# The Wild Side!

May 2015

## Cover Photo

Though seemingly unhospitable, Great Plains Yucca (*Yucca glauca*) can provide wildlife cover. Look for this plant at Doby Springs Park near Buffalo or at other Great Plains Trail of Oklahoma destinations! Photo by Jena Donnell.

## Upcoming Events

**2015 Tulsa Wildlife Habitat Garden Tour and Plant Sale**
May 30 - 31, 2015
For more information, visit the Tulsa Audubon Society's website.

**Selman Bat Watch Registration**
May 26 - June 5, 2015
Registration for the 20th annual Selman Bat Watch opens May 26. Download and complete the registration form from wildlifedepartment.com and mail to the Wildlife Department before June 5. (Only forms postmarked on or before June 5 will be considered.)

**Birding in the Classroom**
Hackberry Flat Center
Frederick
May 28, 2015
All K-12 educators are invited to spend the day learning about birds. This 6-hour workshop will introduce you to methods for identifying birds and attracting birds to your schoolyard or outdoor classroom. You will also learn ways to incorporate bird watching into your daily curriculum. Come prepared to observe a variety of birds in a classroom setting as well as outdoors. Register with Karla Beatty at karla.beatty@conservation.ok.gov

## Greetings Wildlife Enthusiasts!

Thanks to advances in modern technology, biologists have been able to incorporate new survey techniques and data collection methods in many wildlife population studies. Oftentimes, these new techniques are less stressful to the species under study and allow biologists to look at the population on a landscape scale - critical for species conservation. This is especially true for monitoring efforts at the Ozark Plateau National Wildlife Refuge in northeastern Oklahoma.


Biologists at Ozark Plateau National Wildlife Refuge are taking advantage of today's technology to monitor their bat populations. In addition to recording and counting bats emergence from caves, they are also using acoustic surveys to determine which species are using the area. Photo by USFWS/ Ann Froschauer.

In addition to protecting large continuous stands of forest and conserving natural caves and springs, this refuge also manages and monitors three species of federally endangered and one federally threatened bat and provides habitat for several other bat species.

Instead of relying solely on data collected by physically capturing bats, biologists at Ozark Plateau NWR monitor the ultrasonic echolocation calls of bats using state of the art bat detectors. The bat detectors can be utilized to accomplish several different monitoring techniques: handheld active surveys, stationary passive surveys and mobile transects.

To determine which species of bats are using a specific cave or area, biologists can attach a PDA to a handheld bat detector equipped with a microphone and see real-time sonograms of the calls. Identification is possible because bat species often call at different frequencies and have different sonogram patterns.

The stationary passive survey technique involves deploying the bat detector at a fixed location for a period of time (in a weatherproof container of course), which could be days to years. This technique does not require the presence of a biologist, and provides information on bat use of an area over time. Biologists can later download the data from the detector and run the data through software programs that help automate the identification process and classify echolocation calls to species.

To document additional bat species using management areas or refuges, biologists also can conduct mobile acoustic surveys. For these surveys, biologists attach an external

**Continued on Page 2**

## Monitoring Bats: Continued

microphone to the roof of a vehicle and connect the microphone to the bat detector inside the vehicle. The biologist then drives a predetermined route an average of 20 miles per hour. Bat calls are recorded as bats fly through the area and hunt for insects. GPS locations also are taken every second along the route. The GPS readings allow biologists to later identify the exact location of every call. With this capability, important seasonal habitats and bat movements can be distinguished.

Because mobile bat detectors can reveal the species of bats using a specific area as well as important information about their habitat use, the U.S. Fish and Wildlife Service has initiated a monitoring program across 45 southeastern refuges and field offices. Not only will this program provide a baseline inventory of bat species using the refuges, it will also show trends across the local and landscape level.

Ozark Plateau NWR staff will begin 2015 monitoring efforts in June.

Jena Donnell
Wildlife Diversity Information Specialist
Oklahoma Department of Wildlife Conservation

## Species Profile: Plains Killifish

Swimming under the surface of many western Oklahoma streams is a zebra-striped fish. It may not be black and white, but the dark side bars have led to the scientific name *Fundulus zebrinus*, more commonly known as the plains killifish.

This plains killifish was caught in a seine during the June 2014 Arkansas river shiner surveys. Photo by Jena Donnell.

Plains killifish can be easily recognized. The most obvious characteristic is the dark vertical barring that contrasts with the light tan side of the fish. Males tend to have fewer but wider bars than females. During the breeding season, the fins of males (with exception of the back fin) turn bright orange. Killifish are a member of the topminnow family and are adapted to feeding on insects from the water's surface. Like other topminnows, the lower jaw of the killifish extends past the upper jaw, giving it an upturned mouth. Plains killifish seldom exceed three inches in length. They mature in their first year and rarely live longer than two years.

Native to central North America, the plains killifish can be found in sandy-bottomed streams and rivers that are less than a foot deep in the western 2/3 of Oklahoma. These fish are known for their tolerance to high water temperatures and salinity conditions. While they can be found in fast running water, they typically live in quiet, shallow pools.

Though topminnows often feed at the surface, plains killifish also forage in the water column and on the stream bottom. They have been observed "nipping and digging" debris on the bottom; averaging 30-40 nips and digs per minute during peak feeding activity. While insects, especially mayfly nymphs, are the primary target during the day, plains killifish often digest sand and insect eggs at night.

Like many small fish, plains killifish have several predators - both in and out of the water. Fish-eating birds like the great blue heron or belted kingfisher pose the greatest threat from above the waters' surface. But below the surface, plains killifish must evade predatory fish like largemouth bass, green sunfish and channel catfish. One way killifish may avoid these predators is to burrow beneath the sand with only their mouth and eyes exposed. This behavior may also be used to escape the summer heat or parasites.

Killifish spawning is strongly tied to water temperatures and varies across their geographic range. Research has shown this fish typically spawns when water temperatures exceed 79 degrees Fahrenheit. Once the fertilized eggs are deposited in the sandy substrate, they are left unattended.

The next time you see a school of small fish in a western Oklahoma stream, take a closer look. You may just see a zebra-striped plains killifish!

## State Wildlife Grant Action Report: Survey of Mammals of Special Concern in Western Oklahoma

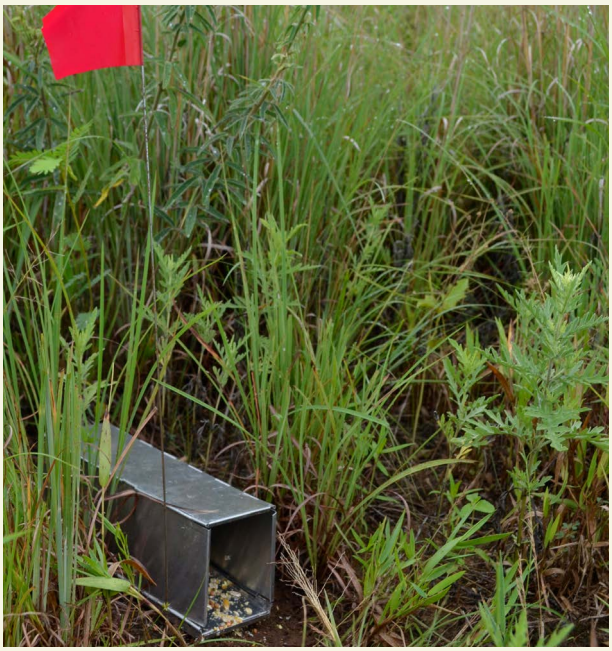
*The State Wildlife Grants Program provides proactive conservation for our nation's rare and declining species to preclude the need to list these as threatened or endangered.*

In an effort to better understand the wildlife populations found on our Wildlife Management Areas, the Wildlife Diversity Team has been conducting intensive inventories each month. This year, biologists are surveying the birds, mammals, fish, reptiles and amphibians found on Cookson WMA.

Several years ago, a similar survey effort was made by researchers at Oklahoma State University. But instead of focusing on all the species found on a single WMA, these researchers focused on the small mammal communities on 14 western WMA's.

To survey the presence and relative abundance of small mammals on these WMA's, researchers set out small, non-lethal traps in spring and summers of 2005-2007. Each year of the three-year survey, a total of 1,200 traps were set during each WMA's three-day survey session. 50,400 traps later, the researchers had captured 6,879 individual mammals! Of these, 24 species were new county records, expanding the documented range of these species!

To learn more about this survey, and see which species were captured on individual wildlife management areas, check out the final report!



Small mammal traps were used to survey the rodent communities on 14 western Wildlife Management Areas.

Editor's note: The Wildlife Diversity Program's own Curtis Tackett, Aquatic Nuisance Species biologist, worked on this project as his first paid wildlife related job!

## Bluebird Project Covers the State with Nest Boxes

Nest boxes are going up across the state thanks to the National Society Children of the American Revolution project "O.S.C.A.R. ... and Birds of a Feather Flock Together." Regan Hefner of Tishomingo, Oklahoma State President for the society, hopes to build and install nest boxes in each county of the state. Thanks to many sponsors, her goal is nearly complete; only nine counties remain! If you would like to sponsor a nest box, please contact Vickie Luster, Oklahoma Senior President of the National Society Daughters of the American Revolution at (580) 257-1818 or by e-mail at vickie.luster@yahoo.com.

One important aspect of installing a nest box is monitoring! If you have a nest box, let the Wildlife Department know your nest box's success and how you have deterred nesting attempts from the non-native House Sparrow. We want to know which species nested, how many eggs were laid and how many chicks fledged. At the end of the nesting season, send in your data sheet or submit your data online at wildlifedepartment.com!

Regan Hefner, Oklahoma President of the Children of the American Revolution builds a nest box with Kris Patton, manager of the Tishomingo National Wildlife Refuge and Sue Robins, President of TREES (Tishomingo Refuge Ecology and Education Society). Photo provided by Mrs. Vickie Luster.

The Wild Side e-newsletter is a project of the Oklahoma Department of Wildlife Conservation 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 Department of Wildlife 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