2023 Eco Meet Study Guide

WILDLIFE

McDuffie Environmental Education Center

The MEEC

GEORGIA DNR
WILDLIFE RESOURCES DIVISION

2023 Eco Meet Study Guide

WILDLIFE

To study and understand wildlife, one must look at the environment that supports wildlife. All living things on earth are linked to the non-living and living parts of the environment that provide for their needs. All things are connected. Ecology is the study of where we live. In fact, the word ecology means the study of one's house. The biotic portion of the environment is the living portion and includes all the organisms present. The abiotic portion includes the non-living parts of the environment which often equate, for our purposes, to limiting factors. Abiotic parts of the environment include sunlight, temperature, water, and soil. Thus, ecology is the study of the relationships among organisms and between the organisms and their non-living environment. Organisms must have food, water, shelter, and space in a suitable arrangement to survive. These are the components of habitat.

To be considered living, an organism must have at least one cell. Much of the phytoplankton (small floating plants and algae) of our freshwater streams, ponds, and lakes, and of our oceans are single-celled algae. They make up the lion's share of the base of the food chain in many aquatic environments. Bacteria (one-celled organisms) are very important as decomposers. They break down dead organisms and waste and return nutrients to the soil for use again by other organisms.

Habitat A habitat is the local environment in which the organism lives and must provide: Food Water Shelter/Cover, and Space. In addition, these four elements must be arranged appropriately to meet the needs of the organism. When all these habitat factors are in good supply and good arrangement, they help the wildlife survive and do well. When one or more of the factors is in short supply or the arrangement is disturbed, it limits the number of wildlife that can survive and where they can survive. **Food** –This is the amount and types of food the organism eats. Each species needs certain kinds of food. Special terms are used for much of

the wildlife food supply, such as mast, forb, browse, and forage. Mast, fruits, or nuts used as a food source by wildlife, is divided into hard mast (nuts and acorns) and soft mast (fruits and berries). **Water** –All organisms need water. This may be surface water; as from streams, rivers, lakes, or dew; groundwater; or moisture from plants and their food. **Shelter/Cover** –Wildlife needs shelter for protection. Many species need different types of cover: Escape Cover –is cover, such as vines, trees, crevices, or burrows that hides, protects, or allows the wildlife to escape from predators. Nesting Cover – is cover that protects nesting sites such as grasses, downed logs, low shrubs, or thickets used by quail, grouse, rabbits, and many types of songbirds. Brood Cover –is cover, such as grasses, forbs, or low shrubs that provides protection for ground nesters to raise their young. Roosting Cover –is cover to provide safety while resting. Examples are coniferous trees for wild turkey, vine thickets for quail, and holes in dead standing trees (snags) for woodpeckers and many songbirds. Winter Cover –is cover, such as dense thickets for deer and quail, and den trees for bear, raccoons, and flying squirrels needed for surviving the winter. **Space** –This is the area needed for survival, and only a certain number of organisms can live in a certain area. **Arrangement** –This is how the food, cover, water, and space are in an area; and this determines how many organisms can live there. The best arrangement is when the habitat factors are close together with a lot of edge areas between them. The breaking up of habitat into smaller areas is called habitat fragmentation.

Watershed A watershed is an area of land that channels rainfall, snowmelt, and runoff into a common body of water. The term "watershed" is often used interchangeably with "drainage basin," which may make the concept easier to visualize. **Everyone lives in a watershed**. The water in your backyard drains over or under the ground to a small creek or pond and is a part of its watershed. The boundary of a watershed is defined by the highest elevations surrounding a lake or river segment. The boundaries between watersheds are termed drainage divides. The outlet, or pour point, is the point on the surface at which water flows out of an area. It is the lowest point along the boundary of a watershed.

Carrying Capacity Carrying capacity is the maximum number and types of wildlife a habitat can support without the habitat being lowered in quality or destroyed. The factors that keep wildlife populations from increasing to the full number they could are shown in the following diagram. Whenever carrying capacity changes, for whatever reason, animals will either have to move on to another habitat or their numbers will decrease to a level the habitat can support.

Predator an organism that primarily obtains food by the killing and consuming of other organisms.

Prey an organism that is caught and killed by another for food.

Federal Government

The U.S. Fish & Wildlife Service provides federal aid to state wildlife agencies to support hunting-related projects. The following are examples.

- Hunter education
- Land acquisition
- Improvement of wildlife habitat

The Federal Aid in Wildlife Restoration Act, popularly known as the **Pittman-Robertson Act**, was approved by Congress in 1937.

- Funds come from an 11% federal excise tax on sporting arms, ammunition, and archery equipment, and a 10% tax on handguns.
- Funds are used for the selection, restoration, and improvement of wildlife habitat;
  wildlife management research; hunter education programs; and the development and operation of public target ranges.

Conservation and Preservation

Wildlife conservation and preservation, wildlife management, and habitat management help ensure a surplus of animals that hunters can harvest.

Conservation (wise use) is the consumptive use of natural resources without wasting or overusing them.

- Wildlife killed hunting
- Fishing
- Trapping

Preservation (no use) is the saving of natural resources with no consumptive use of them.

- Wildlife viewing, studied, recorded without being killed.
- Hiking
- Birdwatching
- Sketching & photos

Creating and Preserving Habitat There are many techniques being used to help protect and preserve habitats and to create new ones. Information on some of these practices, many of which create or maintain edges, follows.

♦ Buffer Strips –strips of permanent vegetation in or around edges of fields, particularly near streams or rivers. There are many different types of buffers including:

▫Filter Strips–grass/other vegetation traps sediment and pollutants before they reach waterways.

▫Shelterbelts/Field Windbreaks

▫Grassed Waterways

▫Living Snow Fences–shrubs/trees prevent wind and snow damage and trap snow for water.

▫Contour Grass trips

▫Cross-Wind Trap Strips –rows of vegetation.

▫Shallow Water Areas For Wildlife–areas of shallow water in or near crop fields, protected by permanent vegetation.

▫Field Borders–grassed areas along the edges of crop fields.

▫Alley Cropping –crops planted between rows of shrubs or trees.

♦ Streamside Management Zones or SMZ's–buffer strips of vegetation along streams or around other water bodies, where forestry practices require special care to protect water quality.

♦ Riparian Areas –areas of vegetation along streams and rivers.

♦ Food Plots or Wildlife Openings –cleared area of forest that are mowed or disked and planted with grasses and grains or contain native plants to meet food and cover needs of wildlife.

♦ Maintaining Edges –creating and maintaining edges can be done through many practices:

- When harvesting trees, make irregular shaped cuts or indentations to increase the amount of edge.

- Allow native vegetation to grow along fencerows, terraces, roadsides, gullies, or field borders.
- Allow fingers of native vegetation to creep out into pastures, fields, and other open areas.
- Plant vegetation or hedgerows to connect large forested areas to serve as cover and travel lanes or corridors for wildlife.
- Create brush piles in pastures, clearcuts, or other open areas for cover.
- Cut large trees and leave them on field edges to provide cover.
- Plant trees or shrubs to speed up the development of cover along edges.
- Cut firewood and do timber stand improvements in a way that will increase forest edge/openings.
- Prescribed burns to open up the forest and allow undergrowth and grasses sunlight.
- Selective cutting of trees or planting of various species.
- Mow to maintain grassy fields and various stages of succession.
- Individual homeowners and urban areas can landscape with shrubs and trees of various heights to provide vertical vegetation to increase wildlife habitat.
- Homeowners can landscape with native plants to provide food, water and cover for wildlife.

The U.S. Department of Agriculture offers many programs encouraging farmers to conserve soil and water resources for the benefit of wildlife. These programs include the Conservation Reserve Program, Conservation Reserve Enhancement Program, Wildlife Habitat Incentives Program, Wetlands Reserve Program, and Forest Stewardship Program. All of these programs help create edges and ecosystems where more habitat requirements for a larger variety of species are met.

Pond Dynamics, Pond Balance and Stream Habitat

A properly managed pond can provide excellent fishing and can benefit many species of wildlife. The basics of a well-managed pond are properly stocking the right species, a balanced harvest, proper fertilization, a stable water level and aquatic weed control. Pond balance occurs when a balance between prey and predator fish is established and maintained. In most warm-water ponds, bluegill is the prey species and largemouth bass is the predator species. In cold-

water ponds, a trout species is usually the predator, and insects and small fish are prey. Balance between predator and prey is achieved by establishing an adequate food chain for the prey species and controlling the prey and predator species numbers through fishing. Phytoplankton(microscopic algae) are the base of the pond food chain. Zooplankton and aquatic insects feed on phytoplankton, which are eaten by small fish. Small fish are eaten by larger fish. Managing phytoplankton through fertilizing and liming (if necessary) is the key to producing abundant and healthy fish populations. Suspended mud in ponds blocks sunlight, and algae cannot bloom. Excessive water exchange through the pond prevents adequate phytoplankton blooms because fertilization is diluted. Low water levels can cause significant problems also. Improperly constructed or damaged spillways can lead to excessive dam erosion. Low water levels, resulting from damaged spillways or improperly sloped banks, can lead to excessive aquatic vegetation along pond margins.

A stream can be defined as a body of water moving in a definite pattern and following the course of least resistance to a lower elevation. Because water volume and rate of land erosion fluctuate along the course of the stream, the bottom and shoreline are relatively unstable. As the water moves, it carries materials that have been picked up—such as gravel, sediment, and debris—and redistributes them along the stream course. When water flow is restricted to a narrow area, the stream can create more erosion, resulting in deeper areas or pools. As the stream passes through wider passages, the water flow slows, and material is deposited to form areas known as riffles. Pools and riffles are important habitat features for various fishes that inhabit streams. Pools provide areas for fish to feed and find refuge from fast-moving water that requires more energy for swimming. Riffles are usually preferred areas for spawning. It is important that fish have the ability to move freely between various features in the stream. While some species can complete their life cycle within a small portion of the stream, other species, such as salmon, must migrate to the ocean and return to the stream to spawn.

Wildlife Taxonomic Classification

The term wildlife can be used to signify all undomesticated organisms but more often it simply refers to undomesticated organisms belonging to the animal kingdom. The animal kingdom is subdivided into invertebrates and vertebrates.

Invertebrates include:

- Sponges
- Stinging Celled Animals: jellyfish, anemones, and corals
- Mollusks –snails, clams, mussels, oysters, and scallops
- Nematodes –roundworms ♦ Flatworms –flukes, planaria, and tapeworms
- Segmented Worms –earthworms and leeches
- Spiny Skinned Animals –sea stars, sea urchins, and sand dollars
- Arthropods –insects, spiders, millipedes, centipedes, crabs, and lobsters .

Vertebrates include:

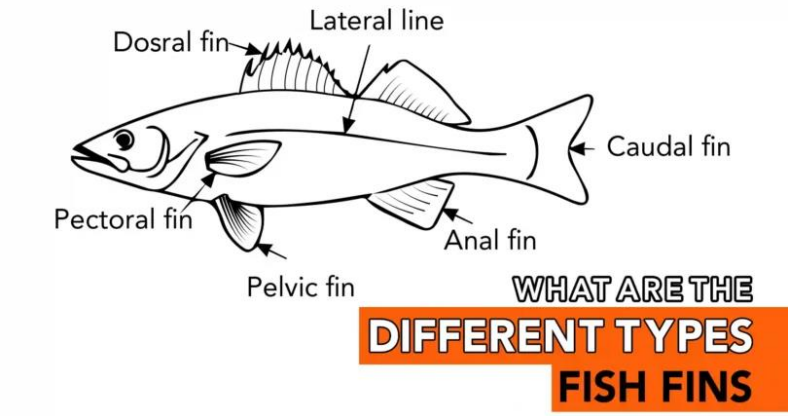
- Fish
- Birds
- Amphibians
- Mammals
- Reptiles

Insects are the most numerous animals on earth. They make up about 85% of the population. they have jointed appendages, have exoskeletons, have three pairs of legs (6) and undergo metamorphosis, changing from egg to larva to nymph (or pupa), and finally into adult form. Insects that cause harm to humanity are known as pests. Throughout history various methods have been used to "control" them. Heavy metals, such as arsenic, were once used to poison them, much as our synthetic pesticides are designed to do today. Natural controls, which include climate, natural enemies (such as spiders and predatory insects), geographic or natural barriers, and availability of shelter, food and water supply may be used to help control insect populations. Another method is host resistance. Some animals and plants resist pests better than others. The use of these species for crops and domestic animals helps reduce pests' numbers. Some plants seem to repel unwanted insects. Planting these species with or around crops can help reduce insect numbers. Chemical pesticides have been widely used in the past. We have learned that the heavy use of chemical pesticides eventually fails due to the development of natural resistance (known as the "pesticide treadmill"). Pesticides also kill beneficial organisms. Some chemicals have also been found to pollute surface waters and kill birds and other animals.

Fish

Fish are vertebrate animals usually characterized by fins, scales, breathing with gills and living in water. Fish eggs must be in water because they have no protective shell to prevent moisture loss. They are divided into fresh water and marine or saltwater species, depending upon their habitat. Some fish are **anadromous**. Anadromous fish migrate from freshwater where they hatch to the ocean where they spend most of their lives and grow large before returning to freshwater to spawn.

Sedimentation is America's top pollution problem. These sediments can cover the fish's eggs killing the developing young. They can also clog the gills of the fish, limiting their ability to "breathe". Chemical pollutants can kill fish or bioaccumulate in their bodies.



Amphibians

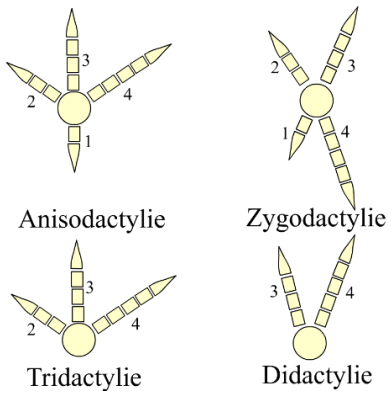
Amphibians, which include frogs, toads, and salamanders, are vertebrate animals. Most are characterized by smooth, moist skin lacking scales, four legs, toes with no claws, exothermic or coldblooded temperature regulation, and a double lifestyle–part in water and part on land. Amphibian eggs must be in water or very moist areas because they have no protective covering to keep them from drying out. Most amphibians have an aquatic larval stage and almost all amphibians live in moist areas or in the water. Amphibians can also take in oxygen through their moist skin. This adaptation is used when they hibernate in the mud at the bottom of ponds or in the soil. Amphibians are all predators (eat insects) and are prey for many organisms.

Reptiles

Reptiles are vertebrate animals with dry, glandless, scaled skin. They are exothermic and use internal fertilization. While most reptiles lay eggs, some snakes and a few lizards are ovoviviparous. They carry their eggs inside their bodies until the eggs hatch and have their young alive. Reptile eggs are large compared to those of fish and amphibians. The eggs have a leathery protective shell and large yolk unlike the eggs of fish and amphibians. Snakes and a few lizards are legless, but most reptiles have four limbs each with five clawed toes. Most reptiles live on land. The reptile's scaly skin helps keep it from losing water. A person who specializes in the study of amphibians and reptiles is a herpetologist.

Birds

Birds are vertebrate animals characterized by feathers; hard-shelled eggs; bills with no teeth; the ability to maintain body warmth and, in most birds, the ability to fly. Birds can fluff up their feathers to trap air, which helps insulate them and keep them warm. The ability to fly requires light weight, which comes from hollow bones (some of the larger bones have internal struts for reinforcement). Another requirement for flight is excellent eyesight. Birds have the best visual acuity of all living things. The beaks and feet of birds are designed to fit their niche in their habitat. Raptors or birds of prey have long, sharp, curved claws called talons for grasping prey. Water birds have feet designed for swimming or wading. Climbing birds, such as woodpeckers, are **zygodactyl**, they have two toes at the back of their foot that act as braces. Most birds are **anisodactyl**, only having one toe at the back of their foot such as robins, jays, and chickadees. This type of foot can be found on most birds that regularly perch.



The beaks of birds are suited to their food source. Birds that eat small insects, such as warblers, have small, fine beaks. Birds that eat larger seeds, such as cardinals, have broad based, heavy beaks for crushing the seeds. Birds that dig for insects,

such as woodpeckers, have long, narrow beaks. Birds of prey have hook-tipped, sharp beaks for tearing flesh.

Bird banding data is useful in both scientific research and management and conservation projects. Individual identification of birds makes possible studies of dispersal and migration, behavior and social structure, life-span and survival rate, reproductive success and population growth.

Birds are commonly grouped as follows:

Flightless birds: Penguins, Ostriches, Kiwi

Waterfowl and Shorebirds: Wading birds, Swimmers, and Aerialists Water birds have oil glands or "powderdown" patches to keep their feathers waterproof. Smaller waders include sandpipers, plovers, snipe, rails, woodcock and killdeer. Long-legged waders include herons, cranes, egrets, ibises and spoonbills. Aerialists or seabirds include gulls, terns, pelicans. Swimmers are the ducks and duck-like birds including geese, swans, coots, loons and grebes. The Ducks are further subdivided into "Puddle Ducks" or Dabblers and "Diving Ducks" or Divers. Puddle ducks or dabblers are typically birds of fresh shallow marshes, ponds and rivers. Dabblers are sure-footed and can walk or run well on land. Their diet is mostly vegetable, and many of these ducks, like the mallard, pintail and wood duck are hunted for food. Diving ducks are found in larger, deeper lakes and rivers, and coastal bays and inlets. The diet of diving ducks includes fish, shellfish, mollusks and aquatic plants. Their diet makes most of them less desirable to sportsmen who hunt for food. Ducks and many other waterfowl are migratory birds. The term **"flyway"** is used to designate the migration routes of ducks. For management purposes, four waterfowl flyways were established in the United States in 1948. **The four flyways are –Atlantic, Mississippi, Central and Pacific.**

Game Birds- are birds that are ground inhabitants with strong legs; feed mostly on seeds, berries and other vegetation; have short and rounded wings and hatch young that are fully covered in down and can run and feed. Game birds include quail, grouse, turkeys, pheasants and partridges.

Passerine (Perching) Birds – Often known as "songbirds."

The most serious threat to birds today is habitat destruction. In addition to the loss of land and vegetation needed; contamination of air, land, water, and living organisms with pollutants such as pesticides and PCBs has threatened many species. Biomagnification is the accumulation of a chemical in an animal to a

harmful level. The biomagnification of DDT in some avian predators threatened their survival. The birds laid thin-shelled eggs that did not provide good protection for the developing embryos. The birds most affected by DDT were the bald eagle, brown pelican, peregrine falcon, and osprey. Other chemicals that have impacted bird populations include PCBs and lead. The introduction of exotic species has also played a role in habitat destruction and loss of bird species. The introduced species often outcompetes native birds for needed resources and cavity-nesting sites. The introduction of the house sparrow and European starling had a devastating effect on North American **cavity nesting birds**, such as the eastern bluebird, different species of owls and wood duck, as did the cutting of forest and removal of snag trees.

Mammals

Mammals are vertebrate animals that have hair, are endothermic and feed their young milk from mammary glands. Fur, called pelage, usually consists of two types of hair. Long guard hair protects an underlying dense coat of smaller, insulating under hair(undercoat). Most mammals are viviparous, which means they have live young. Mammals have reproductive cycles that help ensure internal fertilization and successful development of the young. Mammals of today are classified as monotremes, marsupials, and placentals. Monotremes are egg-laying (oviparous) mammals. Only two monotreme species live today, the echidna and the platypus. Marsupial mammals are viviparous, primitive placentals who bear their young alive. The young are born early and not fully developed. The young crawl into a pouch on the female's belly where they feed and continue to develop. The only marsupial in North America is the Opossum.

There are four main kinds of teeth in mammals (incisors, canines, premolars and molars).

Carnivores tend to have long canines which are used to rip and tear meat, sometimes in a scissors like action. In addition, carnivores have sharp molars toward the back of the mouth, used to further rip and shred meat. Carnivores tend to have binocular vision, where their eyes are at the front of the head, which results in a smaller field of view, but allows for depth perception, needed to catch prey.

Herbivores tend to have well-developed flat premolars and molars, often with sharp ridges on the tops. Generally herbivores do not have canine teeth, and their incisors are usually large and used to snip off foliage from branches. Because herbivores are often prey for other animals, they generally have their eyes on the

side of their head, which functions to give them a wider field of view, so that they can detect their prey earlier, and have a chance to flee.

Omnivores usually have a variety of all kinds of teeth. Humans, bears, and raccoons are omnivores, since they eat all kinds of food (both meat and plant material) they need all kinds of teeth. Generally, omnivores have eyes on the front of their heads like carnivores, in order to best catch their prey.

Among the concerns about human and wildlife interactions is the fact that warm-blooded mammals are carriers of rabies. The most commonly infected animals include raccoons, foxes, skunks, and bats. Mammals may also be carriers for ticks that are vectors for Rocky Mountain spotted fever or Lyme disease. Today, the greatest threats to mammals are habitat destruction and habitat fragmentation. Foundation, Keystone, and Indicator Species Some species, such as the beaver and alligator, actually create habitat for other animals. They are known as foundation species. Others have an importance to an ecosystem that is far out of proportion to their numbers. These are known as keystone species. Many top level predators fit this description. Other species, such as amphibians and songbirds, have warned us of environmental problems. These animals are called indicator species.

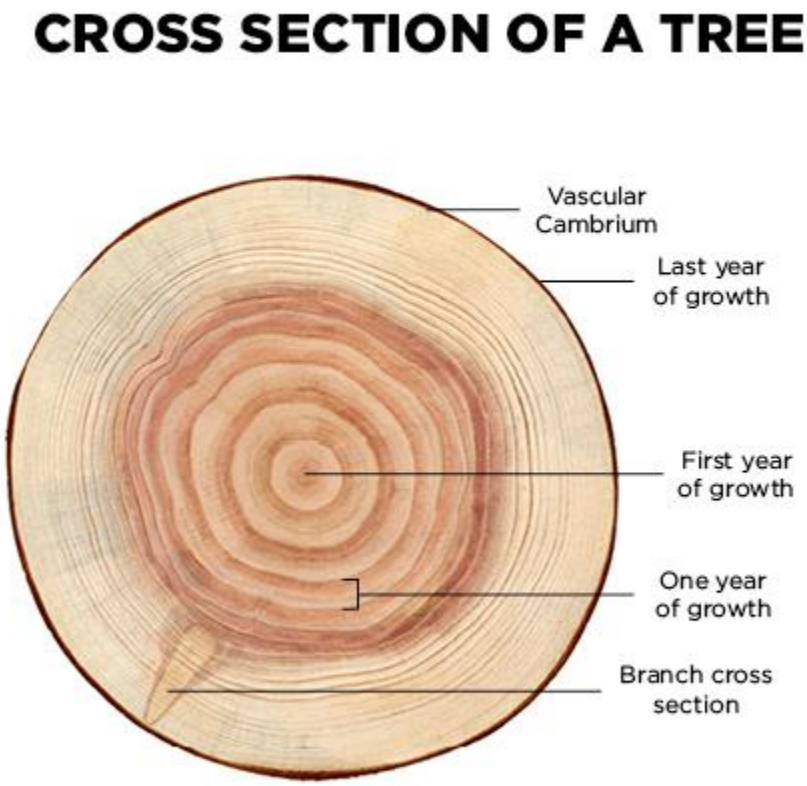
Game and Non-game Species Wildlife is divided into game and non-game species. **Game species** are those that may be hunted or trapped according to wildlife regulations for seasons and limits. **Non-game species** are wildlife that are not hunted.

Endangered Species

The Endangered Species Act was passed in 1973 to help save species facing the risk of extinction. The federal act defines endangered species as “any species which is in danger of extinction throughout all or a significant portion of its range.” A threatened species is “any species which is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.” **The causes of species becoming endangered are easy to remember by the acronym HIPPO:**

Habitat Destruction and Fragmentation
Invasive Species
Pollution
Population growth (human)
Overexploitation

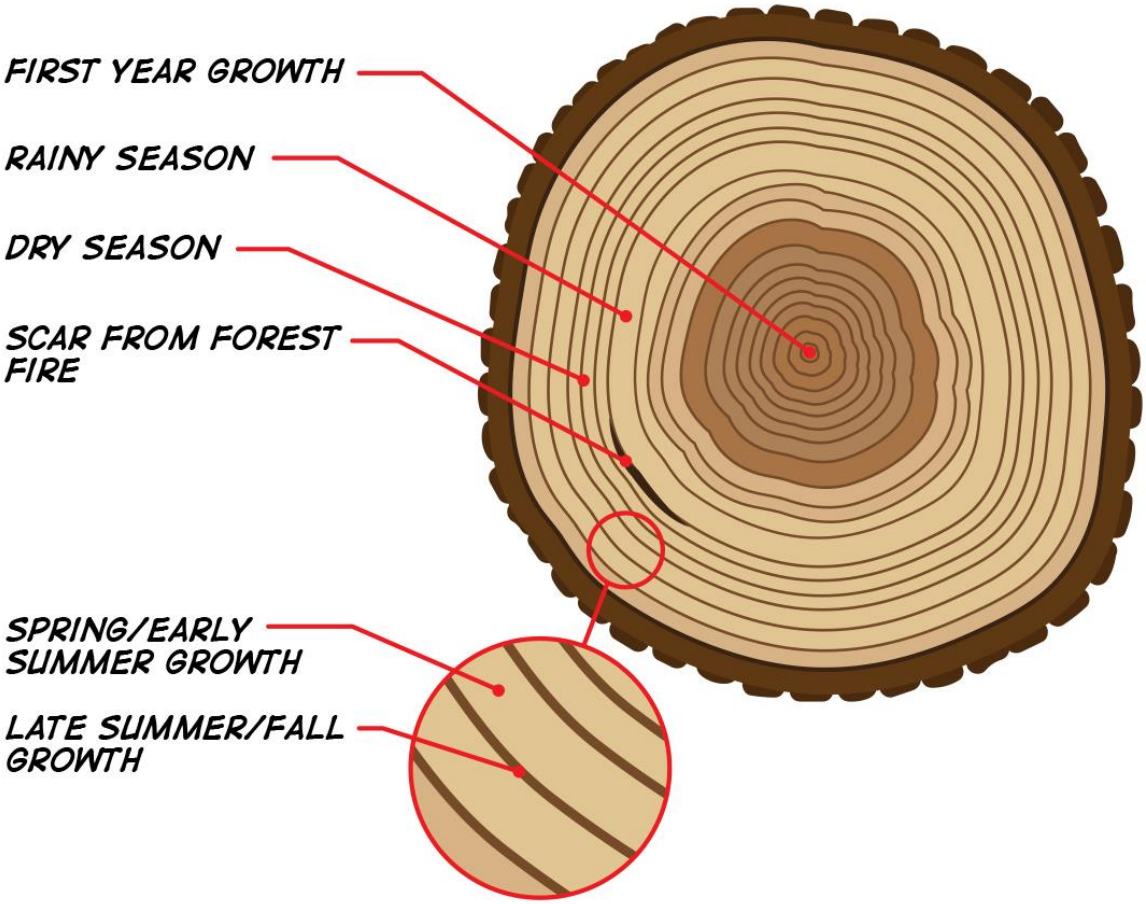
Animals that specialize, rather than adapt to changing conditions are more vulnerable to extinction.



Tree cookies are cross sections of tree trunks that foresters and teachers use to illustrate how trees grow. Tree cookies reveal the many different layers that make up a tree. And each layer can tell us something about the tree's life and the climate in which it grew. Looking at the rings of a tree can tell us a lot about environmental conditions in the region the tree was grown.

The lighter part of each ring is the spring season’s growth and is where most of the growth happens. The darker part of the ring is the summer or fall growth, which is when the rate of growth slows. The darker color is made by cells growing smaller, closer together, and with thicker cell walls. Black parts can show when a fire has

reached a tree and wide rings show a rainy season where much water led to much growth.



Wild A wild animal is one that isn't tame, and it lives on its own without any help from people. A wild animal finds its own food, shelter, water and all its other needs in a specific natural habitat.

Domestic A domestic animal is one that has been tamed and kept by humans as a work animal, food source, or pet,

Feral A feral animal is one that has escaped from a domestic or captive status and is living more or less as a wild animal, or one that is descended from such animals.

Skills to Know- Wildlife

1. Identify pelts, and skulls for all mammals listed on the specimen study list.

2. Identify all wildlife by live specimens, and mounts as well as know habitat, and food for all wildlife listed on the specimen study list.

3. Identify plants/trees on the specimen study list and know their wildlife value.

SPECIMEN STUDY LIST

Fish

Channel catfish

Physical Description
Channel catfish typically have grayish-blue sides with a black back and a white belly. Though rare in the wild, a channel catfish can carry the recessive alleles resulting in lack of pigmentation, known as albinism. Albino channel catfish have a peach coloration. Some domestic channel catfish have been bred to carry the recessive albino alleles, with these fish being popular in aquariums and ornamental ponds.

Habitat
Channel catfish are the most numerous species of catfish in North America. They live in freshwater rivers, lakes, streams and ponds throughout North America.

Food/Eating Habits
Channel catfish are bottom-dwelling, opportunistic omnivores that have excellent senses of smell and taste, which they use to find food in dark and muddy waters. Though catfish have taste receptors all over their body, the highest concentration of receptors is located on the four pairs of barbels (or "whiskers") that surround the mouth

The channel catfish eat aquatic insects, algae and plants that occur naturally in the pond.

Blue Catfish

Physical Description
Blue catfish has a deeply forked tail fin. This large catfish is distinguished by its blueish back and side, lack of black spots and humped back near the dorsal fin.
Habitat
Blue catfish are native to the Mississippi River basin. In South Carolina, blue catfish are found in almost every drainage. This species is found in South Carolina Department of Natural Resources' public fishing lakes and large impoundments such as lakes Wateree, Marion and Moultrie. Native to the Coosa river in the northwest corner of Georgia, the blue catfish has since been introduced into the Chattahoochee, Flint, Ocmulgee, Oconee, Altamaha, Satilla and Savannah River basins. Blue catfish prefer rivers and large creeks with moderate to swift current over rock, gravel or clean sandy bottoms; however, they also do well in large impoundments
Food/Eating Habits
The blue catfish feeds on a variety of organisms including clams, snails, aquatic insects, freshwater mussels, fish and plant material.

Hybrid Bass

Physical Description
Seven or eight black stripes, broken and above the lateral line. Dark back, almost black with silvery sides and white belly. Body depth similar to white bass. Tongue with two tooth patches. Second anal spine 2/3 or more the length of third anal spine. To 20 lb; 1 to 10 lb typical.

Habitat
Not a natural occurring fish. Hybrid Bass are produced in hatcheries by crossing Striped Bass and White Bass. Hybrid Bass are stocked in lakes and reservoirs. Prefers open waters. Tennessee, Coosa, Chattahoochee, Flint, Ocmulgee, Oconee, Altamaha and Savannah River basins.

Food/Eating Habits
A hybrid striped bass diet includes the white and black crappie, the bluegill, shad, sunfish, and the fathead minnows—Threadfin and Gizzard shad are the main prey species. Fish under 50 mm feed mostly on crustacean zooplankton.

White Bass

Physical Description
Silvery fish with several faint horizontal stripes on the sides. Two dorsal fins are only slightly separated. Second anal spine 2/3 or more the length of third anal spine. One tooth patch on tongue. Up to 5 lb; ½ to 2 lb typical.

Habitat
Large streams, rivers, and lakes. Travel in schools. During spawning, when water reaches 53-64 degrees, they move upstream into tributaries, especially headwaters, and onto wind-swept sand and gravel areas in lakes. *Range*: Tennessee, Coosa, Chattahoochee, Flint, Ocmulgee, Oconee and Savannah River basins.

Food/Eating Habits

the fish tend to avoid eating aquatic plants and focus on finding other organisms to eat. Popular prey creatures for them include zooplankton, small crustaceans, minnows, bait fish and water fleas.

Largemouth Bass

Physical Description
The upper jaw extends back past the rear margin of the eye. Dorsal fin is deeply notched and the two sections of the fin are nearly separated. The upper body is dark green to olive while the lower body and belly are white. It has a series of dark blotches that merge into a dark lateral band. Largemouth bass usually have no teeth on the tongue.

Habitat
Largemouth bass can be found in slow-moving streams, pools of large rivers, natural lakes and all sizes of man-made impoundments.
Largemouth bass prefer warm, moderately clear water that has no appreciable current.

Food/Eating Habits
Newly hatched bass feed on zooplankton, switching first to insects and then to larval and juvenile fish as they grow.
Adult largemouth bass primarily consume other fish. In a large impoundment, the major prey species include threadfin and gizzard shad, while in small impoundments sunfish will predominate in the diet.
Basically, the largemouth bass will consume any organism that opportunity allows.

Striped Bass

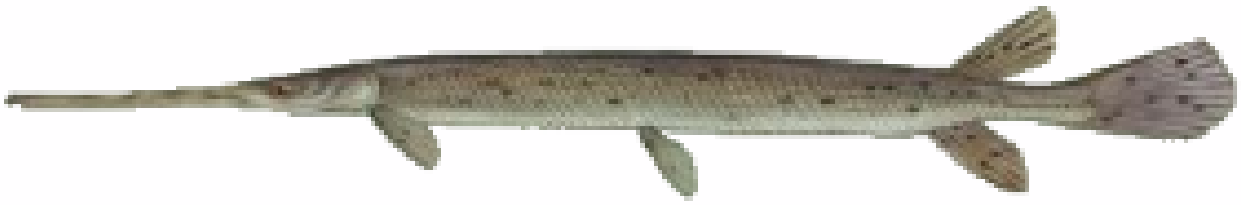
Physical Description
Seven or eight heavy and distinct black stripes run length of slender body. Second anal spine ½ or less the length of third anal spine. Two tooth patches on tongue. Up to 80 lb; 5 to 25 lb typical.

Habitat
Can live in freshwater and saltwater environments. The fish is **anadromous**–that is, an ocean fish that spawns inland in freshwater. However, it adapts easily to a freshwater environment and can live and successfully reproduce in inland rivers, lakes, and reservoirs.
In large freshwater reservoirs and rivers, they tend to school in open waters, and will seek deep, cool areas of the reservoir or move upstream to cool water refuges during summer. Spawns during spring in flowing 55–67-degree water. The semi-buoyant eggs require many miles of flowing river water for egg development and maturation.

Range: Tennessee, Coosa, Chattahoochee, Flint, Ocmulgee, Oconee, Ogeechee, Ochlockonee, St. Marys and Savannah River basins.

Food/Eating Habits
Stripers feed on a lot of crayfish, but they will eat anything that comes in their path including shad, carp, trout, shrimp, crab, and smaller fish.

Longnose Gar



Physical Description
Elongated body, greenish black on top, yellow towards belly. Black spots along the sides and fins. Long, narrow snout with many sharp needle-like teeth. Up to 25 lb.

Habitat
Deep or shallow water of lakes, rivers, and streams. Often lurks in weedy areas. All major river basins in Georgia except the Tallapoosa, statewide in South Carolina.

Food/Eating Habits
Juveniles and adults are often opportunistic fish eaters but will occasionally eat shrimp, crayfish and insects.

Spotted Gar

Physical Description

Spots on top of the head, body, and fins. Snout is broader than longnose gar. Up to 20 lb, but most are 1 to 5 lb.

Habitat

Prefer warmer, quiet waters, large reservoirs, and rivers.

Range: Ga: Tennessee, Coosa, Chattahoochee, and Flint River basins.

Food/Eating Habits

Juveniles and adults are often opportunistic fish eaters but will occasionally eat shrimp, crayfish, and insects.

Nongame Birds

Screech Owl

Physical Description

This robin-sized nightbird. The plumages of the male and female are alike. Screech owls have two color phases, red (reddish-brown) or gray. In Georgia, most screech owls are gray; however, red birds predominate further north. Occasionally, a nesting pair will be made up of both a red phase bird and a gray phase bird. They have **zygodactyl** feet —two toes in front and two toes in back.

Habitat

Screech Owls are common over much of the east, including in city parks and shady suburbs. The owl is a cavity dweller spending its day roosting in holes or in dense cover, becoming active at dusk. Woodlands, farm groves, shade trees. Generally, favors deciduous or mixed woods, but may be found in any habitat having some open ground and some large trees, from forest to isolated groves to suburban yards. May be absent from some areas because of lack of dead snags with suitable nesting holes. Despite the name, screech-owls do not screech; the voice of this species features whinnies and soft trills.

Food/Eating Habits

Forages at dusk and at night. Hunts mostly by watching from a perch and then swooping down to take prey from the ground or from foliage. Also catches flying insects in the air. Can locate prey by sound as well as by sight. Mostly large insects and small rodents. Wide variation in diet. Eats many beetles, moths, crickets, other large insects. Catches mice and other rodents, shrews, sometimes bats; also some small birds, lizards, frogs, spiders, earthworms, crayfish, many other small creatures. Some catch many small fish.

Great Horned Owl

Physical Description
Mottled browns overall; rusty colored facial discs (round areas surrounding its eyes) accented by a black margin; white throat. 56 cm (22 in) in length. The Great Horned Owl is the largest owl occurring in the southern United States. The Great Horned Owl's name refers to its size (great) and its "horns," the ear tufts that help distinguish it from the other large owls. The call of this owl is a long series of hooo's. They have **zygodactyl** feet —two toes in front and two toes in back.

Habitat
Forests, woodlots, stream sides, open country. Found in practically all habitats in North America, from swamps to deserts to northern coniferous forest near tree line. In breeding season avoids tundra and unbroken grassland since it requires some trees or heavy brush for cover.

Food/Eating Habits
Hunts mostly at night, sometimes at dusk. Watches from high perch, then swoops down to capture prey in its talons. Has extremely good hearing and good vision in low light conditions. Mammals make up majority of diet in most regions. Takes many rats, mice, and rabbits, also ground squirrels, opossums, skunks, many others. Eats some birds, up to size of geese, ducks, hawks, and smaller owls. Also eats snakes, lizards, frogs, insects, scorpions, rarely fish.

Barred Owl

Physical Description

Barred Owls are large owls with mottled brown and white plumage, and dark eyes. Their soft brown coloration blends right into the trees they roost in during the day. They have **zygodactyl** feet —two toes in front and two toes in back.

Habitat

Woodlands, wooded river bottoms, wooded swamps. Favors mostly dense and thick woods with only scattered clearings, especially in low-lying and swampy areas. Most common in deciduous or mixed woods in southeast. Cavity dwellers.

Food/Eating Habits

Hunts by night or day, perhaps most at dawn and dusk. Seeks prey by watching from perch, also by flying low through forest; may hover before dropping to clutch prey in talons.

Mostly small mammals. Eats many mice and other small rodents, also squirrels (including flying squirrels), rabbits, opossums, shrews, other small mammals. Also eats various birds, frogs, salamanders, snakes, lizards, some insects. May take aquatic creatures such as crayfish, crabs, fish.

Pileated Woodpecker

Physical Description

The Pileated Woodpecker is the largest extant woodpecker in North America. They have black plumage overall, white stripes on the face and neck, and a red crest. The underwing is white, and the upper wing shows white crescents near the primaries. The males have a red malar stripe and forecrown, which are both black on the females. They have **zygodactyl** feet —two toes in front and two toes in back. This allows them to grip tightly on vertical surfaces.

Habitat

Conifer, mixed, and hardwood forests; woodlots. Favors mature deciduous or mixed deciduous-coniferous forest, also coniferous forest. Wide variety of specific forest types from southern swamps to old-growth Douglas-fir forest of northwest. Also, in second-growth and fragmented woodlots, as long as some large trees are present. Nest site is a cavity in a dead tree or in dead branch of a live tree, sometimes in utility pole, usually 15-80' above ground. Generally, makes a new cavity each year.

Food/Eating Habits

Forages mainly by probing, prying, and excavating in dead wood in search of insects. May gouge deep holes in rotten wood to get at ant nests, sometimes tearing apart stumps and big sections of fallen logs. May clamber about acrobatically in small branches to get at berries.

Mostly ants and other insects, also fruits, nuts. Carpenter ants may be up to 60% of diet; also eats other ants (rarely digging into anthills on ground), termites, larvae of wood-boring beetles, other insects. About one-quarter of the diet may be wild fruits, berries, and nuts.

Downy Woodpecker

Physical Description

The Downy Woodpecker is a small black-and-white woodpecker. The upper side is mainly black with white wing spotting and a white back. The head is striped in black and white, while the underside is white. Males have a red nape that is absent in females. The outer tail feathers are white with dark spots. They have **zygodactyl** feet —two toes in front and two toes in back. This allows them to grip tightly on vertical surfaces.

Habitat

The smallest woodpecker in North America, common and widespread, although it avoids the arid southwest. In the east this is the most familiar member of the family, readily entering towns and city parks, coming to backyard bird feeders. Its small size makes it versatile, and it may forage on weed stalks as well as in large trees. In winter it often joins roving mixed flocks of chickadees, nuthatches, and other birds in the woods. Downy Woodpeckers nest in dead trees, dead parts of live trees, and fence posts. They create a cavity on the underside of a stub that is not reused annually. Wood chips act as a lining inside the cavity.

Food/Eating Habits

They eat insects mostly, particularly beetle larvae, corn earworms, ants, and caterpillars. In addition, berries, grains, and acorns comprise a large portion of their diet. Will eat suet at bird feeders.

Carolina Wren State Bird of S.C.

Physical Description

The Carolina Wren is a small but chunky bird with a round body and a long tail that it often cocks upward. The head is large with very little neck, and the distinctive bill marks it as a wren: long, slender, and downcurved. Both males and females are a bright, unpatterned reddish-brown above a warm buffy orange below, with a long white eyebrow stripe, dark bill, and white chin and throat. Carolina Wrens have anisodactyl feet, only having one toe at the back of their foot.

Habitat

Tangles, undergrowth, suburbs, gardens, towns. Common in the undergrowth of deciduous or mixed woods, and in thickets along forest edges. Also lives in suburban areas, especially where some dense low growth and tangles have been left undisturbed.

Food/Eating Habits

Usually forages in pairs, actively exploring low tangles, foliage, bark of trunks and branches, and the ground. Sometimes comes to bird feeders for suet, peanuts, other items. Carolina Wrens eat mostly insects. Feeds primarily on insects of many kinds, especially caterpillars, beetles, true bugs, grasshoppers, crickets, and many others. Also feeds on many spiders, some millipedes, and snails. Sometimes catches and eats small lizards or tree frogs. Also eats berries and small fruits, especially in winter, and some seeds.

Brown Thrasher State Bird of Ga.

Physical Description

Large sonbird with long proportions – long, study legs, a long tail, and a long, slightly curved bill. Reddish brown above with thin black and white wing bars and bold dark streaking below.

Habitat

Sometimes it forages boldly on open lawns; more often it scoots into dense cover at any disturbance, hiding among the briar tangles and making loud crackling callnotes. Although the species spends most of its time close to the ground, the male Brown Thrasher sometimes will deliver its rich, melodious song of doubled phrases from the top of a tall tree.

Food/Eating Habits

Does much foraging on the ground, using its bill to flip dead leaves aside or dig in the soil as it rummages for insects. Perches in shrubs and trees to eat berries. Will crack open acorns by pounding them with its bill. Diet is varied, includes insects, berries, nuts. More than half of diet is insects, including beetles, caterpillars, true bugs, grasshoppers, cicadas, and many others; also eats spiders, sowbugs, earthworms, snails, crayfish, and sometimes lizards and frogs. Berries and small fruits also very important in diet, especially in fall and winter, and eats many nuts and seeds, particularly acorns.

Game Birds

Wood Duck

Male

Female

Physical Description

Males are iridescent chestnut and green, with ornate patterns on nearly every feather; the females have a distinctive profile and delicate white pattern around the eye. Their feet are palmate, this is the most common type of webbed foot.

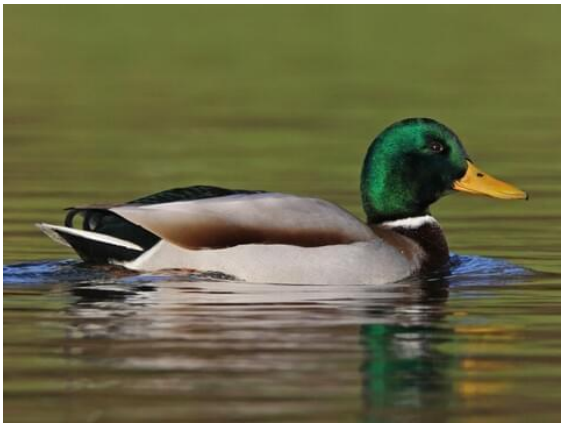
Habitat

Wooded swamps, rivers, ponds. Favors shallow inland lakes, ponds, slow-moving rivers, swamps, mainly those surrounded by deciduous or mixed woodland. Often in places where large trees overhang the water, creating shady conditions. Also in open marshes within generally forested country. Wood ducks are cavity dwellers. Ducklings remain in nest until morning after hatching. Clinging with sharp claws and bracing with tails, young climb to cavity entrance, jump to ground.

Food/Eating Habits

forages in water by taking food from surface, submerging head and neck, occasionally up-ending; also by walking on land. Diet is mostly seeds. Feeds on aquatic plants and their seeds, fallen seeds of trees and shrubs, also insects and crustaceans. Acorns are a major part of diet in many areas. Also comes to fields to feed on waste grain. Young feed mainly on insects and other invertebrates.

Mallard



Male

Female

Physical Description

Mallards are large ducks with hefty bodies, rounded heads, and wide, flat bills. Like many “dabbling ducks” the body is long and the tail rides high out of the water, giving a blunt shape. In flight their wings are broad and set back toward the rear. Male Mallards have a dark, iridescent-green head and bright yellow bill. The gray body is sandwiched between a brown breast and black rear. Females and juveniles are mottled brown with orange-and-brown bills. Both sexes have a white-bordered, blue “speculum” patch in the wing. Mallards have palmate feet. This is the most common type of webbed foot.

Habitat

Marshes, wooded swamps, grain fields, ponds, rivers, lakes, bays, city parks. May occur in any kind of aquatic habitat, but favors fresh water at all seasons; only sparingly on coastal waters, mainly in winter on sheltered bays and estuaries. Nest site may be more than 1 mile from water; usually on ground among concealing vegetation, but may be on stump, in tree hollow, in basket above water, various other possibilities. Nest is shallow bowl of plant material gathered at the site, lined with down.

Food/Eating Habits

forages in water by dabbling, submerging head and neck, up-ending, rarely by diving; forages on land by grazing, plucking seeds, grubbing for roots. Mallards are omnivorous. Majority of diet is plant material, including seeds, stems, and roots of a vast variety of different plants, especially sedges, grasses, pondweeds, smartweeds, many others; also acorns and other tree seeds, various kinds of waste grain. Also eat insects, crustaceans, mollusks, tadpoles, frogs, earthworms, small fish. Young ducklings may eat mostly aquatic insects.

Big Game Animals

American Black Bear

Physical Description

A black bear's fur ranges from grey to blue-grey, black, cinnamon and even white! Adults are between 1.5 and 1.8 m (5–6 ft) long and can weigh between 90 and 272 kg (200–600 lbs). While this may sound large, black bears are the smallest North American bear.

Habitat

Bears typically live in swamps and forested areas, especially mature mixed pine stands that offer a plentiful supply of natural foods and trees and thickets that they can escape to for security. Standing, hollow trees are common den sites for Georgia bears. However, brush piles, rock crevices or other places that offer protection may be used

Food/Eating Habits

Bears are considered omnivorous, meaning their diet consists of whatever is readily available at that time of year. Diets vary according to what part of the state the bear calls home. However, the majority of their natural diet consists of berries, fruits, acorns, grasses and animal matter, including insects or mammals-even deer. When houses, camps or recreation areas are located within range, bears are naturally attracted to the smells associated with cooking and garbage disposal. Other non-natural attractants include pet food, birdseed, suet, compost piles, gardens, beehives and cornfields. Bears can become attracted to human food when their natural diet sources are scarce. Non-natural type foods are typically easier to

obtain and associated with humans, therefore luring bears away from natural food sources and dissolving the bear's natural fear of humans. A bear typically will remain in an area where food can be found until that food supply is gone or until other measures are taken.

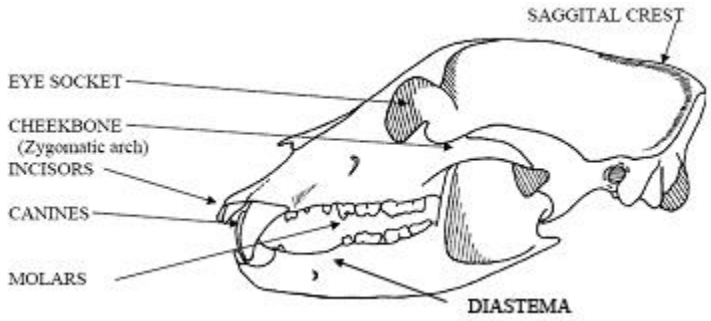
Skull of a Black Bear

Saggital crest: This protrusion is for attachment of chewing muscles. Animals with a large saggital crest have a powerful bite. The saggital crest is much bigger on male black bears than it is on females, giving males a more powerful bite when fighting over females. Males and females have similar diets.

Teeth: Black bears have 42 teeth adapted to an omnivorous diet of vegetation, nuts, berries, insects, and some meat.

- The incisors can be used for cutting meat but are usually used to clip grass, clover, and newly emerging plants on the forest floor.
- The canines can be used to grasp prey and to wound opponents but are usually used to tear open logs for ants and grubs.
- The premolars are the four teeth behind each canine tooth. Usually the 2nd and 3rd premolars on the bottom jaw are missing, leaving a space (diastema) like herbivores have. Moose use their diastema to strip leaves off branches as they draw the branches sideways through it. Black bears use it the same way when eating young leaves in spring.

The molars are the 2 back teeth on the top and the 3 back teeth on the bottom. They are broad and flat like they are in raccoons and people and are used for crushing nuts and acorns and for grinding up vegetation. Black bears eat little meat, so they don't need their molars to be sharp and scissor-like as they are in animals like wolves and cats that eat mostly meat.



White-tailed Deer

Male (Buck) Female and young (Doe and Fawns)

Physical Description

The white-tailed deer is tan or brown in the summer and grayish brown in winter. It has white on its throat, around its eyes and nose, on its stomach and on the underside of its tail. The male has antlers. Males weigh between 150 and 300 pounds and females weigh between 90 and 200 pounds. A buck's antlers generally have two main beams. Any growth off a main beam is called a tine. A tine has to be at least one inch long to be counted as a point. Nubs or growths less than an inch don't count. (Boone & Crockett)

Habitat

White-tailed deer are highly adaptable species and thrive in a variety of habitats. The areas that provide the most suitable environment include a mixture of hardwoods, croplands, brushlands and pasturelands. They prefer an interspersed habitat including meadows, forested woodlots, brushy areas and croplands.

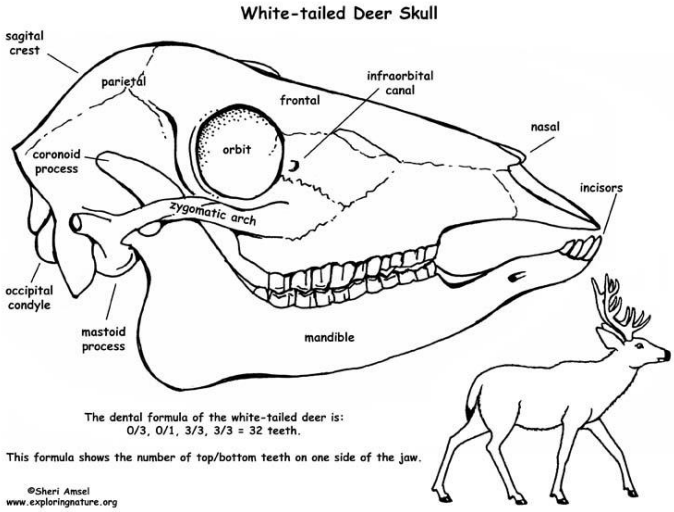
Food/Eating Habits

whitetails have been documented to eat over 400 species of plants in the Southeast alone Diet selection changes in response to seasonal changes in forage abundance, quality, and metabolic needs of the animal. Deer eat a variety of food types, including browse (leafy parts of woody plants), forbs (herbaceous broad-leaved plants, including agricultural crops), hard and soft mast (seeds), grass and mushrooms/lichens.

Skull of White Tail Deer

he cranium surrounds and protects the brain and the organs of hearing and balance. The facial bones form the structure of the face, hold the eyes, and the organs for taste and smell and anchor the teeth. They have the openings for air and food. The whole skull anchors muscles that hold the head up, allows the deer to chew, and form vocalizations. Most of the bones of the skull are flat bones, except the mandible. The mandible is attached to the skull by a type of hinge joint. It is the biggest, strongest bone of the skull.

The dental formula of the white-tailed deer is: 0/3, 0/1, 3/3, 3/3 = 32 teeth. This formula shows the number of top/bottom teeth on one side of the jaw, so the total number comes from adding the top and bottom numbers and multiplying by 2. The white-tailed deer's dental formula shows that they have a total of 0 incisors on top, 6 incisors on bottom, 0 canines on top, 2 canines on bottom, 6 premolars on top, 6 premolars on bottom (that look like molars), 6 molars on top and 6 molars on bottom, for a total of 32 teeth.



Small Game Animals

Muskrat

Physical Description

The muskrat is a rodent that is about a foot to two feet long. It has a stocky body, a rounded head and a long, scaly black tail that is 7 to 12 inches long.

Habitat

Muskrats usually live along the banks of rivers, ponds, swamps and streams, where they build lodges of twigs, weeds, cattails, and mud. They do not like waters that are deep, instead they prefer shallower areas.

Food/Eating Habits

They eat roots, stems, leaves, and fruits of aquatic vegetation. Once their plant food source is depleted, they will eat insects, fish, amphibians, and in the winter: freshwater mussels. Daily activity: more active at dusk but feeding throughout the day.

Opossum

Physical Description

Two foot long **marsupial** (a mammal of an order whose members are born incompletely developed and are typically carried and suckled in a pouch on the mother's belly), about the size of a housecat, has white fur with longer gray hairs, a long, scaly prehensile tail, a long snout with 50 teeth. When cornered, the opossum falls into a deathlike state

Habitat

Opossums are adaptable and will live wherever food, water, and shelter exist. They inhabit woodland areas along streams, ponds, lakes, swamps, and marshes. Farmland and woodlots are preferred over extensively forested areas.

Food/Eating Habits

The possum menu consists of dead animals, insects, rodents and birds. They also feed on eggs, frogs, plants, fruits and grain. A little known fact about a possum's diet is their need for high amounts of calcium. Due to this fact, possums readily eat the skeletal remains of rodents and other roadkill animals.

Fox squirrel

Physical Description

Adult fox squirrels' range in weight from one pound to nearly three pounds. Their pelage (hair) is extremely variable, ranging from pure black to pure blond with all sorts of intermediate color schemes.

Habitat

Fox squirrels prefer open, savannah-like habitats, where trees are widely spaced and the understory is open. They are most common in oak-hickory forests but are also found in live oak, mixed forests, cypress and mangrove swamps, and pine forests.

Food/Eating Habits

Oak acorns and hickory nuts provide the most nutritious food for fox squirrels, and they will also eat the flowers of these trees in the spring. Pine seeds are a major fox squirrel food item and they will consume various other foods such as buds and fruits of other trees and fungi. A small portion of fox squirrel diets is comprised of animal matter such as insects and other arthropods and small vertebrates.

Other Mammals

Striped Skunk

Physical Description

Striped skunk are about the size of domestic house cats, measuring 21-28 inches in total length and weighing from 3-11 pounds. As one of the most recognizable mammals anywhere, striped skunks are known for their black fur and characteristic white stripes on their head and down their back. There is considerable variation in striping patterns including a broad stripe, narrow stripe, pair of stripes, or a short stripe. Coloration can vary as some striped skunks will have very little white while other are almost completely white.

Habitat

Striped Skunks are found in a wide variety of habitats including forests, agriculture, and urban areas. Areas dominated by brush that are adjacent to grassy and forested areas (also known as edge habitat) are preferred habitat for this skunk. Although it may occasionally dig its own den, striped skunk will seek out shelter in crevices, abandoned burrows of other animals, hollow logs, or even underneath buildings or homes.

Food/Eating Habits

Striped skunks eat a large number of insects. Their diet includes a wide variety of beetles and their larvae, grasshoppers, crickets, earthworms, butterfly and moth larvae, spiders, snails, ants, bees and wasps, and crayfish. When insects are not available, their diet may shift to mice, vegetation, or ground nesting bird eggs.

Eastern Spotted skunk

Physical Description

Spotted skunks can also emit a putrid smell; hence the species name “putorius”. Also referred to as civet cats, spotted skunks are considerably smaller than striped skunks measuring between 17 and 23 inches in length and weighing between 1 to 3 pounds. The black and white color is consistent with other skunks, however spotted skunks typically have horizontal white stripes on their neck and shoulders, irregular vertical and elongated spots on their sides, and white spots on the top of their head and between their eyes

Habitat

Farmlands and other early successional areas with an abundance of edge.

Food/Eating Habits

The diet of spotted skunks is more carnivorous than their striped cousins, feeding mainly on small mammals. They also eat grubs and other insects, as well as corn, grapes, and mulberries, and eggs.

Beaver

Physical Description

Fur on the upper parts is a rich reddish brown in the winter and darker in the summer. The belly is a pale buff gray. This is the largest rodent in North America. Beavers are stocky in body shape, with short legs and webbed hind feet. The naked tail is very wide, flat, and scaly.

Habitat

Beavers can be found inhabiting rivers, streams, lakes, farm ponds, swamps and other wetland areas.

Food/Eating Habits

They feed on the leaves, shoots, twigs, roots and outer bark of trees and shrubs.

Reptiles

Eastern Rat Snake

Physical Description

Eastern rat snakes, formerly known as black rat snakes, are large non-venomous snakes between 3.5 and 7 feet long. They have shiny black scales on their back and a light-colored belly, and their throat and chin are white.

Habitat

Eastern Rat Snakes have a variety of habitats, from rocky hillsides to flat farmland, and are able to survive at wide-ranging elevations.

Food/Eating Habits

They are constrictors that feed mainly on rodents but also on frogs, lizards, birds, and eggs. They are excellent tree climbers and spend much of their time in trees.

Black Racer Snake

Physical Description

Black racers are relatively large -- to 60 in (152 cm) -- fairly slender, solid black snakes. They have smooth scales, large eyes, and often have some white coloration under their chin. The belly is generally uniformly dark gray or black.

Habitat

Racers are habitat generalists and can be found in nearly any habitat in the Southeast. However, they are most abundant in edge habitats such as forest edges, old fields, and wetland edges. They are also often found in moderately disturbed or agricultural habitats.

Food/Eating Habits

Racers hunt by sight and are often observed actively foraging during the day. They are not active at night. They eat a wide variety of prey including insects, lizards, snakes, birds, rodents, and amphibians.

Corn snake

Physical Description

Corn snakes, sometimes called red rat snakes, are slender, orange or brownish-yellow snakes with a pattern of large, red blotches outlined in black down their backs.

Along their bellies are distinctive rows of alternating black and white marks, which resemble a checkerboard pattern. The name corn snake may have originated from the similarity of these markings to the checkered pattern of kernels of maize or Indian corn.

These snakes exhibit considerable variations in color and pattern, depending on their age and geographic range.

Habitat

Wooded groves, rocky hillsides, meadowlands, woodlots, rocky open areas, tropical hammocks, barns and abandoned buildings.

Food/Eating Habits

These constrictors bite their prey to get a firm grip, then quickly coil themselves around their meal, squeezing tightly until the prey is subdued. Finally, they swallow their food whole, usually headfirst. Corn snakes have also been observed swallowing small prey alive. They typically feed every few days. Young hatchlings eat lizards and tree frogs, while adults feed on larger prey, such as mice, rats, birds and bats.

Copperhead Snake

Physical Description

Copperheads are fairly large – 24 - 40 in (61 - 102 cm), heavy-bodied snakes with large, triangular heads and elliptical pupils (cat eyes). The body is tan to brown with darker hourglass-shaped crossbands down the length of the body. Individuals from the Coastal Plain often have crossbands that are broken along the center of the back. The head is solid brown, and there are two tiny dots in the center of the top of the head. Juveniles resemble adults but have a bright yellow tail tip. As pit-vipers they have facial pits that sense heat and are used to detect prey and predators. Male copperheads are larger than females. Many harmless species in our region are confused with this species but copperheads are the only species with hourglass-shaped crossbands (all other species have blotches that are circular, square, or are widest down the center of the back).

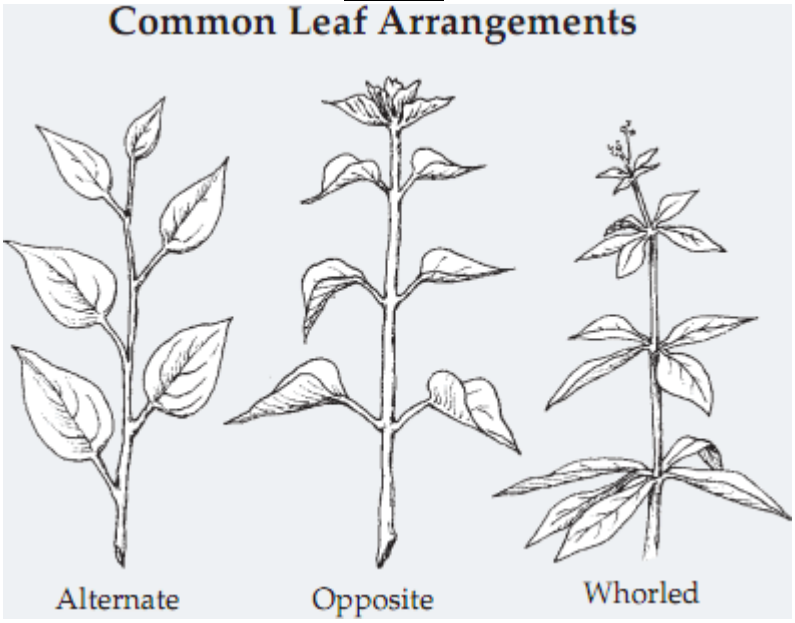
Habitat

Although copperheads are found in forested areas throughout most of South Carolina and Georgia, their habitat preferences change across our region. In the mountains, copperheads are most common on dry rocky hillsides and sometimes den communally with timber rattlesnakes on open, south-facing hillsides. In the Coastal Plain copperheads are most abundant in lowland hardwood forest and swamp margins. Copperheads are quite tolerant of habitat alteration and remain common in suburban areas of many large cities.

Food/Eating Habits

Copperheads are opportunistic feeders and are known to consume a variety of prey, including amphibians, lizards, snakes, small mammals, birds, and insects.

Plants



American Pokeweed

Pokeweed is usually 6 to 10 feet tall but may in some instances reach 21 feet tall. One or more stems arise from a tuber-like taproot that can become large over several years. The often pinkish-red, smooth, and partially hollow stem is rigid to flexible, not strong, and up to 2 inches diameter.

The leaves are alternate, thin, green on top, and lighter below. The leaves are usually 7 3/4 to 14 3/4 inches long by 4 to 7 inches wide. They are tapered at both ends. Bruised or crushed leaves and stems have a somewhat acrid odor.

Flowers are borne in pinkish racemes, linear clusters with each flower on a short stem. The flowers are usually white to greenish but may be pinkish or purplish. Flowers have 5 sepals, no petals, about 10 stamens. It produces purple-black berries that are about 1/4 to 2/5 inches diameter with 6 to 12 seeds.

American pokeweed is a species of open or edge habitats, especially those where birds are able to roost. It is found at forest edge, in fence rows, under power lines, pastures, old field, forest openings, and other similar areas. It is sometimes a garden or yard weed.

This species may flower year around in southern states. The entire plant is poisonous causing a variety of symptoms, including death in rare cases. The berries are especially poisonous. Young leaves and stems when properly cooked are edible and provide a good source of protein, fat and carbohydrate. Regional names for the plant include poke, poke sallet, poke salad, and pokeberry. The fruits are important food for mockingbirds, northern cardinals, and mourning doves.

Elder Berry

A deciduous shrub with bright white flowers and small, dark berries. Known by many different names, including black elderberry and American black elderberry. It is a moderately-fast growing bush that can reach up to 12 feet tall and 6 feet across once mature.

Flat to dome-shaped clusters 3 to 10 inches in diameter at the tips of branches. Flowers are about ¼ inch across, white with 5 rounded petals and 5 creamy white-tipped stamens surrounding a pale, round ovary in the center, a tiny 3 to 5-parted stigma at the top. Flower stalks are smooth and light green, turning purplish in fruit.

Leaves are opposite, compound in groups of 5 to 11, usually 7. Leaflets are generally lance-elliptic, 2 to 5 inches long, 1 to 2 inches wide, with a long taper to a pointed tip, finely serrated edges, and a short stalk. The upper surface is hairless to sparsely hairy along the midvein, the lower is paler in color and variously hairy along major veins, sometimes hairless. The lowest leaflet may be lobed in 3 parts. Leaf stalks are grooved on the upper side with a few fine hairs in the groove.

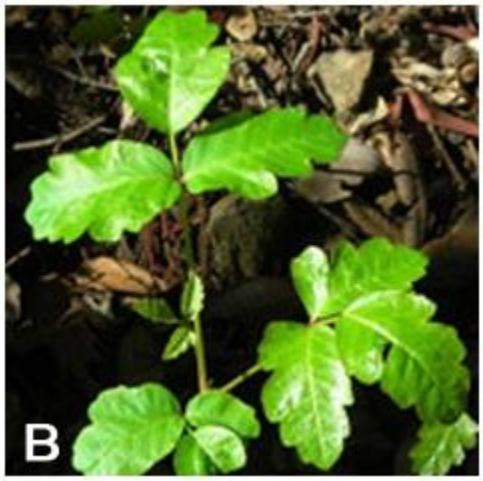
Fruit is a purplish-black berry less than ¼ inch diameter, containing 3 to 5 stone-like seeds. Flower stalks turn purplish as fruit develops, the clusters eventually drooping from the weight.

The berries are quite sour on their own, so if you opt to make them into a jam or pie, (use lots of sugar). Additionally, the small white flowers on the plant, which form in a cluster called a cyme, can be used to make wine, cordials, and syrups.

The fruit is eaten by raccoons, squirrels, mice, and as many as 45 species of birds, including bobwhite and prairie-chicken. Deer have been recorded browsing the leaves and twigs as well as the fruit.

Poison Oak

Poison Ivy



Poison Oak

Poison Sumac

A Poison ivy usually has three broad, tear-shaped leaves. It can grow as a climbing or low-spreading vine that sprawls through grass. It is found everywhere in the United States except Alaska and Hawaii. It often grows along rivers, lake fronts and ocean beaches. The list of mammals that dine on poison ivy include white-tailed deer, black bears, wood rats and muskrats. Birds are especially fond of poison ivy berries. The plant's waxy, white berries are loaded with vitamins and other nutrients.

B Poison oak has leaves that look like oak leaves and grows as a vine or a shrub. The plant can have three or more leaflets per group. Birds, particularly the California towhee, but also American robins, catbirds, and grosbeaks forage on its berries, spreading its seeds through their droppings.

C Poison sumac has seven to 13 leaflets per stem that are characterized by smooth surfaces and pointed tips. It is most often found in wooded, moist areas of the southern United States. Fox squirrels and cottontail rabbits eat sumac bark, while many birds including quail eat the berries.

https://www.allaboutbirds.org/news/

https://avibirds.com/woodpeckers-in-georgia/#:~:text=Pileated%20Woodpecker&text=The%20males%20have%20a%20red%20malar%20stripe%20and%20forecrown%2C%20which,dead%20deciduous%20or%20coniferous%20trees.
https://bear.org/skull-of-a-black-bear/

https://birdfeederhub.com/owls-in-georgia/#google_vignette

https://climatekids.nasa.gov/tree-rings/#:~:text=These%20rings%20can%20tell%20us,the%20late%20summer%20and%20fall.

https://www.dnr.sc.gov/wildlife/fishspecies.html

https://georgiawildlife.com/

https://georgiawildlife.com/fishing/identification

https://nationalzoo.si.edu/animals/channel-catfish