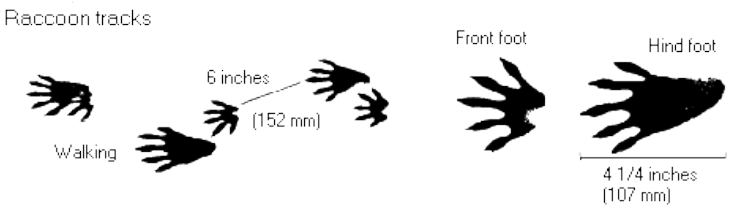
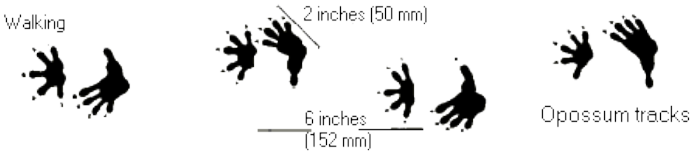
Mammals

There are many mammals found in our region that are highly dependent on the Kings River and its tributaries. Otter, muskrat, beaver, raccoon, white-tailed deer, mink, opossum, and squirrels are all seen regularly on the Kings River.

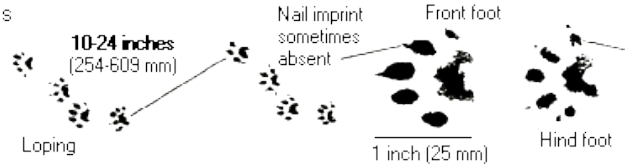
Raccoon *Procyon lotor*



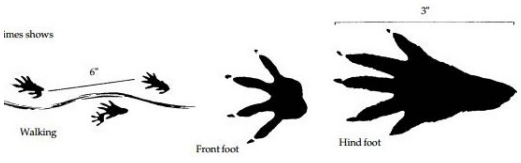
Opossom *Didelphis virginiana*

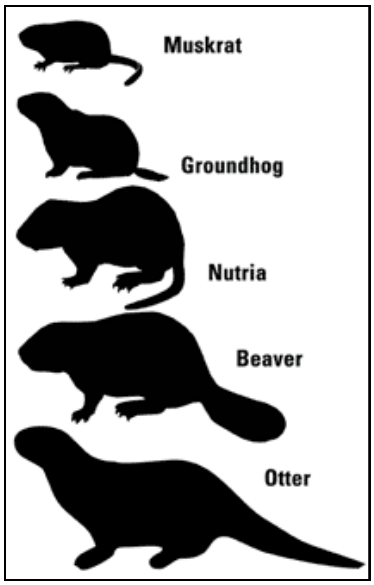


Mink *Mustela vision*

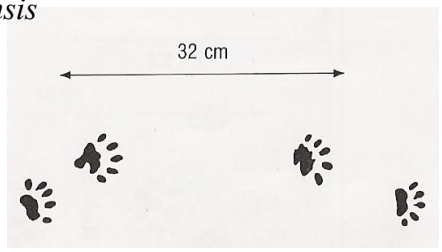


Muskrat *Ondatra zibethicus*





River Otter *Lontra canadensis*



Is That Mammal a Nuisance or a Menace?

Native to Arkansas, the beaver was completely eradicated in the state by the early 1900s because of heavy trapping. Between 1926 and 1957, seventy seven beavers were restocked around the state – leading to the rebounded population of today.

Beavers are pure vegetarians, subsisting solely on leaves, twigs, stems, and bark. These mammals build dams to create ponds and extend their zone of comfort. Beavers are very slow on land, and thus vulnerable to a variety of predators. Beaver ponds and wetlands create habitat used by waterfowl, shorebirds, otters, fish, amphibians, and aquatic plants. They also help to slow down flood waters, reduce erosion, trap sediment and pollutants, and maintain a summer base flow. Unfortunately, beaver dams can also plug up culverts, flood roads and fields, and result in the loss of riparian vegetation. The cutting of trees by beavers diminishes the abundance of species like elm and ash, but enhances the abundance of rapidly sprouting species, like alder, willow, and poplar.

Because beavers regularly chew up trees of all sizes, many landowners consider them to be nuisance animals. Beavers typically only fell trees within 200 feet of the shoreline. Their favorites include alder, aspen, birch, cottonwood, maple, poplar, willow, ash, hackberry, pine, and fruit trees. They stay away from walnuts and sycamores. You can protect your important trees by wrapping the lower 4 feet with chicken wire or hardware cloth.

Despite the use of the Razorback as a symbol for Northwest Arkansas, the feral hog is a non-native species that is causing significant environmental problems in our area. Feral hogs are domesticated swine that are released and then become "wild". Feral hogs can wreak havoc on agricultural lands and natural habitats through their rooting and consumption of a huge variety of food. These hogs eat almost anything and everything that comes across their path. They can also spread disease to both humans and domesticated animals.

Feral hogs are very adaptive and thus very difficult to eradicate once they have been introduced to an area. They are extremely intelligent and learn to avoid trapping attempts quickly. Populations of feral hogs can reach alarming numbers very quickly. It is estimated that there are over 5,000,000 now in the United States. Once mature, the feral hog has virtually no predators other than humans.

It is **illegal** to purchase, offer for sale, or transport a live feral hog in Arkansas. It is **legal** to shoot or trap feral hogs on private land year-round. However, upon capture feral hogs must be killed. Shooting individual hogs is not effective in eliminating a population. Corral trapping, in which multiple hogs are trapped at one time has been moderately effective with expert planning and implementation. The Arkansas Game and Fish Commission can offer expert advice and some resources towards the elimination of feral hogs.

Birds

Over 380 different species of birds have been documented in Arkansas, and many of them migrate through the Kings River Watershed seasonally. We include just a few of the birds that you will commonly see along our waterways. For more detailed information, visit www.birdsofarkansas.org.

Bald Eagle *Haliaeetus leucocephalus*

The Kings River Watershed provides a home for migrating bald eagles over the winter months. Some even stay year round!

Great Blue Heron *Ardea herodias*

This majestic heron stands almost four feet tall, and can be found fishing along the river as well as in many a pond.

Killdeer *Charadrius vociferus*

Killdeer lay their eggs in a small depression on gravel where they blend in. Killdeer woo predators away from their nests with a broken wing display.

Belted Kingfisher *Megaceryle alcyon*

This bird can frequently be seen flying up and down the riverways looking for fish and giving a loud, warning call that sounds like a rattle.

Green Heron *Butorides virescens*

Arkansas' smallest heron uses baits, like twigs or insects, to lure fish to the surface.

Cliff Swallow *Petrochelidon pyrrhonota*

The cliff swallow stays in large groups, building mud nests on cliffs or underneath bridges. It skims just above the water looking for insects.

Turkey Vulture *Cathartes aura*

These important scavengers can be identified by their two-toned wing pattern and bald heads. They nest among the river's cliffs.

Louisiana Waterthrush *Parkesia*

This species forages in the running water of streams to find aquatic invertebrates. It is an indicator of high water quality.

Reptiles—Snakes

Arkansas is home to 36 species of snakes, including six venomous ones. Few people in Arkansas suffer venomous snakebites. Most bites occur when people are trying to kill or handle the snakes. Never place your hands under rocks or logs or step over them without looking first.
Please note: nonvenemous snakes can look very similar to venomous snakes!
For more information about local snakes, visit www.herpsofarkansas.com or www.agfc.com.

VENEMOUS

Copperhead
Agkistrodon contortrix

Cottonmouth
Agkistrodon piscivorous

NONVENEMOUS

Plainbelly Water Snake
Subspecies: Blotched Water Snake
Nerodia erythrogaster flavigaster

Plainbelly Water Snake
Subspecies: Yellowbellied Water Snake
Nerodia erythrogaster transversa

Midland Water Snake
Nerodia sipedon

Western Rat Snake
Elaphe obsoleta

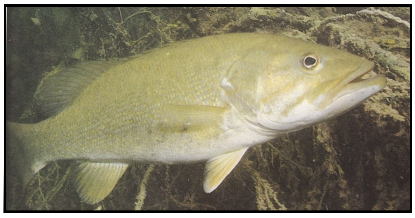
Speckled Kingsnake
Lampropeltis getula

Western Ribbon Snake
Thamnophis proximus

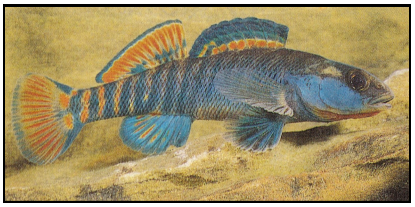
Fish

The clear, spring-fed, gravel streams of the Ozarks have provided for a distinct group of fish, some of which are found nowhere else in the world. Below you will find eight of the most common fish found in the Kings River. You will have to keep your eyes peeled to see some of them; the Rainbow darter only reaches about 3 inches in length! All pictures were provided by "Fishes of Arkansas" written by Henry Robison and Thomas Buchanan.

Smallmouth bass *Micropterus dolomieui*

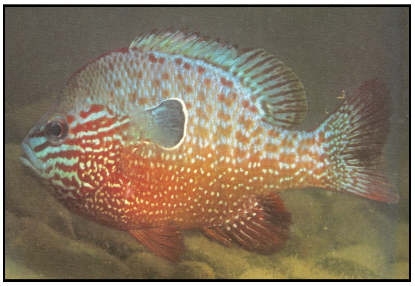


Rainbow darter *Etheostoma caeruleum*



Ozark bass *Ambloplites constellatus*

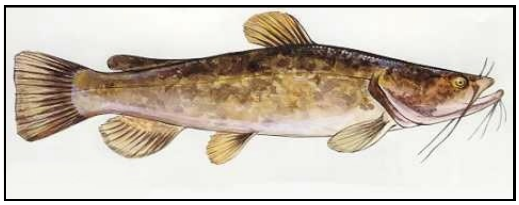
Longearsunfish *Lepomis megalotis*



Checkered madtom *Noturus flavater*

Central Stoneroller *Campostoma anomalum*

Flathead Catfish *Pylodictus olivaris*



Northern hog sucker *Hypentelium nigricans*

Crayfish (aka crawdads)

There are approximately 60 kinds of crayfishes inhabiting Arkansas, including 57 species and 3 sub-species, and more species likely await discovery as more studies are initiated, including DNA analyses. This is the highest diversity of any state west of the Mississippi River, and the third highest anywhere! Six different types of crayfish have been found in the Kings River Watershed, all from the genus *Orconectes.* Pictures provided by the Arkansas Game & Fish Commission.

Longpincered Crayfish
Orconectes longidigitus

Ringed Crayfish
Orconectes neglectus

Meek's Crayfish
Orconectes meeki meeki

Ozark Crayfish
Orconectes ozarkae

Williams Crayfish
Orconectes williamsi

Focus on Aquatic Macroinvertebrates

What in the world is a macroinvertebrate?

Have you ever seen a clam or mussel lying in the river? Then you spotted a macroinvertebrate and probably didn't even know it.

Invertebrates are organisms which lack an internal skeleton of cartilage or bone. **Macro** means large enough to be seen with the naked eye. Examples of macroinvertebrates include the larvae of mayflies, stoneflies, and dragonflies, as well as creatures such as leeches, crayfish, and snails. Many of these organisms spend all or part of their life cycle in water. Unless you are really looking for these creatures, you may never notice that they are right under your toes. Aquatic macroinvertebrates live in the small spaces between gravel in our Ozark streams.

Aquatic organisms live in the spaces between gravel.

Why are macroinvertebrates important?

Food Source
Fish, reptiles, amphibians, and birds all depend on macroinvertebrates. A crash in the invertebrate population would soon be followed by a crash in these other species.

Recycling Organic Material
Macroinvertebrates break down plant materials and make the nutrients available for hundreds of other organisms.

Water Quality Assessment
Some kinds of macroinvertebrates are sensitive to poor water quality, while others are very tolerant of poor water quality conditions. A rise in the population of a tolerant species could indicate a drop in water quality. For example, rat-tailed maggots are very tolerant of low water quality and can be found even in highly polluted waters.