



Animal Facts

Carolina Seas Features:

Green Moray Eel

- The green moray eel is commonly found in cooler waters, north of the Caribbean, usually around seawalls, rock pilings off harbors and on rocky bottoms.
- The green moray eel has a very pronounced sense of smell. It uses its sensitive smelling abilities to locate prey in the dark gloomy areas of rocks and coral reefs. Green moray eels usually feed on crustaceans, octopus and small fish.
- It is usually seen opening and closing its mouth in a seemingly threatening way. However, this is how the eel breathes: by opening and closing its mouth, it forces water over the gills.
- When attacking an octopus, the moray ties itself in a knot to avoid the grip of the octopus' arms. When attacking prey that is too large to swallow, the moray can tie itself in a knot to get leverage to tear the prey into smaller pieces.
- The moray eel has a mutually beneficial relationship with cleaner shrimp and gobies that eat parasites, bacteria, and dead skin off the eel's body, even going inside the eel's mouth to clean.
- They are the one of few fish that can swim forwards and backwards.
- Morays are mainly active at night and tend to hide in crevices during the day.
- Green morays are too slow swimming to pursue their prey freely in the water column or along the outside of the reef. Eels prefer to lay still in dark holes and cracks and simply wait for their prey to swim by.
- Currently there is no special concern/status for the conservation of this species.

Lookdown

- The lookdown is most commonly found from the brackish waters of coastal bays and marshes to shallow coastal water and offshore up to a depth of 53 meters, usually over sandy or hard bottoms.
- Lookdowns inhabit the temperate, warm and tropical waters that range from Maine (and possibly farther north to Nova Scotia) to South America (Uruguay).
- These fish feed on a variety of prey, including fish, small crabs, shrimp, and worms.
- The lookdown gets its name from its downward-oriented eye. Its scientific name, *Selene vomer*, comes from the Greek goddess of the moon, Selene.
- When under stress, lookdowns will make grunt noises with their swim bladder and their teeth.
- Lookdowns are normally found in schools, but it is not unusual to encounter them in small groups or pairs.
- The lookdown has a relatively large, extendable mouth that allows it to feed on surprisingly large prey.
- Currently there is no special concern/status for the conservation of this species.



Spanish Hogfish

- Commonly found in and around coral and rocky reefs from the coast to depths of about 200 feet.
- Hogfish range from Bermuda and southern Florida, south to southern Brazil and west to the northern Gulf of Mexico. This species can be found as far north as South Carolina depending on the movement of the Gulf Stream, and have also been seen near Ascension Island and St. Helena.
- The adult Spanish hogfish seem to favor feeding on bottom-dwelling invertebrates (sea urchins, crabs, worms, brittle stars, clams and snails). Juveniles will set up cleaning stations of their own where they pick parasites from larger fish.
- Spanish hogfish use labriform locomotion (pectoral fins only), which is typical for wrasses and sends the fish bouncing through the water column.
- These fish are highly diurnal and will bury themselves during the night (not observed here at SCA).
- Wrasses in captivity have been observed performing the Rapid Eye Movement (REM) behavior while sleeping that is often associated with dreaming in higher vertebrates (not observed here at SCA).
- Young fish operate as cleaners, picking parasites off other fish.
- Currently there is no special concern/status for the conservation of this species.

Mountain Forest Features:

Brook Trout

- Mostly found in cool, freshwater rivers and lakes. Only waters that are well oxygenated and clear, without significant pollution, and with temperatures below 66°F (19 °C) can be considered suitable for brook trout.
- They are native to eastern Canada and the northern United States. There are also scattered populations in the cool streams of the Appalachian mountains in Maryland, western Virginia, North and South Carolina, and as far south as Georgia
- It is rare for brook trout to live past age five, and they almost never live to age eight.
- Brook trout survival during the first year is highly dependent on the effects of predation, disease and starvation.
- Some populations of brook trout in New England and Canada are anadromous (move from ocean to freshwater in order to spawn), and these trout that take to the sea are termed sea-run trout, salters, or coasters.
- Brook trout are one of the least competitive species of freshwater fishes and populations have been known to be greatly effected by the presence of other trout (e.g. brown and rainbow trout) competing for resources and the same niche within their habitat.
- Although the brook trout is not currently receiving federal or international protection, there are many extensive conservation efforts directed towards this species at the state and local level, especially where naturally reproducing brook trout populations occur. In South Carolina the brook trout is listed as a 'Species of Special Concern,' as populations only occur in a very small western portion of the state

Northern Cardinal



- The northern cardinal commonly lives in wooded areas, shrubs on the edges of wooded areas and in yards.
- They are found along the east coast of North America and as far west as Texas. Their range has been extending north in the past few years to southeastern Canada. The northern cardinal also ranges in Mexico.
- The northern cardinal mainly eats seeds, leaf buds, flowers, berries and some wild fruit. They also eat many different insects such as grasshoppers, true bugs, spiders, flies, ants and caterpillars.
- They live up to 15 years in the wild.
- They can fly up to 26 mph.
- It is the state bird of 7 states; North Carolina, Virginia, West Virginia, Illinois, Indiana, Kentucky and Ohio.
- These birds were named after the red robes worn by Roman Catholic Cardinals.
- Both the male and female cardinals are very vocal singers with gurgling and clear whistled melodies. Researchers have identified more than 25 different songs. This complex language can be used to communicate between individuals, among groups, or even as a general threat or warning towards another species.
- During the mating season, males establish a defined territory, after which the female will sing in duet with him. These songs are very important in setting up mating pairs and may even determine an individual male's reproductive success.
- The number of northern cardinals increased over the last 200 years, mainly because of habitat changes made by people. In California it is a "species of special concern," because people have destroyed too much of cardinals natural habitat.

North American River Otter

- River otters live in coastal estuaries, rivers and even mountain streams. Sightings of river otters in the wild are rare because they prefer uninhabited areas with clean, clear water where food is abundant.
- They once ranged throughout most of Canada and the eastern and central United States. Today, they are found in isolated populations within that former range where habitats still exist. In South Carolina, river otters can be found throughout the state, ranging from the Blue Ridge to the ACE Basin.
- In the wild, river otters eat a variety of fish depending on habitat, generally favoring the slower species such as suckers, carp, and catfish, but show no preference to any particular species. Coastal river otters may feed heavily on clams, while otters in the mountains may have crayfish as a primary food source. Other food items may include amphibians, mice, small rabbits, turtles and even bird eggs.
- They can swim up to 12 mph and can run 18 mph.
- Otters swimming beneath ice for long periods of time are known to use trapped air bubbles to continue to get oxygen.
- River otters close their nostrils and ears while underwater, and can hold their breath for about 4 minutes. The maximum known time for an otter to hold its breath is 8 minutes.
- Otters view their environment with a variety of senses, but their whiskers are very sensitive to physical sensations, and are important in hunting.
- An otter's fur is thick, containing about 156,000 hairs per square inch, creating almost a waterproof seal over the animal's body that insulates it in the water.



- Habitats far and wide have been ruined by development and increased boat traffic; however, populations of river otters are low, even in the best habitat. River otters have historically been hunted for their fur. Today, over 30,000 furs are sold annually in the United States and Canada. Despite all of this, river otters do not receive any federal or state protection under the law, and South Carolina still maintains a hunting season for otters with no limit.

Piedmont Features:

Fieryblack Shiner

- Fieryblack shiners inhabit rocky, fast-moving waters and pools in creeks and small to medium-sized rivers in the mountains and piedmont of North and South Carolina.
- Food for this species includes aquatic insects and possibly small fish.
- Male Fieryblack Shiners have adapted very specialized breeding displays in an attempt to lure in willing females. During the breeding season, males change the color of almost their entire bodies. Their snouts turn bright red. Their back turns bright blue. They develop a bright white band on their caudal fin and all their other fins turn totally white. They have also been known to use their large (relatively), rounded fins in breeding display and may even make sounds during the courtship process.
- Currently there is no special concern/status for the conservation of this species.

Robust Redhorse

- Robust redhorse are commonly found in deep water on the outside edge of large bends in the river with a lot of woody debris. They can also be found in rocky shoal areas around the fall line in most rivers.
- Limited wild populations exist today in the Ocmulgee and Oconee Rivers in Georgia, as well as the Savannah River in Georgia and South Carolina, and the Pee Dee River in North Carolina.
- Robust redhorse eat small crustaceans, mollusks, insects, algae, and detritus.
- According to the Robust Redhorse Conservation Committee, the habitat and life history of the species remains, for the most part, a mystery. The fish has proved difficult to study because of the effort needed for sampling and their close relation to other species.
- Recent research has shown that robust redhorse can migrate up to 80+ miles each year on spawning runs.
- Like all fish declared suckers, the robust redhorse has a bottom-facing mouth that is used to feed on bottom dwelling animals. This mouth is made up of two fleshy lips that are surrounded by finger-like projections called "papillae."
- These bottom feeding fish provide an important ecological service by "cleaning up" the bottoms of aquatic habitats of algae and dead materials. This service improves the overall health of habitats that are important for a variety of species.
- The Robust Redhorse has faced significant reduction in population due to habitat degradation. An inter-agency alliance called the Robust Redhorse Conservation Committee is working to restore habitat for this species, and replenish rivers where they were once abundant. Through education, RRCC and institutions such as the South Carolina Aquarium show the need for habitat protection and stronger conservation ethics.



Greater Siren

- The greater siren is found in a variety of aquatic habitats, including swamps, streams, rivers, lakes, bays and even ditches. In addition, this species is one of the few amphibians in the world known to tolerate brackish water.
- The greater siren's range is limited to the southeastern U.S., from Virginia (vicinity of Washington D.C.) south along the Atlantic coastal plain through North Carolina, South Carolina, Georgia, all of Florida and into the gulf coast of Alabama.
- Greater sirens are one of the most effective of all freshwater aquatic predators. They have been known to feed on crayfish, worms, snails, aquatic insects and small fish. In addition, they supplement their diet by ingesting quantities of aquatic vegetation while engulfing prey items.
- The scientific name *Siren lacertina* comes from Latin, literally meaning 'mermaid' and 'little lizard'.
- Greater sirens have lived up to 25 years in captivity.
- Sirens are superficially considered the most primitive group of salamanders because of their appearance (external gills and only two legs), but their natural history is poorly known.
- This species has relatively weak forelimbs and lacks hind limbs, making travel across land virtually impossible. Greater siren only emerge from the water when it is absolutely necessary.
- Adult greater sirens may reach well over three feet in length.
- This strange eel-like amphibian has external gills that it uses to breathe, thus giving it a totally aquatic lifestyle. It has always been assumed that this trait indicates that sirens are probably one of the most primitive of all the amphibians, but very little is actually known about this species' natural history. Although limiting them to a fully aquatic lifestyle, a siren's external gills give it the unique ability to aestivate under extreme drought conditions.
- Currently there is no special concern/status for the conservation of this species.

Coastal Plain Features:

Gulf Coast Spiny Softshell Turtle

- The spiny softshell turtle is commonly found in rivers, ponds, or lakes along rivers. They prefer sandy bottoms.
- Spiny softshell turtles are found throughout South Carolina and in all river systems south and west of the Cape Fear River.
- They will feed on crayfish, aquatic insects, and fish.
- In shallow water they stick their long necks up toward the surface with their nostrils out of the water to breathe.
- These turtles are not easy to handle; they use sharp, strong claws to scratch when restrained.
- Their throat can extract oxygen from the water, allowing them to stay submerged longer.
- Their shell can exchange oxygen with the water.
- Due to the softshell turtles' ability to breathe through gill slits and through their skin they are affected by chemicals in the water. Another threat is the myth that they are a nuisance species that eat the game fish that fishermen are trying to catch. Although not protected federally, the spiny softshell turtle and its seven subspecies are protected in many areas at the state level.



Diamondback Rattlesnake

- The diamondback rattlesnake is commonly found in pinewood flats and brushy fields with forests as the border. They may hide in stump holes, under brush piles, or in burrows of other animals (like the gopher tortoises).
- The eastern diamondback ranges from southeast North Carolina and throughout South Carolina to eastern Louisiana, and throughout Florida, including the Florida Keys.
- Juveniles will eat mice and other small mammals; adults will eat mainly rabbits, but will also eat squirrels, gophers, quail and rats.
- Diamondback rattlesnakes can live ten years in their natural environment, but have been known to live 23 years in a controlled environment.
- This rattlesnake, only found in North America, is the largest rattlesnake in the world.
- It is the most venomous snake in the eastern United States.
- When they are disturbed, they immediately assume a defensive posture; their fangs are 3/4 inches long and have been known to penetrate peoples' boots.
- Some adult diamondback rattle snakes have a striking range of more than three feet.
- The eastern diamondback rattlesnake, like all pit vipers, has tiny heat-sensing pits located between the eye and the nostril on both sides of the snake's face. These pits are used to target warm-bodied prey items (usually mice/rats) in their environment.
- The primary threat confronting the eastern diamondback is habitat loss. One of the most common places to find the diamondback rattlesnake is in long leaf pine forests, which are being cut down and replanted with loblolly pines. They are under some pressure from collection for the pet trade, rattlesnake round-up events and venom research, and killed for their meat, skin and novelty items like stuffed and mounted specimens and jewelry. Eastern diamondback rattlesnakes are considered a species of 'Special Concern' in the state of South Carolina, but receive no federal protection.

American Alligator

- Found only from Florida to coastal North Carolina, wetlands such as rivers, swamps and marshes are potential alligator habitats. They prefer slow moving water deep enough to swim in. Occasionally, alligators can be found in brackish water, areas where salt and freshwater mix, like salt marshes.
- Alligators will eat just about anything that will fit in their mouths! When they are young, alligators eat small animals like small fish, frogs, and insects. As they get larger, so does their food. Adults eat a variety of things including fish, birds, turtles and amphibians.
- There are only two species of alligator in the world - the American alligator and the Chinese alligator.
- American alligators have a lifespan of 35-50 years, and have been known to live up to 80 years in captivity.
- Alligators can stay underwater for 45-60 minutes.
- Alligators will go dormant (not a true hibernation) when the weather gets cold.
- 80 - 100 teeth may be in the mouth of the alligator. When teeth wear down, new teeth grow in. An alligator may go through 2,000 - 3,000 teeth in a lifetime.
- The alligator grabs prey with its teeth, exerting over 3,000 lbs of pressure per square inch. From there the alligator will pull down its prey to drown in. Once the prey is dead, the teeth are not used for chewing -- the prey is swallowed whole. Ironically, the opening strength of the alligator is



inversely proportional of its closing strength, thus it is possible to keep the mouth of an alligator closed with a thick rubber band.

Salt Marsh Aviary Features:

Striped Burrfish

- Most commonly found in sea grass beds of bays and coastal lagoons, as well as in estuaries, burrfish range from Maine and Nova Scotia (although they are rare north of North Carolina) south along the Atlantic coast to the northern Gulf of Mexico and Brazil.
- Striped burrfish are important predators of tropical shellfish, including conchs, whelks, oysters, quahogs, and also have been known to feed on barnacles and small fish.
- The burrfish has a very well developed system of defense that involves inflating its body when threatened. An organ called the buccal pump allows the burrfish's stomach to fill with water, thus expanding the body of the fish considerably.
- As the elastic skin of the striped burrfish expands, its rigid spines stand tall making it look like a large burr, giving the animal its name.
- Burrfish have large beak-like jaws that enable them to crush the shells of mollusks, an important part of their diet.
- This species moves by waving only its pectoral (side) fins and caudal (tail) fin, not by using its entire body like many other fish.

Sand Fiddler Crab

- Found along the east coast of the United States from Cape Cod to Texas, Fiddler Crabs are commonly found along the sandy edge of salt marshes. Males and females dig burrows in the sand/mud banks. Burrows have only one opening and can be two feet deep.
- The sand fiddler crab mainly eats bacteria, algae and detritus.
- When the male waves his big claw it looks like a person playing the violin, or fiddle. The male's large claw is not only used for attracting mates, but also for defending his territory. The large claw starts on the right, but can be torn off by predators or in fights with other males. If this happens, the left claw grows larger and becomes the "fiddle".
- Sand Fiddlers are known to live in large colonies.
- They form two kinds of pellets: one type is formed while they are eating when they separate the food from the sand/mud, rolling the remaining sand and mud into little balls, and the second is formed when they dig burrows rolling the sand/mud into larger balls and carrying them out of their burrow.
- Fiddler crabs have claws that differ between the sexes and are highly adapted for different uses. Female fiddlers have two small claws, both of which they use to feed. They feed by wildly shoveling food into their mouths with both claws. Male fiddlers have one major and one minor claw. The large claw is used for courtship, mating and territorial defense, and can account for up to 65% of its body weight.
- Even though sand fiddler crabs are presently considered common throughout North America, without proper preservation of habitat, these crabs could suffer severe population depletion.



Barred Owl

- These owls live in dense pine forests and wooded swamps with large trees. They use old, hollow trees as nesting sites.
- Barred owls are most commonly found throughout the Midwest and eastern United States, however, their range is expanding to include some Western states.
- Barred owls prefer to eat small mammals no larger than a rabbit, although they will also eat small reptiles like lizards and snakes, and amphibians such as frogs and toads. In wetland areas, the barred owl even eats fish and crayfish.
- They get their name from the bar pattern in the feathers on their chest.
- Barred owls are nocturnal animals, doing most of their hunting and calling/hooting during the night, although they can sometimes be seen during the day.
- Their calling/hooting is usually a series of nine hoots that sound like "who cooks for you, who cooks for you all!"
- These owls can live about 14 years in the wild, and possibly longer in captivity.
- Owls do not digest the fur and bones of their prey. Instead they compact them into an "owl pellet" and regurgitate them.
- The wing feathers of an owl have fringed or serrated edges. This adaptation gives these aerial hunters the advantage of silent flight.
- The barred owl lives in hollowed-out trees found in forests known as old growth forests. Logging of old growth forests has put some pressure on the population of barred owls because this is the habitat they depend on. The barred owl's range has started to expand and they are also starting to live in second-growth forests which, consequently, overlap with the range of the endangered spotted owl in Oregon and Washington. This has created competition for food and shelter between the two species.

Great Blue Heron

- Found all over North America in marshes, swamps, on the edge of lakes, rivers, and mangroves.
- The great blue heron mainly eats fish; they will also eat other animals found in or near the water such as frogs, salamanders, snakes, shrimp, rodents, birds and insects.
- The blue heron is the largest heron in North America.
- Young birds sometimes strike at people who get too close or regurgitate bad smelling partly-digested food.
- They have 15-17 vertebrae in their neck (humans have seven), but the length is hidden in flight due to the "S" curve orientation of their bodies.
- When angered, blue herons make a harsh "frahnk" sound or a short "rok-rok" sound.
- Great blue herons, like many wading birds, have long, skinny, stilt-like legs that give them a tall vantage point above a body of water.
- This is the most well-known and most widespread heron in North America. Human interference with the heron is mostly the destruction of habitat. Many herons are also killed each year because they fly into utility wires. However, the great blue heron is common and widespread throughout its native range.



Coast Features:

Loggerhead Turtle

- They are found throughout the western Atlantic from Canada to Argentina as well as all around the world in tropical and temperate seas and oceans.
- Loggerhead sea turtles are, for the most part, carnivorous which means they mainly eat meat like jellyfish and shellfish (crabs, clams, mussels). They can easily crush shellfish with their strong jaws.
- A plastic bag or a bottle in the ocean can be easily mistaken as a jellyfish by hungry sea turtles and they will try to eat the trash by mistake. This can seriously injure the turtle.
- The loggerhead sea turtle is the South Carolina state reptile (designated in 1988) and is the most commonly observed sea turtle off the SC coast.
- Sea turtles do not have the ability to retract their head and flippers inside of their shell.
- Sea turtles have lived on the earth for about 150 million years, before the time of the dinosaurs.
- Instead of fleshy mouths, Loggerheads have beaks made up of keratin, similar to our fingernails, and lack the nerve endings and feeling that you would have in a fleshier mouth. This works to their advantage when they are trying to crush hard shelled animals.
- Human impact on loggerhead sea turtles is causing a decrease in their numbers. Some adults are being killed by boat traffic, or drown in shrimp trawls or other nets. As a result of the pollution of our waterways, eggs have been found to contain harmful chemicals such as insecticides, which cause the embryo to develop abnormally or not develop at all. Raccoons and other animals that prey on the sea turtle eggs have become more common in the last 30 years due to human development.
- Loggerhead sea turtles have been classified as threatened since 1978, and are protected under the Endangered Species Act of 1973.

Lined Seahorse

- They are found along the east coast of America, from Canada to Argentina, coiling around branches of soft corals, sea grasses or almost anything else they can wrap their tail around.
- The lined seahorse eats mostly small plankton, brine shrimp and worms.
- The lined sea horse has a lifespan of approximately four years.
- Their scientific name, Hippocampus, is Greek for "bent horse" or "horse sea animal".
- They have no teeth.
- They do not have a stomach and therefore must eat many times throughout the day in order to make up for their poor digestive system.
- They can move their eyes independently, which allows for them to look for food with one eye and predators with the other.
- Sea horses have prehensile tails, much like those seen in lemurs and some monkeys. These tails are like an extra limb that allows an animal to grasp onto other objects for support.
- Sea horses have tiny fins that may help to direct where they are going, but they mostly float, almost like plankton, through the water column. In an effort to stabilize themselves against these oceanic currents, sea horses use these tails to stand upright and inhale small prey, such as brine shrimp.
- Sea horses face problems due to pollution and the destruction of their habitats. Although the lined sea horse is not considered federally or internationally threatened or endangered at this time, they are protected under Appendix II of CITES because of the high commercial trade of this species that was unregulated and not managed under regional fisheries organizations.



Southern Flounder

- The southern flounder is common to both tropical and temperate waters of the eastern Atlantic. They can be found on the sandy, muddy or rocky bottoms of the shallow waters of bays, estuaries, coastal marine areas, rivers and lakes, as far north as Chesapeake Bay. However, their year round range is from North Carolina south along the Atlantic Coast to the Gulf coast of Texas.
- They prey on small fish and a variety of small invertebrates, including shrimp, insects, worms and crabs. Adults feed mainly on smaller fish species (mullet, anchovies and menhaden), but will supplement their diet with some invertebrates.
- Flounder are very popular restaurant fish as well as an important food source all over the world. Their flesh is tasty and they are relatively easy to catch with traps, nets, hook and line, and gigging.
- Southern flounder can change their color pattern to more accurately mimic the substrate on which they lie.
- Female flounder have been known to lay more than 9,000 eggs at one time.
- The side of a flounder's body where its eyes are located is called the "ocular" side.
- Flounder are anguilliform swimmers, meaning they swim using only their bodies and caudal (tail) fin.
- Flounders belong to a group of flatfishes, a bottom-dwelling fish that has both eyes on one side of its body, thus allowing it to see with both eyes, as it lies flat on the bottom. These fish begin as free-swimming larvae and juveniles until one eye begins to migrate to the other side of their head as a part of the metamorphosis that occurs as a flatfish matures to adulthood and settles to the bottom.
- Southern flounder play a vital ecological role in the food chains of a variety of coastal habitats. This species is considered a near-top predator in these shallow water environments where it utilizes its cryptic coloration to blend in with sand, muddy or rocky substrates. Therefore, South Carolina maintains a 20 fish per person per day limit, and a 12-inch minimum size limit on both commercial and recreational flounder fishing.

Common Octopus

- They can be found in the Atlantic Ocean, the Caribbean Sea and the Mediterranean Sea in shallow waters, under rocks, in cracks of the seabed. They are found world-wide in tropical, subtropical and [temperate](#) waters. They prefer coastal waters but can be found in water as deep as 500 feet.
- Octopi eat crab, fish and mollusks.
- The common octopus usually lives about 1-2 years.
- Common Octopi are normally solitary animals and are found in pairs only while mating.
- They boast the most complex brain of all the invertebrates, with long and short term memory.
- Color cells in their skin are controlled by the nervous system, allowing them to change their color very quickly and dramatically blend in with their surroundings.
- They contain an ink sac that shoots ink to escape from predators. In some cases, the ink cloud can even look like the body of the octopus, confusing the predator even more.
- They have very good sense of touch in the suckers located on their eight arms. Each sucker can have 10,000 nerve cells or neurons to help them feel and taste.
- Currently there is no special concern/status for the conservation of this species.



Ocean Gallery Features:

Short Bigeye

- Short bigeyes range from Maine south along the Atlantic coast to Bermuda, the northern Gulf of Mexico, the Caribbean and northern South America.
- Adult short bigeyes are most commonly found on deep rocky bottoms (100-200m), usually around rocky reef areas. Young bigeyes are common in the Sargasso Sea and in the waters of the Gulf Stream.
- Short bigeyes are a nocturnal predator that preys mainly on smaller fish found around rocky reef areas.
- This species' red or rose coloration makes it invisible in the deep ocean because the red portion of the light spectrum does not penetrate that deep with the absence of light.
- The short bigeyes' large eyes allow it to see in darkness because they maximize the amount of light that enters the eye.
- Currently there is no special concern/status for the conservation of this species.

Moon Jelly

- They are commonly found in open waters of the Atlantic Ocean, Indian Ocean, Pacific Ocean, and Mediterranean Sea.
- Moon jellies eat plankton and small fish. At the aquarium they eat brine shrimp as their main diet.
- They are considered plankton because their body is not strong enough to swim against currents.
- The moon jelly can attack small fish with its hundreds of short stinging tentacles that trail from the edge of its "bell." It pulls the paralyzed prey into its mouth using larger, frilly tentacles.
- They are considered harmless to humans because they do not have very powerful stinging cells.
- These jellyfish are weak swimmers, and are often stranded on beaches by the tide.
- The main predators of moon jellies are sea turtles and sharks, thus the endangered predators must be protected to control the population.

Ocean Surgeonfish

- Most commonly found in and around coral reefs and inshore rocky and grassy habitats, from Massachusetts south along the Atlantic coast to Bermuda, the Gulf of Mexico, the Caribbean, and Brazil.
- This species is largely herbivorous, with the majority of its diet coming from green or brown algae scraped rocks or corals, but will also eat small invertebrates.
- This species ingests large amounts of sand, presumably to aid in the digestion of algae.
- Ocean surgeonfish have a blade-like spine on each side near the base of their tail that gives the fish its name and can slash predators by thrashing its tail from side to side.
- Currently there is no special concern/status for the conservation of this species.

Sand Tiger Shark

- Ranging from Maine to the Gulf of Mexico in North America, sand tiger sharks can be found at different levels of the ocean, most often hovering near the bottom, sheltered by rocky outcroppings,



old ships, or caves. Sand tigers can be solitary or swim in large schools (schools of over 50 have been seen in N.C.).

- The sand tiger will eat a wide variety of fish, including spot, croaker, mullet, speckled trout, black sea bass and skates and rays. Sometimes they will work together in groups of 3 or 4 to herd schools of fish during feeding. The sand tiger will also eat crustaceans and squid. Sand tigers are sluggish, slow swimmers.
- Sharks do not have a swim bladder like most bony fish to maintain their buoyancy. Because they don't have a swim bladder, the shark has a relatively large liver (a 100 pound shark could have a 25 pound liver).
- The oil in the liver was burned for light before electricity.
- These sharks gulp air at the surface to augment the lack of swim bladders, ultimately achieving neutral buoyancy; this allows them to hover motionless near the bottom.
- Sand tigers are nocturnal, hunting mostly at night.
- The sand tiger shark is widely distributed but its populations are now isolated. Current data shows that these isolated populations are in decline. This decline is thought to be a result of the hunting of sharks for meat, oil, and skins. The sand tiger shark has suffered from hunting because it has a very low reproductive rate of one or two young every two years. The United States and Australia have started special regulations of the fishing industry to control the number of sharks taken during the year. Management plans need to be created in other countries to help protect this species.

Nurse Sharks

- Adult and large juvenile nurse sharks usually rest in warm waters, from the intertidal zone to rocky and coral reefs, about 70 meters deep. Generally, they stay in deeper waters during the day and come closer into shore at night when they are more active.
- The nurse shark is found in the coastal waters of the Atlantic and the eastern Pacific Ocean. They range from Senegal to Gabon in the eastern Atlantic and Rhode Island to southern Brazil on the western side. In the Pacific, nurse sharks are only found from Mexico to Peru.
- The nurse shark will primarily eat bottom-dwelling fish and invertebrates such as stingrays, shrimp, squid, octopus, crabs, snails, urchins and lobster. Even though they have a small mouth, they have a strong suction ability, which allows them to suck in food with great force.
- Nurse sharks are nocturnal. During the day they can be found resting on the sea floor, sometimes in piles of up to 40 other nurse sharks.
- Nurse sharks can rest on the ocean bottom and do not have to keep swimming to breathe, as some other sharks do, because they are able to pump water over their gills. This saves energy and is important for bottom dwelling animals.
- Nurse sharks are considered relatively harmless but will bite if harassed or provoked.
- There are two possible origins for how nurse sharks got their name: 1) They make a suckling sound like a nursing baby when they eat, or 2) the term "nurse" may have derived from "nusse," which is the original common name that was applied to cat sharks like the nurse shark.
- Some have home ranges, which they stay in during the day. They will also return there at night after swimming great distances.
- Nurse sharks have thin, fleshy, whisker-like organs, Barbels, on the lower jaw just below the nostrils that sense touch and taste. This helps the nurse shark sense potential prey on the ocean floor.



- Nurse sharks are still considered common throughout their range. However, some populations have shown decline and their reproductive rate is considered to be relatively slow, suggesting that their populations bear watching.

Touch Tank Features:

Purple Sea Urchin

- They can be found along the coasts of North America from Massachusetts, southward to the Yucatan Peninsula, in intertidal and subtidal zones. They prefer shallow water on hard substrates like jetties, or pilings.
- The purple sea urchin will feed on seaweed and algae, sponges, coral polyps, and dead animals including dead urchins.
- Purple sea urchins attach to hard surfaces where waves are pounding. This keeps them from being washed out to sea.
- When shadows pass over the urchin, they will move their spines to point to the shadow, as if a predator is near and they want to direct their spines toward the predator.
- Sea urchins move at a rate of about 1-2 inches per minute.
- If turned upside-down, they can right themselves by using their tube feet and specialized movements of their spines.
- In the Orient, their eggs are considered a delicacy and are eaten raw.
- Purple sea urchins have adapted large spines that can be as long as $\frac{1}{2}$ the total width of their body, thus making some individuals 3-4 inches across. These spines are effective in deterring predators that might view this pin cushion-like animal as an unattractive food item.
- Purple sea urchins have been very valuable in embryological research because they have a useful model system for studying many problems in early development, and have led to a number of major discoveries. Purple sea urchins are considered common throughout their range, but should be monitored for any changes.

Common Sea Star

- They can be found in the Atlantic Ocean from the Gulf of Maine southward to the Gulf of Mexico, in subtidal areas, around oyster beds, rock jetties, and piers.
- The common sea star will feed on snails, bivalve (2 shells) mollusks, mainly oysters, clams and mussels.
- They can regenerate their arms; a bud will form and will regenerate the arm in about a year and sometimes 2 to 3 arms can come from one bud.
- Sea stars can regenerate the entire sea star if enough of the central disc remains.
- They are unique in that they evert their stomach out of their body and onto the prey for digestion.
- Like all echinoderms (sea stars, sea cucumbers, sand dollars and sea urchins), sea stars have tiny tube feet that act like hundreds of little suction cups that aid in feeding and locomotion.
- In feeding, sea stars use their tube feet to access the inside of shelled animals that they prey upon (clams, oysters, mussels, and snails). To open a shell, a sea star will wrap its arms (usually 5)



around potential prey, thus fatiguing the animal and allowing the sea star to open its shell just enough to feed.

- Sea stars are a popular souvenir item among beachgoers, and are often either collected on the beach or just off shore, or purchased dried in beachside shops. Despite this, the common sea star is considered common throughout its range.

Horseshoe Crab

- They can be found in the Atlantic Coast of North America and the Gulf of Mexico on sandy bottoms of shallow seawaters and bays.
- Horseshoe crabs will feed on worms, mollusks and small crustaceans.
- Is referred to as a crab but it is actually related to spiders, ticks and scorpions.
- Horseshoe crabs date back over 400 million years, since before the dinosaurs, and have remained nearly unchanged.
- A horseshoe crab's mouth is located in the center of its legs. It feeds by alternating the movement of opposite legs with one another and rigid hairs at the center grind the food making it easier to pull into the mouth. Horseshoe crabs have no jaws.
- When they molt, the shell splits along the front and they walk out.
- Horseshoe crabs play a very important role in oceanic ecosystems and economics. Horseshoe crabs seem to be very common, but scientists have noticed a recent decrease in some populations. More research is needed to ensure the proper management of this ancient species.

Camp Carolina Features:

American Bald Eagle

- The American Bald Eagle is the only eagle unique to North America. The American Bald Eagle's scientific name denotes a sea (halo) eagle (aetos) with a white (leukos) head. The Bald Eagle can be most readily identified by its uniformly brown body and its bright white head and tail. Males and females share the same plumage coloration, but females are generally about 25% larger than males (reversed sexual dimorphism). Females tend to have a deeper beak. The beak, feet, and irises are all yellow. Their vision is excellent. They can see 4 times better than even the best human eye. 1000ft above the ground, they can spot prey over a 3 sq mi area. Their wings are tapered towards the ends. This allows the air to cut through, and reduces turbulence.
- Adult Bald Eagles measure 2.5 to 3 feet in body length. Females can have wing spans of up to 7.5 feet, while males' wingspan can reach 5.5 feet. Weight and size vary by region; Bald Eagles found in southern, warmer areas of North America are smaller while those found in northern regions including Alaska are larger. Females can weigh up to 15 pounds and males can reach 12 pounds.
- These animals prefer to live near wide open bodies of water such as oceans, lakes, and wide rivers that contain abundant fish. Bald Eagles perch and nest in mature coniferous and hardwood forests. They are very sensitive to human development, and avoid centers of human population.
- Bald Eagles can be found throughout North America. Their populations are concentrated along the northern pacific coast, the northern Rocky Mountains, and the northeastern Great Lakes region. Northern eagles will migrate to open water in winter, many times congregating at dams for easy meals.



- Bald Eagles are skilled opportunistic hunters that primarily prey on fish, although they will also target small mammals such as rabbits and deer fawn, and smaller birds such as ducks and geese. During lean winters they may scavenge carrion.
- By the 1950's there were only 412 documented mating pairs of Bald Eagles left in the lower 48 states. The Bald Eagle was declared endangered in 1967. DDT as a pesticide was banned in the 1970's, and penalties for eagle hunting became severe. This helped eagle populations rebound, and by the early 21st century it appeared that Bald Eagles had made a strong comeback. As of 2007, they are now recognized as an animal of "least concern" according to the IUCN Red List.

Barn Owl

- Barn owls are common throughout the world. They are distinguished by the heart shaped disc of feathers on their faces. Beige with speckles, the male and female have similar coloring, except the male's chest is white. Females are slightly larger than males.
- They have asymmetrical ears. This combined with their facial feathers (shaped like a satellite dish to funnel sound) help them triangulate the location of their prey and find it even in complete darkness.
- Often known to make hissing, popping, screeching and screaming noises. They do not make the traditional "who" noises.
- Their wings have serrated edges for soundless flight. Their eyesight is very acute, but contrary to common belief they cannot see in total darkness, instead they will rely on their hearing.
- They are found throughout almost the entire US except some northern states. Other species are found throughout the world.
- Great horned owls commonly take them as prey. Snakes, foxes, skunks and opossum sometimes prey on barn owls.
- Barn Owls most commonly eat voles, but will also consume many vole sized rodents. Will also occasionally eat snakes, lizards, frogs, fish and other birds. Can be cannibalistic if food supplies are low. Use excellent sense of hearing to locate scurrying prey, snatch it with their talons and consume.
- Barn owls hunt at night just after dusk or 2 hours before sunrise. Seeks prey by flying low over fields.

Hellbender

- Hellbenders are the largest salamander in North America reaching lengths of 29 inches.
- Hellbenders have aquatic larva with gills and then transform into adults with air-breathing lungs. An adult can weigh up to 5 pounds. They have powerful jaws that can inflict a painful bite. They have flat bodies and heads, with small eyes and slimy skin. They have short legs with four toes on the front and five on the back. Their tails are keeled to propel them through the water. They do have working lungs, but absorb most of their oxygen from the water through capillaries in the skin. Their lungs main function is to aid in buoyancy. They are blotchy brown or red-brown on top. They are completely aquatic.
- Adults can reach lengths of 29in.
- Hellbenders inhabit large, fast-flowing, rocky streams. They can usually be found beneath large rocks in shallow rapids. By day hellbenders stay under rocks or fallen logs, occasionally sticking their heads out.



- Immature hellbenders are preyed upon by large fish, turtles, and water snakes. Native Americans used them as a food source in the past. Often they are inadvertently caught by fishermen with baited hooks.
- Crayfish make up 90% of their diet. They hunt mainly by smell and touch. This diet changes little seasonally. They also eat small fish, mollusks, worms, and insects. Specimens have been found containing lamprey, tadpoles, aquatic reptiles, and even one containing a toad and another with a small mammal. Adults will eat their shed outer skin, their own eggs, the eggs of others, and even hatchlings of their own species.

Striped Skunk

- Fur is black with white stripes. Stripes start in a triangle on the head and split into two stripes with run down the length of the back before merging back together at the base of the fluffy tail. There is another stripe from the forehead to down the nose. Each skunk has its own stripe pattern, males and females colored alike. Feet are partially webbed and there are long claws on the front feet to help with digging.
- Found in woods and grasslands as well as urban areas. Take over the burrows of foxes and other animals, but will build their own if necessary.
- Small mammal, the size of a cat with shorter legs. Can weigh 2-12 lbs.
- Found throughout USA. In SC, they are common in the mountains, uncommon in piedmont and rare or absent in the coastal plain.
- Skunks eat mainly insects, but also small mammals, birds, eggs, fruits, berries, carrion, worms and even fish.

Virginia Opossum

- Heavy-bodied animal with short legs. Pointy face and round ears, black eyes. Long, prehensile, scaly tail.
- Can weigh 6-14 lbs, about the size of a cat.
- You can find an opossum anywhere you can find water and trees. These animals are terrestrial and arboreal, and tend to favor wet areas. Individuals can be hard to track, as they are very nomadic.
- Found throughout North America, including parts of Canada and Mexico. The name "Virginia" is due to the fact that they were first observed in Virginia. It does not describe their range.
- Large mammals, such as foxes, coyotes and domestic dogs, as well as birds of prey like large owls and hawks. Humans pose a threat for the typical reasons: habitat loss/destruction, cars, and people shooting opossums because they see them as a pest or a source of food.
- About 70% of their diet consists of insects. The rest is made up of fruits, vegetation, and carrion.