendous. To keep feathers in shape, a bird uses its beak like a comb in a process called preening.

Birds seen preening in the Delta as of Fall 2013 might be a Gray Catbird, Mourning Dove, Summer Tanager, Orchard Oriole, Black-throated Blue Warbler or a Common Yellowthroat.

Tennessee Warbler

Vermivora peregrine

To see our Tennessee warbler in the Delta you will look for the bird with the olive green above with a gray head and the white stripe over the eye. It is only seen in Tennessee during migration to and from its wintering sites in southern Mexico and northern South America. It is found in coniferous and mixed woodlands in the summer, mixed open woodlands and brushy new areas during Fall migration. This bird is an omnivore, foraging for small beetles, weevils, grasshoppers, leafhoppers, caterpillars, and spiders. The typical life expectancy is over 6 years.
Gray Catbird
_Dumetella carolinensis_

This is a slim, slate-gray bird with a black cap, long black tail, and chestnut colored undertail. No other bird in North America is slate gray with a reddish undertail. The catbird can be found in shrubs, tangled thickets and wood edges in rural and suburban settings. Its diet is omnivorous including insects and berries. The name comes from its call which can sound like the “mew” of a cat. The catbird’s range is from southern Canada to Central America.

Delta Swamp Reptiles

ALLIGATOR SNAPPING TURTLE
_Macrolemys temmincki_

Perhaps some of the most impressive turtles at the Tennessee Aquarium are the alligator snapping turtles in the Delta exhibit. The alligator snapping turtle is the largest of North America’s turtles, and gets its name from its powerful bite and from the ridges along the carapace that are similar to those on the back of an alligator.

Alligator snappers inhabit Gulf of Mexico drainage rivers between the Florida panhandle and eastern Texas and wander slowly upstream throughout their lives. Alligator snappers are basically bottom dwellers that surface to breathe. They may remain submerged 40-50 minutes. Snappers are extremely long-lived turtles, some live up to 100 years. Most scientists believe that they gain one pound each year during their early years.

Aquarium Snappers

One male – 150-175 pounds
Smaller female -35-45 pounds
Larger female- 50-65 pounds

_In the winter months they may eat once a month or once every other month._

Alligator snapping turtles are omnivorous, but prefer to eat meat. Basically sluggish animals, they are equipped with an unusual mouth feature to lure prey. A pink appendage inside the mouth resembles a worm. The turtle sits on the bottom with its mouth open and actually lures fish with the wiggling wormlike appendage. When a curious fish gets too close, the turtle quickly slams its extremely strong jaws shut to capture its meal!
AMERICAN ALLIGATOR
Alligator mississippiensis

The living species of the order Crocodilia include the alligators, crocodiles, caimans and gavials or gharials (common name). These animals inhabit the tropical and subtropical regions of the world. They are found in aquatic habitats and range in size from the 30-foot long Australian crocodile to the much smaller dwarf caimans that reach a length of only 5 feet. The United States is home to two species of crocodilians, the American crocodile and the American alligator.

Although most crocodilians are found in tropical and subtropical zones, the American alligators’ range extends into the temperate zone of the United States: from the Carolinas southward on the Atlantic coast and from southern Arkansas to the Gulf of Mexico in the Mississippi Valley.

Crocodilians are ectothermic, which means that their body temperature varies with their surroundings. They can control and maintain body temperature within a narrow range by moving between warm and cool areas or by coating the body in mud as a buffer against extreme temperatures. The American alligator faces some problems that its warm region relatives do not encounter, including freezing temperatures. To combat the cold weather that occurs each year in the most northern parts of its range, the alligator is able to go into a state of dormancy. During this time, it does not hunt and the normal body functions such as circulation and breathing drop to a low level of activity. This period of dormancy is not true hibernation, because on days of higher temperature the alligator becomes active.

The alligator was removed from the Endangered Species List on June 4, 1987, and reclassified as threatened.
AMERICAN ALLIGATOR FACTS

- The Delta Swamp exhibit features a female American alligator that was obtained from the St. Augustine alligator farm in Florida on October 21, 1998. She is approximately 21 years old as of 2013 and weighs 75-150 lbs. The average lifespan for a wild alligator is 35-50 years; however in captivity they can reach 60-80 years. In late summer every year she builds a nest over to the back left of the center exhibit made of organic material she can dig up in that area. With no male in the exhibit any eggs she lays will not be fertile.

- The alligator is one of the largest reptiles found in the United States. Only the crocodile that occurs in the most southern regions of Florida is larger.

- The male American alligator grows about 12 inches a year until it reaches a length of 7 or 8 feet. The female grows at about the same rate until she is 7 feet long, then slowly grows to her maximum length of 9 feet. The record holder American alligator was caught in 1890 in Louisiana and was 19 feet 2 inches long. In June 2013, our gator was approximately 6 feet, 8 inches long.

- Alligators differ from crocodiles in that alligators are stockier and more broad-nosed than crocodiles. Also, their color is usually darker and their teeth do not protrude as crocodiles’ do.

- A protective transparent membrane slides from the front to the rear of the alligator's eye when the animal is submerged.

- The ears of the alligator are located behind the eyes and are covered with a heavy flap of skin. The ear cover opens when the head is above the water and closes when it is below.

- The American alligator has 38-40 teeth in the upper jaw and the same amount in the lower jaw. All of the teeth are not usually present because of frequent breaking when biting hard objects. Young alligator's teeth are replaced on a regular basis. They can go through approximately 2-3,000 teeth during their lifetime.

- When they are hatchlings, alligators eat insects and small fish. The next stage of development finds the alligators eating crayfish, small crabs, fish and reptiles. At full maturity they eat anything they can catch such as gars, turtles, aquatic birds and even smaller, weaker alligators.
Eastern Indigo Snake  
*Drymarchon couperi*

The eastern indigo snake is a large, black, non-venomous snake found in the southeastern United States. It is federally protected as a threatened species. It primarily occurs in the sandhill habitats in northern Florida and southern Georgia. It is the longest native snake species in the U.S. reaching lengths of approximately 8.5 feet. The snake received its name from the glossy iridescent blackish-purple sheen it has in bright light. The Latin name for the genus *Drymarchon* roughly translates to “Lord of the Forest”. Eastern indigos will eat almost any type of vertebrate it can overpower and swallow. This snake has one of the most varied diets of any snake in the world. The diet includes amphibians, reptiles, birds and mammals. It often will live a communal existence for their winter refuge with gopher tortoises in their underground burrows, although it will settle for armadillo holes, hollow logs, and debris piles when gopher tortoise burrows can’t be found. Their habitats are primarily scrub oak-longleaf pine areas. Our snake on exhibit as of 2013 is about 17 years old. The record lifespan is 25 years.
Gopher Tortoise
*Gopherus polyphemus*

Gopher tortoises are dry-land turtles that usually live in well-drained, sandy soils associated with longleaf pine and dry oak sandhills. They are currently protected by federal law under the Endangered Species Act in the western part of their range. They grow up to about 12 inches long. With their strong elephant-like back legs and front feet specialized for digging, they are well adapted for burrowing. The burrows vary from 3 feet to 52 feet long and 9 to 23 feet deep. The burrows provide protection from predators and the elements. Gopher tortoises are primarily herbivores and eat low-growing plants, primarily grasses such as wiregrass. Most of the water that they need comes from the food they eat. The gopher tortoise is either a dark tan or gray and can live upwards of 100 years in captivity.

Habitat destruction is a significant threat to gopher tortoises. They need large parcels of undeveloped land for burrow space. In the past many tortoises were killed either for food or by people who were trying to kill the rattlesnakes that often share their burrows.

Delta Swamp Fish

Bowfin
*Amia calva*

Bowfins are the only living species of this ancient family of fishes. Scientists have uncovered fossilized remains of bowfins in Europe that are thought to have existed 180 million years ago. The bowfin is considered primitive because the skeleton is greatly cartilaginous, bony plates cover the head, and the fins are simple. The bowfin is equipped with a swim bladder connected directly to the digestive tract that allows it to gulp air at the water’s surface. The air is a supplement to the oxygen taken in by the gills, and allows bowfin to live in hot, stagnant pools that are low in oxygen and uninhabitable by most fish species.
Western Mosquitofish  
*Gambusia affinis*

These tiny nondescript fish spend much of their time patrolling about the surface in quiet, shallow backwaters. They are livebearers and feed on fallen insects and other planktonic organisms such as aquatic insect larvae, snails and larval fish. Mosquitofish are in turn preyed upon by larger fish and birds. These fish have been introduced throughout the world as a biological control measure for malaria. Unfortunately, introductions outside its native range have proven detrimental to other native fish. In the southwest, mosquitofish prey on the young of desert fish and outcompete them for prime habitat and spawning areas. In Tennessee, these fish are a menace to the Barrens topminnow reintroduction project that is being carried out by the Tennessee Aquarium.

Mosquitofish provide their young with a high degree of parental care. This, coupled with their tolerance of high temperatures, low oxygen levels and poor water quality conditions affords them higher reproductive success than other fish. Their life span is short, usually not more than one year but females mature rapidly and are able to reproduce within the same season they are hatched. Mosquitofish are perhaps the most common freshwater fish in the Everglades and have even been found in the saltwater of Florida Bay.

Robust Redhorse sucker  
*Moxostoma robustum*

The robust redhorse is a large, long-lived member of the redhorse sucker family. Adults can reach a length of 30 inches but on the average the length of an adult would be approximately 25 inches. This fish has a thick, robust body with rose-colored fins and a fleshy lower lip. Its range is from Virginia and the Cape Fear River drainage in North Carolina to the Oconee River system in Georgia. It inhabits silty to rocky pools and slow runs of small to medium rivers. It is also found in impoundments.
Common Carp  
*Cyprinus carpio*

The common carp was introduced into the United States from Asia by the Fish Commission in the late 1880s as a potential food fish. It did not catch on in this country and carp have dramatically increased their population in our streams and rivers. Carp are large fish with two barbels located on their upper lip. They inhabit streams, lakes, ponds and reservoirs in clear or muddy water. They prefer warmer water with aquatic vegetation. Carp are members of the family Cyprinidae, the largest family of fish in the world with nearly 1,600 species worldwide. They are omnivores, feeding on plants, insects and small fish. Carp are strong swimmers but lack the agility of many common sport fish. Several genetic varieties of common carp exist, such as the "mirror carp" with only a very few large scales, as shown on the left.

Adult mirror carp inhabit warm, deep, slow-flowing and still waters such as lowland rivers and large, well vegetated lakes. Hardy and tolerant of a wide variety of conditions, carp generally favor large water bodies with slow flowing or standing water and soft bottom sediments. They thrive in large turbid rivers. Both adults and juveniles feed on a variety of benthic organisms and plant material. They spawn along shores or in backwaters. Adults often undertake considerable spawning migration to suitable backwaters and flooded meadows. Larvae survive only in very warm water among shallow submerged vegetation.

Least Killifish  
*Heterandria Formosa*

One of the smallest vertebrates on Earth, this very adaptable fish is a member of the Poeciliidae family, also called live bearers. It is a truly viviparous fish (giving birth to living offspring that develop within the mother’s body). Its distribution in North America is from the Cape Fear River drainage in North Carolina to southern Louisiana. It inhabits heavily vegetated, standing to slow-flowing fresh and brackish water sources. Killifish feeds on worms, aquatic invertebrates (copepods, ostracods), mosquito larvae, and plant matter.
Delta Swamp Amphibian display

Mississippi Gopher Frog
*Rana Sevosa*

There is an interactive area in the Delta Swamp gallery soon after you enter on the left-hand side that has information concerning what might be the most endangered frog in North America, the Mississippi Gopher Frog. Visitors can push the button to hear the sound that this frog makes in the wild. A species is designated as endangered when it is at risk of extinction throughout all or a significant portion of its range. It is estimated that fewer than 100 individuals remain in the wild in the Conecuh National Forest in southern Mississippi.

Adult frogs spend most of their lives underground in forests with an open canopy. It prefers the longleaf pine forest habitat. They use active and abandoned gopher tortoise burrows, abandoned mammal burrows and holes under old stumps as their underground retreats. Natural fires have historically been essential to maintaining the frog’s habitat but now controlled burns are used to maintain their habitat. Mississippi gopher frog breeding sites are isolated ponds that dry out completely at certain times of the year. Its habitat is being eliminated by logging, hydrological changes and commercial development.

The Mississippi gopher frog is a mid-sized, stocky frog whose total body length is about three inches. Its back ranges in color from black to brownish-green or gray and is covered with dark spots and warts. It has not been seen in Louisiana since 1967 or in Alabama since 1922.

Several environmental agencies have joined forces to try and help save this species in the wild with a proposed recovery plan. The USFWS has been working with the U.S. Forest Service since 1988 to protect the last remaining Mississippi gopher frog population. In addition, the USFWS, USFS, and the Mississippi Department of Wildlife, Fisheries and Parks have been working together to alter two existing ponds to attempt to create additional breeding sites for the frog.