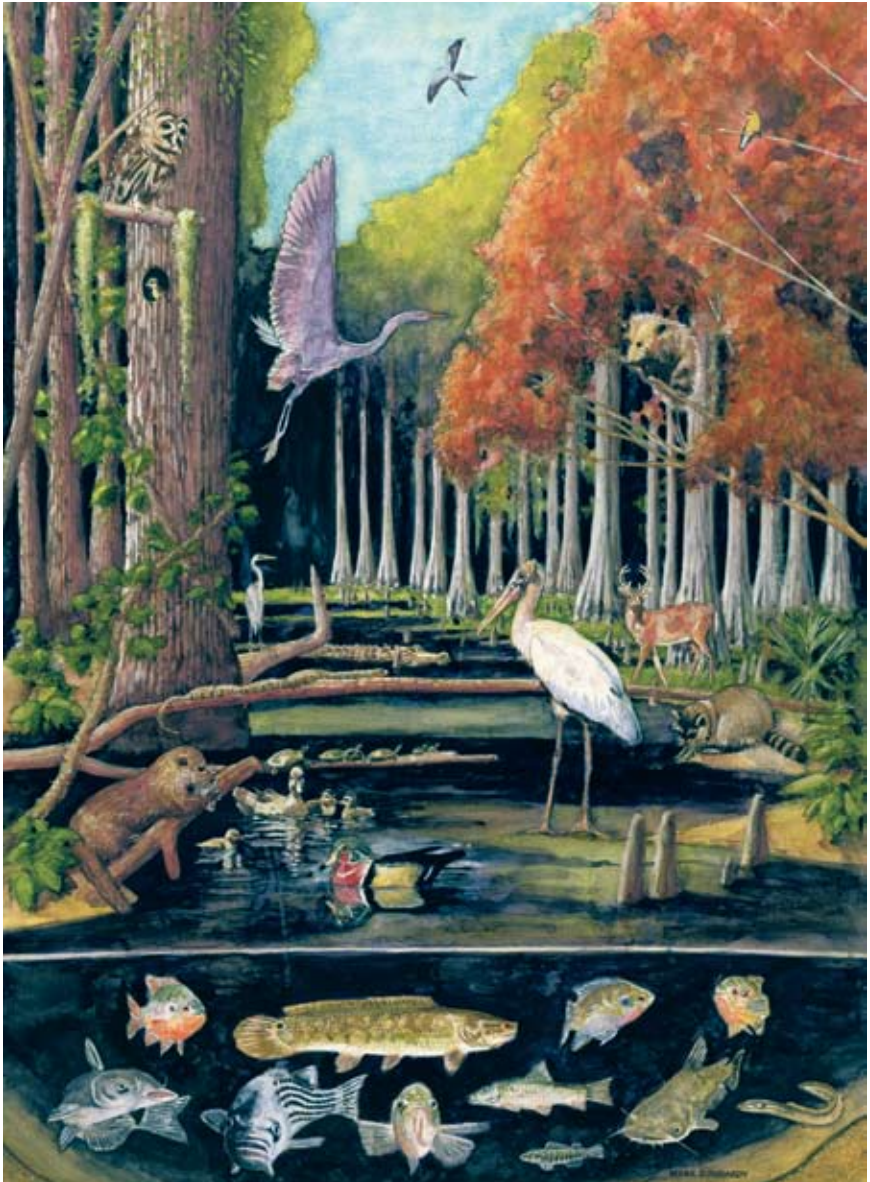




BLACKWATER RIVER EDUCATION GUIDE

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BLACKWATER RIVER EDUCATION GUIDE

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Life Histories of Blackwater River Inhabitants

(As depicted on the Blackwater River Poster)

1. Yellow-bellied Slider
2. Brown Water Snake
3. American Alligator
4. Blackbanded Darter
5. Spotted Sucker
6. Pumpkinseed
7. Bluegill
8. Redbreast Sunfish
9. Largemouth Bass
10. Striped Bass
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12. Bowfin
13. Blue Catfish
14. Flathead Catfish
15. Prothonotary Warbler
16. Wood Duck
17. Great Egret
18. Great Blue Heron
19. Wood Stork
20. Swallow-tailed Kite
21. Barred Owl
22. Virginia Opossum
23. Raccoon
24. Northern River Otter
25. White-tailed Deer



Watercolor illustrations by Mark E. Conrardy

Blackwater River Introduction

Dark and meandering through wooded corridors draped in Spanish moss, the blackwater rivers of South Carolina drain the coastal plain. A great diversity of plant and animal life may be found along these rivers with their sandy bottoms and forested floodplains. The blackwater rivers originate from springs in the Sandhills region of the state and flow on a windy course creating oxbows, sloughs, riffles and pools before emptying into the Atlantic Ocean. Blackwater river levels fluctuate continuously as they are not impacted by impoundments that regulate discharge.

Blackwater rivers are black due to the tannic acid leached from fallen leaves of trees such as oaks that inhabit the wide floodplains along the river's edge. As the water rises and falls, it draws nutrients from decaying plant and animal matter, known as detritus. Detritus provides the fuel for the aquatic ecosystems in these rivers. Low-lying branches from plants and fallen snags decorate the rivers, providing habitat for aquatic invertebrates and fish that become an important component of the food chain.

Blackwater rivers in South Carolina such as the Edisto, Combahee and Ashepoo are mostly named for the Indian tribes that once depended upon these rivers for food and travel. Early colonists also used these rivers to transport goods from the uplands to the coast.

South Carolina's blackwater rivers provide important habitat for a variety of species of plants, fish and animals. Migratory, neo-tropical songbirds depend upon the wooded floodplains for food, cover and nesting. Visitors to the river may sneak a peek at wood ducks, barred owls and prothonotary warblers. Anadromous fish such as striped bass and American eels utilize the rivers to migrate from the ocean to freshwater to spawn or produce eggs. Alligators, yellow-bellied sliders, river otters and raccoons all make great use of the blackwater rivers, as well as the neighboring riparian wetlands for food, nesting and cover.

Despite the use of these rivers by many species, they are forever in peril as a result of urbanization or poor land-use practices in the watersheds and damage to the floodplain forests. Polluted runoff containing pesticides, fertilizers and other man-made chemicals can foul the water and harm the many organisms that use these river systems. Increased sedimentation from erosion along poorly managed riverbanks or as a result of mismanaged forest stands or farmlands also causes an increased danger to the animals and plants in these rivers. Land-use practices that protect and conserve wildlife and water resources are needed to maintain the integrity of these rivers. One essential practice is to keep all stream banks, on both the river and its tributary streams, protected with forested buffers. The larger and wider the forested buffers, the better they serve to protect and conserve wildlife and water resources of our rivers. The DNR has staff, information and programs (such as State Scenic Rivers) that can assist citizens to better manage priceless natural resources like our blackwater rivers.

1 YELLOW-BELLIED SLIDER

Scientific Name: *Trachemys scripta scripta*



Size: Adults can be 5 to 8 inches in length.

Description: Oval carapace or shell with yellow bands and a yellow underside. In young and many females, there is a very prominent field mark of yellow right behind the eye. Older individuals and males may lose some of the yellow coloration and appear dark and mottled.

Habitat: Swamps, ditches, rivers, shallow streams, ponds and lakes with soft bottoms and dense vegetation.

Range: Southeast Virginia to northern Florida.

Diet: Young sliders eat a variety of insects, mollusks and tadpoles. As they mature into adulthood, they eat mainly aquatic plants.

Behavior: Sliders are often seen basking in the sun stacked upon each other on logs and other debris in the river. Female turtles create a nest from June to July laying 1 to 3 clutches of 4 to 23 oval-shaped eggs. The young hatch in 2 to 2½ months and many times overwinter in the nest.

2 BROWN WATER SNAKE

Scientific Name: *Nerodia taxispilota*



Size: Adults 30 to 60 inches long, females are larger than males.

Description: Coloration is brown to dark brown with a series of large, squarish brown blotches down the middle of the back and alternating with similar blotches on the sides. Belly is yellow to brown with a decoration of dark squares. Often mistaken for the venomous cottonmouth or water moccasin due to the similarities in color and head shape, the brown water snake is not a venomous snake.

Habitat: Favors clear, quiet waters of ponds, lakes, streams, rivers, marshes and swamps. Particularly likes areas with overhanging vegetation.

Range: Southeastern Virginia to tip of Florida and parts of coastal Alabama.

Diet: Consists of frogs, fish, crayfish and salamanders.

Behavior: Primarily diurnal or active during the day, the brown water snake is a strong swimmer, diver and climber. They are often seen basking in the sun on branches as high as 20 feet or more. They can also be found on low-lying branches near the water's edge as well as fallen trees and other debris in the river. These snakes are easily frightened and will drop from their basking spots in an instant to avoid predators or man. Be wary, they do not hesitate to strike when cornered or stressed. Females give birth to 14 to 15 live young during June to October that are about 7 to 11 inches long.

3 AMERICAN ALLIGATOR

Scientific Name: *Alligator mississippiensis*



Size: Adults range from 6 to 16 feet in length. They are the largest reptile in North America.

Description: Semi-aquatic reptile that is generally black in color with yellow or cream-colored bands that fade with age. They have large, coarse scales and prominent eyes and nostrils atop a broad, rounded snout.

Habitat: Rivers, ponds, lakes, swamps, bayous and fresh and brackish marshes.

Range: Southern and southeastern United States minus the western part of Texas.

Diet: Fish, small mammals, birds, snakes, turtles, raccoons, muskrats and even other alligators.

Behavior: During drought, gators dig deep holes known as gator holes that provide a source of water for other aquatic or semi-aquatic species. Female alligators construct nests of vegetation that can be 4 to 7 feet in width and 1½ to 3 feet high to avoid flooding of the eggs which is fatal to the young. On average, 30-50 three-inch long eggs are laid in the middle of the nest and incubated by the heat generated by the decaying vegetation. The temperature of the nest determines the sex of the developing embryos. The alligators will hatch out in about 9 weeks at a length of 9 inches. Female alligators will defend their young for about 9 months and the young will stay near the nest in groups called pods for up to 2 to 3 years.

4 BLACKBANDED DARTER

Scientific Name: *Percina nigrofasciata*



Size: Grows up to 4½ inches in length.

Description: Olive to dusky black in color with about 6 to 8 dark colored bands or bars along the side. Fins are clear or have a very faint dark band.

Habitat: Riffles of creeks and small rivers usually over gravel or sand with vegetation or detritus.

Range: Coastal plain drainages from South Carolina to eastern Louisiana and into Florida at Lake Okeechobee.

Diet: Aquatic insects.

Behavior: May to June is spawning season. The number of eggs a female produces is directly related to her length and weight.

5 SPOTTED SUCKER

Scientific Name: *Minytrema melanops*



Size: Grows up to 20 inches in length.

Description: Dark spots on the base of each scale form parallel lines on the suckers' sides and back. Its body color is silvery with a dark olive back. The lips are thin and striated with a U-shaped lower lip. There is a black edge on the lower caudal fin lobe. The breeding male has 3 colors of stripes along its side: lavender, pink and brown to black.

Habitat: Inhabits deep, clear pools of streams and rivers. Also can be found in lakes, reservoirs and overflow ponds. They are intolerant of turbid waters and increased sedimentation.

Range: Mississippi River drainage from Minnesota south to Louisiana and coastal drainages of North Carolina south to Gulf drainages.

Diet: Aquatic insects and invertebrates.

Behavior: Spawning occurs in shallow riffles from mid-March to early May. Males actively defend breeding territories over coarse rubble in riffles under 1.64 feet in depth with moderate current.

6 PUMPKINSEED

Scientific Name: *Lepomis gibbosus*



Size: Grows up to 16 inches in length, though most only reach 4 to 6 inches.

Description: Small mouth, long pointed pectoral fin with a bright red or orange spot located on the back edge of the black ear flap. The second dorsal, caudal and anal fins are covered with bold dark brown wavy lines or orange spots. There are wavy blue lines on the cheek. The sides of the juveniles and adult females are covered in a dusky chainlike bar pattern. The male is an olive-green color with blue and orange spots and streaked with gold along its side.

Habitat: Likes cover close to shore, vegetated lakes and ponds. Also found in vegetated pools of creeks and small rivers.

Range: From Minnesota to northeastern United States south to South Carolina.

Diet: Crustaceans, salamanders, snails, small fish and all types of insects.

Behavior: Pumpkinseed spawn during the spring and summer when the water temperatures reach the mid-60 degree F range. Males build the nests near the shore, separately or in small groups, and the females' eggs hatch within 3 days. The male guards the young for around a week and when the young leave the area, the male will clear the nest area to prepare for another spawning.

7 BLUEGILL

Scientific Name: *Lepomis macrochirus*



Size: Grows up to 16 inches in length.

Description: Bluegill have a large, black spot at the rear of the dorsal fin and often a dusky spot at the rear of the anal fin. If the water is not turbid, dark bars are present on the body, which is extremely compressed. The pectoral fin is long and pointed, the earflap is black up to the edge and it has a small mouth. Their color is olive-black with yellow and green flecks and adults have a blue sheen over their bodies. On the adult breeding male, the back and head are blue, the belly is red-orange and the pelvic fins are black.

Habitat: Small to large rivers, pools of creeks, vegetated lakes, ponds and swamps.

Range: From southeastern Canada to northern Mexico and east to the southeastern United States to the coast.

Diet: Aquatic insects, fish eggs, minnows, worms and other small organisms.

Behavior: Bluegill are active mostly during dusk and dawn and stay in deeper water during the day. April through September are the spawning months when males will build nests in shallow waters forming colonies of up to 500. The female lays anywhere from 2,000 to 63,000 eggs. Males guard the eggs and protect the young after they are hatched. Bluegill will sometimes travel in small schools.

8 REDBREAST SUNFISH

Scientific Name: *Lepomis auritus*



Size: Grows up to 9 ½ inches.

Description: Redbreast have several light blue streaks radiating from the mouth toward the gill cover or operculum. They have a more elongate body shape than other sunfishes. Redbreast have an olive coloration on the top of their bodies which fades to a blue-bronze coloring on their bellies. The pectoral fins are short and round. In males, the operculum is long, narrow and completely black in color. During spawning, males also have a bright orange red belly. The female's underside is a pale orange in comparison to the males.

Habitat: The edge of vegetated and rocky lakes. Also resides in sandy and rocky pools of creeks and small to medium rivers.

Range: Throughout most of the United States, but mainly from the central United States to the Atlantic Coast and up to New Brunswick, Canada.

Diet: Primarily aquatic insects, but will also consume snails, crayfish, small fish and organic matter.

Behavior: At the age of 2 to 3 years old, redbreast sunfish begin spawning in the spring or summer when the water temperatures reach 68 to 82 degrees F. Males build nests in protected areas over sand or gravel bottoms, unless they can find a suitable nest abandoned by other sunfish. Females can lay 10,000 or more eggs. The amount of eggs laid varies with age and size of the females.

9 LARGEMOUTH BASS

Scientific Name: *Micropterus salmoides*



Size: Grows up to 38 inches, average size 1 to 1½ pounds.

Description: Largemouth bass have an elongate and robust body shape. Coloration varies from a light green to a light brown hue on the back and sides. The belly is white and there is a prominent broad stripe of diamond-shaped blotches along the middle of the body. Obviously, the largemouth bass has a distinctively large mouth, where the jaw extends past the eye.

Habitat: Weedy areas of ponds, lakes, swamps, backwaters and small to large rivers that have mud or sandy bottoms.

Range: Most of the United States and southern-most areas of Ontario and Quebec.

Diet: Primarily small fish such as shad and sunfishes, but also consumes snakes, frogs, salamanders and mice.

Behavior: Largemouth bass spawn in late winter to late spring. Males select a nest site, build the nest and nudge the female towards the nest. They will also guard the nest during incubation as well as protect the young several days after hatching. Bass do not leave their territory unless there is an environmental pressure to do so.

10 STRIPED BASS

Scientific Name: *Morone saxatilis*

Size: Grows up to 79 inches.

Description: Striped bass are large fish with a streamlined body and head with a protruding lower jaw, forked tail and small eyes. They are bluish-black or dark green on their backs with a white belly.



They have 6 to 9 prominent dark gray stripes along their silvery sides. Fins are dusky silver except the white pectoral fins. Breeding adults and young less than 4 inches in length have 8 to 10 vertical bars that are dark but disappear as the fish matures.

Habitat: Freshwater rivers and estuaries around piles, piers and snags. Where impoundments aren't present, adults migrate upriver in the summer to cooler waters and then migrate back down in the winter to estuarine habitats.

Range: Along the Atlantic Coast, the Gulf of Mexico, East Coast inland river systems and along the Pacific Coast.

Diet: Small fish such as flounder and eels, but will also consume worms, crabs, zooplankton, freshwater shrimp, midge larvae, shad, minnows, amphipods and mayflies.

Behavior: By age 2 or 3, male striped bass are ready to spawn. Females reach spawning age at 8 or 9 years of age. They feed while migrating to their spawning grounds and stop abruptly before they spawn. Spawning occurs from late winter to early spring. The preferred spawning areas are mainstream areas where current or tidal action is strong enough to keep the eggs suspended. Each female can lay anywhere from 180,000 to 4.5 million eggs. After the eggs are laid, young will hatch two to three days later and move downstream to the estuarine area of the river in late summer and early fall.

11 AMERICAN EEL

Scientific Name: *Anguilla rostrata*



Size: Grows up to 60 inches.

Description: The American eel is a snake-shaped fish; however, it is not a snake. Snakes are reptiles that breathe in oxygen with lungs, whereas eels are fish that breathe using gills and also have fins. Eels have a dark olive, yellowish or slate-gray color on the top part of their body and a lighter color below.

Habitat: Permanent streams with a constant flow.

Range: Atlantic Ocean to Great Lakes, Mississippi River drainage and Gulf of Mexico basin; found along Atlantic Coast from northeastern Canada to South America.

Diet: Small fish, crayfish, crabs, insects and worms.

Behavior: The American eel is catadromous, which means it spawns or lays its eggs in the ocean or saltwater and then lives the rest of its life in freshwater. American eels migrate from freshwater to the Sargasso Sea in the Atlantic Ocean (between Bermuda and the West Indies) to spawn. After spawning, the adult eels die. The eel eggs hatch into a larva form called a leptocephalus. The leptocephalus are carried by currents back to the shores of North America. Once back near shore, the larva will transform into a very small, transparent adult-look alike known as a “glass-eel.” The glass-eels will develop a darker coloration (pigment) and then will be known as an elver. The elvers then grow through the yellow and black eel phases until they become a full adult. Male eels will live in brackish water along coastal areas whereas females will migrate as far upstream as they can where they will remain for as long as 15 years.

12 BOWFIN

Scientific Name: *Amia calva*



Size: Grows up to 43 inches long, averaging 2 to 5 pounds.

Description: Bowfin have a large flattened head, a long spineless dorsal fin that extends almost the entire length of its body, tube-like nostrils and long, sharp teeth. They have large olive-colored scales which give bowfin a brown or gray coloration on their backs and sides which fades into a white or cream on the underside. There is a very distinctive dark spot on the upper portion of a male bowfin's tail with a yellow-orange rim. On the females, there is a lighter spot, but no rim.

Habitat: Backwaters or lowland streams, pools, weedy rivers and sloughs.

Range: From the St. Lawrence River and Lake Champlain drainages in North America to the Mississippi River drainage.

Diet: Variety of crayfish, larvae, shrimp, adult insects, frogs, small fish and large amounts of vegetation.

Behavior: Bowfin are most active in the evening. They have a lung-like air bladder that allows them to breathe surface air in addition to their gills. This adaptation allows them to live in stagnant water where other fish are unable to live. Spawning occurs between April and June when bowfin reach 3 to 5 years of age. Males build the nest, stay with the eggs and protect the young after they hatch for 8 to 10 days. Young bowfin have a sticky organ on their noses that allows them to attach to the bottom of nests until they grow about ½ inch long. Bowfin are commonly referred to as “mudfish.”

13 BLUE CATFISH

Scientific Name: *Ictalurus furcatus*



Size: Grows up to 65 inches, averaging 5 to 20 pounds.

Description: Blue catfish range in color from a blue-gray to a slate-blue, some are almost pale blue or silvery. The colors fade from dark to light from the back to the belly of the fish. There are no dark spots on the body except for the blue catfish in the Rio Grande. Just like other catfish, the blue catfish has no scales. Their tails are deeply forked with fins that are clear to white. The dorsal and caudal fins are also clear or white, but they have a black to dusky border along the fin's edge. The barbels, sensory organs located around the face of the catfish, are white.

Habitat: Areas with strong currents over rock, gravel or sand bottoms. Prefers big rivers, lakes and reservoirs, but may also be found in ponds, streams and other variable sized rivers.

Range: Central and eastern United States.

Diet: Fish, crayfish, aquatic insects and clams. They are opportunistic feeders, meaning they will eat almost anything they can catch. They forage at night along the bottom.

Behavior: Spawning occurs in spring or early summer as water temperatures reach 70 to 75 degrees F. Either the male, female or both catfish will construct the nest in a secluded, dark place.

14 FLATHEAD CATFISH

Scientific Name: *Pylodictis olivaris*



Size: Grows up to 61 inches, average weight is 6-7 pounds to 10-15 pounds.

Description: Flathead catfish have flat and wide heads with small eyes placed slightly towards the top of the head. They have long mouth barbels and heavy, sharp pectoral and dorsal spines. They vary in color with mottled shades of yellow and brown that fade to a light whitish belly. The tail is rounded instead of forked and the anal fin is short and rounded in comparison to other catfish species.

Habitat: Primarily large bodies of water, but also found in rivers and small lakes and impoundments. They prefer slow-moving water with a hard bottom with depressions or holes and debris such as timber and driftwood.

Range: Lower Great Lakes to the Mississippi River basins, south to northern Mexico and east to the Florida panhandle.

Diet: Fish, crayfish, insects and clams. They are opportunistic feeders.

Behavior: Flatheads are most active at night. During spring or early summer, they spawn with one or both parents constructing the nest in undercut banks around crevices and holes under logs and trees. Males guard and aerate the eggs and guard the young after hatching until they disperse.

15 PROTHONOTARY WARBLER

Scientific Name: *Protonotaria citrea*



Size: Adults are 5½ inches in length.

Description: Males are a bright yellow on head and underparts with blue-gray wings and tail. Without wing bars, but tail has large white patches on each side. Eyes are large and dark. The females are similar but slightly duller in color.

Habitat: Wooded swamps, backwaters, flooded bottomland forests and river edges.

Range: Breeds throughout southeastern United States, winters in tropics, primarily Central America.

Diet: Mainly insects and other small invertebrates.

Behavior: The prothonotary warbler, unlike other warblers, is a secondary cavity nester—nesting in existing holes in trees, stumps or stubs. Its nests are almost always near standing water and found commonly about five feet off the ground. This bird will also use man-made structures such as nest boxes and other less natural places like glass jars and mailboxes.

16 WOOD DUCK

Scientific Name: *Aix sponsa*



Size: Adults 17 to 20 inches long.

Description: Males and females are sexually dimorphic or different in coloration. Males are dark above with a rich chestnut chest, flecked with little white pyramids and patterned with iridescent greens, purples and blues. Males have a prominent white outline around their eyes. Females are much duller and have more of a gray coloration with a broader white eye-ring.

Habitat: Wooded swamps, rivers and ponds. Winters on both freshwater and brackish marshes, ponds, streams and estuaries.

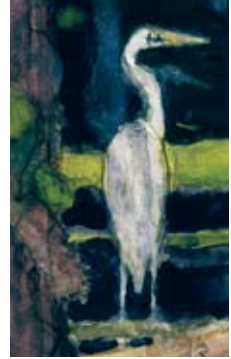
Range: Throughout eastern United States.

Diet: Consists of about 90% plant matter including seeds, fruits, nuts, plants and grasses. Adults will also consume plants, seeds, acorns, aquatic animals and invertebrates and insects which are the main component of a juvenile's diet.

Behavior: Wood ducks nest in cavities of trees in wooded swamps and in freshwater sloughs. Man-made nest boxes have greatly increased the breeding success of this species in areas where suitable nesting trees are no longer present. Nesting peaks from March through April. Twelve or more eggs are laid with an incubation period of 27 to 30 days. When ready to leave the nest, the young will jump from the nest to the ground or water.

17 GREAT EGRET

Scientific Name: *Ardea alba*



Size: Adults are 35 to 41 inches long.

Description: Large wading bird with all white plumage, a yellow bill and black legs and feet. In breeding plumage, long white plumes extend from the back beyond the end of the tail.

Habitat: Ponds, freshwater and saltwater marshes and tidal flats.

Range: Breeds from the South north to Oregon and New Jersey, winters south to South America.

Diet: Primarily fish and frogs, but will also eat insects, crayfish, snakes, small mammals and occasionally birds. Forages in shallow water by stalking prey.

Behavior: Great egrets nest alone or in colonies with other colonial water birds, near water, often 20 to 40 feet up in trees. They build platform-like nests from sticks in late April or early May. The 3 greenish-blue eggs take about 23 to 24 days to hatch.

18 GREAT BLUE HERON

Scientific Name: *Ardea herodias*



Size: Adults are 42 to 50 inches in length.

Description: Large blue gray wading bird that stands about 4 feet tall with a white head with a black cap, long legs and neck and a sharply pointed beak. Feet are not webbed. Flies with its head in an S-shaped position, versus straight out like cranes, storks or ibises, with its legs trailing behind.

Habitat: Rivers, freshwater and brackish marshes, ponds, lakes and fields.

Range: Breeds throughout North America and winters as far north as the Great Lakes.

Diet: Primarily fish, but will also eat insects, crayfish, snakes, small mammals, frogs and occasionally birds.

Behavior: Great blue herons hunt by standing motionless in shallow water waiting to spear passing prey with their sharp bill. They nest in loose colonies, often in tops of tall trees, sometimes with other wading bird species. Nests are large, built in trees 30 to 70 feet from the ground. The 3 to 5 pale bluish-green eggs hatch in 28 days. The juvenile birds take flight in 55 to 60 days.

19 WOOD STORK

Scientific Name: *Mycteria americana*



Size: Adults are 34 to 47 inches, wingspread is 5½ feet.

Description: Large bird with white body except for black on the underside of the wings and tail. The head and neck is bare and gray in color. Bill is long, thick and slightly curved at the end. In adults, the bill is black and in subadults, yellow.

Habitat: Coastal ponds and marshes, nesting occurs in cypress swamps, but feeds in shallow freshwater areas inland.

Range: Coastal South Carolina to coastal Louisiana to Argentina.

Diet: Consists primarily of fish, but also includes insects, crustaceans, frogs, lizards and even small mammals such as rodents.

Behavior: Wood storks are the only stork that breeds in North America. Nesting storks can be found alone or in large groups or colonies in trees and bushes with other wading birds such as herons and ibises. Colonies can include as many as 10,000 pairs! With such a large wingspread of 5½ feet, wood storks can be seen often circling or soaring as they rise in thermal air currents. The wood stork is currently listed as an endangered species.

20 SWALLOW-TAILED KITE

Scientific Name: *Elanoides forficatus*



Size: Adults are 22 to 24 inches.

Description: Small diurnal raptor, similar in coloration to a gull, but much more graceful in flight. They have long, pointed wings and a deeply forked tail. The head, belly and a portion of the wings are white. The kite's back, tops of wings and tails and a portion of the underside of the wings are black.

Habitat: Marshes, swamps and wooded river bottoms with scattered pine trees. Forages over open agricultural fields.

Range: Summers are spent in coastal southeastern United States from the Carolinas to Mississippi, winters are spent in South America.

Diet: Consists of insects, small lizards and snakes. Feeds mostly while in flight.

Behavior: Obtains most of its food, water and nesting material while flying. Nest consists mostly of twigs, lined with Spanish moss in tall trees. The eggs are a creamy-white and boldly marked with brown. Two to four eggs are laid during the nesting season. A gregarious bird, it may nest in the same location year after year and forage in large groups.

21 BARRED OWL

Scientific Name: *Strix varia*



Size: Adults are 17 to 24 inches in length.

Description: A large gray-brown owl with a barred pattern in brown and white across the chest. There are also white specks amongst the brown coloration on the back of the owl. Most owls' eyes are noticeable due to their size, but barred owls have very prominent, deep brown eyes.

Habitat: Wooded river bottoms and swamps.

Range: Central United States and Canada to the East Coast, also found from northern California to British Columbia.

Diet: Primarily small mammals, but also other mammals, birds, reptiles, amphibians and invertebrates.

Behavior: The barred owl often rests quietly during the day in lowland forests amongst thick groves of trees. This owl frequently calls during the daytime, but comes out to feed mainly at night. Barred owls nest in tree cavities, old crow's nests and sometimes abandoned buildings. Nesting season begins in January and goes until March.

22 VIRGINIA OPOSSUM

Scientific Name: *Didelphis virginiana*



Size: Adults are 25 to 40 inches long and weigh 4 to 14 pounds. Males are usually larger than females.

Description: Similar in size to a housecat, except for a heavier body with shorter legs. Head is narrow and tapered down to a pointed muzzle. Ears are large with no hair, black and pinkish tips. Fur color appears gray or black. Tail has no fur and is prehensile. Head and throat appear whitish. The female has a fur-lined abdominal pouch, where she carries her young, making the Virginia opossum the only marsupial native to the United States.

Habitat: Deciduous forests, farmlands, open woods, brushy wastelands and urban areas.

Range: Most of eastern and central regions of North America and a segment down the Pacific Coast.

Diet: Consists mostly of carrion, many times feeding on road kill. Also includes insects, frogs, birds, snakes, crayfish, earthworms, small mammals and berries. Other fruits include persimmons, apples and corn.

Behavior: The opossum is solitary, nocturnal, terrestrial, arboreal and climbs well. After a 12-13 day gestation, female opossums will give birth to 1 to 14 young that are about the size of a dime. Each tiny offspring will climb to the mother's pouch where they attach to a nipple for two months. Opossums are often seen using defensive behaviors to protect themselves from predators such as playing dead or "possum," hissing, screeching, salivating and opening its mouth wide to exhibit its 50 teeth.

23 RACCOON

Scientific Name: *Procyon lotor*



Size: Adults are 24 to 37 inches long and weigh 12 to 48 pounds.

Description: Usually gray to brownish-red in color with a wide black face mask and black rings on the tail.

Habitat: Variety of habitats including cities, suburbs and rural areas. Most commonly found throughout wooded and wetland habitats, particularly coastal marshes and bottomland hardwoods.

Range: Throughout most of United States and southern Canada.

Diet: Consists of grapes, nuts, berries, pawpaw, black cherry, insects, small mammals, bird eggs, nestlings, frogs, crayfish, worms, fish, turtles and mussels.

Behavior: Raccoons are solitary, nocturnal, agile tree climbers and strong swimmers. They have very nimble fingers and can easily turn a doorknob, open a refrigerator or open a trash can in a residential area. If water is nearby, raccoons will sometimes wash their food to sort out the inedible parts. During the winter, raccoons will sometimes sleep in a den for several days or months at a time without food. Their bodies store a third of their weight as fat which helps sustain them through the winter. (Note: Raccoons do not hibernate.) Females give birth to 1 to 8 young in the spring after a gestation of 63 days.

24 NORTHERN RIVER OTTER

Scientific Name: *Lontra canadensis*



Size: Adults are 35 to 52 inches long and weigh 11 to 30 pounds. Males are larger than females.

Description: Dark brown, aquatic mammal with a long, streamlined body with a broad, flattened head, somewhat seal-like. The belly of the animal is a lighter color and there is also a silver gray throat patch. They have very prominent, whitish whiskers as well as a long, thick rudder-like tail. Being an aquatic mammal, it is advantageous that these otters have webbed feet as well as ears and nostrils that are valved to keep out water.

Habitat: Primarily along rivers, ponds and lakes in wooded areas, but will roam far from water.

Range: Distributed across most of Canada and found in the Northwest, Northeast and Southeast United States.

Diet: Consists of primarily fish, but they will eat small mammals and invertebrates.

Behavior: The river otter is active during the day unless their environment is disturbed by human activity. They swim rapidly in water and submerge in water as deep as 55 feet. They also walk, slide and run fairly well on land. River otters are very playful and enjoy sliding and frolicking in water alone or in family groups. Females can give birth to 1 to 6 pups (most common 2 to 3 pups) in the spring after an 8 to 9½ month gestation.

25 WHITE-TAILED DEER

Scientific Name: *Odocoileus virginianus*



Size: Males can weigh 150-310 pounds and females can weigh 90-211 pounds; size varies greatly by region and depends upon food availability.

Description: Reddish-brown or tan body during the summer and spring and a more gray body in the winter. Very distinct white coloration on the underside of the tail, belly, throat and above the nose.

Habitat: Brushy areas, farmlands, woods, suburbs and gardens.

Range: Southern portion of Canada, most of United States, except for the extreme Southwest, Central America and the northern part of South America.

Diet: Consists of acorns, leaves, twigs, fruit and buds of trees and shrubs.

Behavior: Deer are crepuscular which means they are active early in the day right before sunrise and late in the evening just after sunset. During the day, deer rest or sleep in thick cover. They feed along trails and open fields. Deer are great athletes! They can run at speeds of 36 mph and make vertical leaps of 8½ feet and horizontal leaps of 30 feet. They are also great swimmers. The breeding season or rut begins in early fall and continues through early winter. Females typically give birth to a single fawn with their first pregnancy and twins are the rule for adults after a 6½ month gestation period. Does will leave their fawns unattended while feeding, returning to the fawn several times to nurse. Bucks will develop antlers beginning in early summer and lose them in winter after the rut.

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