



The Wild Side!

August 2014

Cover Photo

These ruby-throated hummingbird (*Archilochus colubris*) nestlings fledged the first week of August. Photo by Jena Donnell.

Upcoming Events

Wildlife EXPO

September 27-28, 2014

Presented by the Oklahoma Department of Wildlife Conservation and a coalition of conservation organizations, agencies and sponsors, Expo celebrates our great state's natural diversity and opportunities for the sporting enthusiasts and newcomers. From camping and outdoor skills to shooting sports and fishing, from bird watching to

Greetings Wildlife Enthusiasts!

Oklahoma offers endless opportunities for spending time in the great outdoors; especially for having fun in the sun on the water. When all the private farm ponds, small streams, larger rivers and lakes are combined, the landscape scale is impressive; Oklahoma has more miles of shoreline than many other states. There are almost 3,000 lakes and ponds 10 acres in size or larger in Oklahoma, resulting in over 10,000 miles of shoreline. But with this wide array of aquatic ecosystems comes many threats to native habitats and the species that occupy them. Aquatic nuisance species, often referred to as ANS, are one significant threat and come in many shapes and sizes.

Aquatic nuisance species are non-native species that potentially cause economic and ecological damage to the environment. From freshwater mussels to Asian carp and microscopic algae, ANS pose huge threats to our aquatic systems.

Invasive Mussels

One of the most notorious of these aquatic threats, the zebra mussel, can sweep through a lake with surprising speed. A freshwater bivalve

kayaking, Expo visitors have an opportunity to try their hands at two days of fun in the outdoors. [Be sure to check out all the Expo activities!](#)

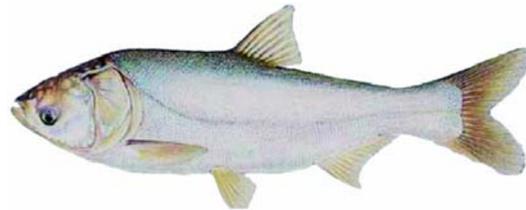
mollusk, zebra mussels have a special capability that most other freshwater mussels do not; they can adhere to objects with small projections called byssal threads. This feature allows zebra mussels to anchor to an object and filter plankton from the water column. Imagine a water pipe infested with millions of tiny zebra mussels taking advantage of flowing water delivering food to them; lazy huh?! Once this pipe becomes jammed with mussels, the water cannot flow properly and can be very expensive to clean out. These invasive mussels can also adhere to rocky substrates, completely destroying habitat for other aquatic species and decreasing spawning opportunities for some species of fish. At least 15 Oklahoma lakes, including the recently infested Grand Lake, have been invaded by zebra mussels. Because of the economic and ecologic damages associated with zebra mussel infestation, we must take steps to prevent their spread to other water bodies. Once they become established, they are virtually impossible to remove.



Zebra mussels have small projections known as byssal threads that allow them to attach to objects. Photo by Nels Rodefeld.

Invasive Fish

Bighead and silver carp are two other aquatic nuisance species that have taken up residence in our state. These two Asian carp species were brought to the U.S. in the 1970's to control undesirable plankton in



aquaculture ponds and improve water quality. Unfortunately, these fish quickly escaped into the wild and have almost entirely invaded the Mississippi River Basin. These fish reproduce at very high rates and remove extremely large amounts of phytoplankton and zooplankton, resulting in low productivity and poor biological diversity. Silver carp are also dangerous to humans because of their ability to jump several feet in the air when disturbed; every year boaters across the U.S. are injured by these jumping carp. While the silver carp has only been found in the Red River drainage and its tributaries, bighead carp have been documented in Grand Lake, Neosho River and the Red River drainage including the Kiamichi River.

So far, invasion of silver carp has been restricted to the Red River drainage. Check out this [video](#) of silver carp jumping.

In addition to invasive mussels and Asian carp, several other aquatic nuisance species have invaded Oklahoma. [Golden alga](#), [white perch](#), [didymo](#) and hydrilla are just a few additional threats to

our states' water bodies. Like most invasives, once these species become established, they are extremely difficult to eradicate. Instead natural resource professionals can only attempt to manage their populations by preventing their spread.

How You Can Help

When boating, a few simple steps can go a long way:

- *Clean* - After boating in a body of water, be sure to clean your boat of any plant fragments or mud.
- *Drain* - Empty all water including livewells, bilge pumps and ballasts.
- *Dry* - When possible, dry your boat and equipment for five to seven days.



Boaters at Lake Murray are reminded to clean, drain and dry boats to prevent the spread of invasive species. Photo by Darrin Hill.

When fishing, never dump your bait bucket in the lake or river when you're finished. Either take the bait fish home or dispose of properly in the trash or on land.

When wading, be sure to clean your waders after you have been in the water or dry them thoroughly before using in another water body.

Taking these measures will drastically decrease the odds of spreading invasive species throughout the state. As Oklahomans, we have the responsibility of taking care of our aquatic ecosystems so that future generations of Oklahomans and visitors to the state can enjoy them.

Story by Curtis Tackett, Aquatic Nuisance Species Biologist



Speckled Kingsnake

The speckled kingsnake (*Lampropeltus getula holbrookii*) is a beautifully colored snake favored by many Oklahomans. Their specialized diet consisting of other snakes, including some venomous ones, may grant this snake immunity around many farms and backyards.

The speckled kingsnake is sometimes called the "salt and pepper snake" or the

"flecked snake". As the names suggest, the skin is black with yellow specks throughout. In fact, every smooth black scale contains a yellow spot. Spots often form bars across the backs of juveniles. The belly of the snake is usually a yellow to cream color with some black splotching. Adults often measure 36 to 48 inches, but can reach greater lengths. Male and female speckled kingsnakes are nearly indistinguishable.

Speckled kingsnakes, a variation of the non-venomous kingsnake, are found in eastern Oklahoma and much of the southeastern United States. They range from Texas to Alabama and Iowa south to the Gulf Coast. While speckled kingsnakes are found in eastern Oklahoma, the intergrade of speckled kingsnakes and desert kingsnakes (*Lampropeltis getula splendida*) can be found in western Oklahoma. The habitat



Each scale of the speckled kingsnake has a yellow spot. Photo by Marli Claytor.

occupied by the speckled kingsnake varies greatly, ranging from woodlands to open grasslands. Populations are often found near a water source and even in wetlands. The snakes frequently use flat rocks, wood and human debris as cover.

Kingsnakes are diurnal, remaining active during the day. Even so, snakes will become more nocturnal in the heat of summer. Though terrestrial, the snake will spend a large amount of time underground to avoid the heat. The species is generally active between March and October each year. Hibernation is an essential part of life for the speckled kingsnake. They emerge in early spring around March and mate soon after. Females will lay a single clutch each June or July of three to 24 eggs. The eggs are left under debris where they will hatch from late August through early October. The young will forage through the fall until cooler weather triggers hibernation. Speckled kingsnakes often seek cover under logs or animal burrows for hibernation. They are skilled navigators and are very adept at finding shelter from cold temperatures; however, the snakes are not competent burrowers themselves.

Speckled kingsnakes are very secretive snakes and rather slow movers. They actively forage and will track prey once the scent is picked up. When the prey is found, the snake attacks and constricts the animal, suffocating the creature before consuming it. This species of snake eats a wide variety of prey including small mammals, lizards, and other snakes. They have also been found to consume birds and their eggs when available. Speckled kingsnakes are readily known for their ability to consume snakes, even other kingsnakes or venomous species. They are able to consume venomous snakes because kingsnakes are immune and unaffected by the venom administered by their prey. Though the diet of the speckled kingsnake focuses on consumption of rodents and reptiles, it has been found to be an opportunistic eater.

Want to learn more about Oklahoma's reptiles and amphibians? [Order a copy](#) of the Field Guide to Oklahoma's Amphibians and Reptiles today!

Story by Marli Claytor, Wildlife Diversity Intern

State Wildlife Grant Action Report - Current Distributions and Abundance of Fish Species in the Muddy Boggy, Clear Boggy, Kiamichi and Little River Waters

The State Wildlife Grants Program is a solution to the nation's ever-growing numbers of threatened and endangered species.

Researchers with the [University of Oklahoma's Department of Biology](#) are conducting fish community surveys in four southeastern Oklahoma watersheds. Their goal is to identify the distributions of fish identified by the ODWC as [Species of Greatest Conservation Need](#) across these drainages relative to their known historical locations. Historic locations will be linked to over forty years of data collected from the Muddy Boggy, Clear Boggy, Kiamichi and Little River watersheds.



To sample, researchers are using small-meshed seines for 45 minutes to an hour at each site. In addition to recording the number and types of fish captured, they are also

Researchers use seines to survey fish communities in four Oklahoma watersheds. Photo provided by Bill Matthews.

documenting habitat characteristics, structure and dominant land use at each site. Since surveying began earlier this summer, researchers have already sampled 56 sites in the Clear-Muddy Boggy system and 40 sites in the Kiamichi system. They hope to complete this year's sampling later in the summer after water levels recede to allow safe sampling.

Though still in the first year of the project, researchers have already documented several Species of Greatest Conservation Need including the rocky shiner, orangebelly darters, and a larval lamprey ammocoete suspected to be the southern brook lamprey. They have also documented an important range extension record of the blackspot shiner into the upper Boggy system.

Researches expect to finish sampling in the Muddy Boggy, Clear Boggy and Kiamichi watersheds this year. Sampling of the Little River watershed is planned for the summer of 2015.

Want to learn more about seines? Check out the [Tools of the Trade](#) in the July 2014 edition of the Wild Side!

Tools of the Trade - Binoculars

For many wildlife and fishery surveys, it is necessary to physically capture animals to gather data, especially small, secretive or concealed animals. But data for birds and large mammals can often be collected from a distance with binoculars. Binoculars allow biologists to observe and identify animals without disturbing them. ODWC employees often conduct surveys on Wildlife Management Areas to catalog which wildlife species are present.

Binoculars are an indispensable tool when surveying these areas.

Magnification power and objective lenses are two important factors to consider before purchasing a pair of binoculars. These factors are represented as two numbers and are often stamped on the binoculars. Using 8X40 as an example, the first number represents magnification power while the second indicates the size of the objective lens or how much light is gathered by the binoculars. For this example, the viewed subject would appear eight times closer than could be viewed without magnification. As magnification increases and the size of the objective lens remains constant, the brightness and image quality of the viewed subject decreases. Because of this, many bird-watchers prefer seven- or eight-power binoculars, but some might use 10-power binoculars for viewing distant wildlife like hawks or waterfowl.



The magnification and objective lens size is often stamped on binoculars. Photo by Jena Donnell.



Biologists often use binoculars when conducting wildlife surveys. Photo by Jena Donnell.

Unlike a scope, binoculars produce a three-dimensional image with an impression of depth. The majority of binoculars come in three designs: porro prism, roof prism and reverse porro prism. Without prisms, the object would be seen as an upside-down, mirror reflection. Prisms align the image so it reaches the eye correctly oriented. Porro prism binoculars are the traditional type of binoculars; the eyepieces are set closer together than the objective lenses. Roof prism binoculars feature in-line eyepieces and objective lenses. Reverse porro prism binoculars are compact and have eyepieces set farther apart than the objective lenses.

Because so many options of binoculars are available, we recommend you test different styles to find your favorite.

Story provided by Jeff Tibbits, Wildlife Diversity Intern



The Wild Side e-newsletter is a project of the Oklahoma Department of Wildlife Conservation's Wildlife Diversity Program. The Wildlife Diversity Program monitors, manages and promotes rare, declining, and endangered wildlife, as well as common wildlife not fished or hunted. It is primarily funded by the sales of Wildlife Department license plates, publication sales and private donors. Visit wildlifedepartment.com for more wildlife diversity information and events. For questions or comments, please email jena.donnell@odwc.ok.gov.

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