The Wild Side!

June 2016

Bird-watchers from six states traveled to McCurtain County, Oklahoma last month to take part in the Idabel Chamber of Commerce's Red Slough Birding Convention. In addition to several species of reptiles, amphibians, plants and dragonflies, participants also saw 141 species of birds.

Upcoming Events

Botany Walk
June 25, 2016
9:30-11 a.m.
Oxley Nature Center, Tulsa

No Registration Required.

TNC Butterfly Count
July 12, 2016
J.T. Nickel Family Nature and Wildlife Preserve, Tahlequah

Help survey butterflies and measure the success of restoration efforts at the J.T. Nickel Preserve. Register here.

Find Your Park Saturday
July 30, 2016
Martin Park Nature Center, Oklahoma City

Join rangers from the National Park Service for this informational and educational look at our country's parks, both national and local.

Endangered Bat Plays Role in Rare Salamander's Diet

It's been said that everything in nature is connected and this statement holds true even with Oklahoma's underworld wildlife. Two cave-dwelling species - an endangered bat and a blind salamander considered to be a species of special concern - have a simple but essential connection.

The bond begins with the insectivorous gray bat. In early spring the bats awaken from their hibernation and fly to a handful of limestone caves, some of which are in Oklahoma's Ozark Mountains. Each night, they emerge from these caves and forage on the moths, flies, and beetles flying over nearby streams and rivers. The bats' droppings, deposited when they return to caves to roost, form large guano piles along the banks of some cave's underground rivers. (Guano piles in a Delaware County cave that houses 15,000 gray bats have measured 6 feet deep!) These nutrient-rich piles attract a wide variety of invertebrates, an important food source for the rare grotto salamander. Surveys show higher numbers of these salamanders in the main rooms of caves during summer months when gray bats utilize the caverns as maternity roosts. But these two cave-dwellers may be more connected than biologists first realized.

Listed as federally-endangered in 1976, the gray bat provides an important source of food for cave-dwelling insects.

In addition to feeding on the insects attracted to guano piles, grotto salamanders have been observed ingesting individual bat droppings. Gray bats have an extremely short digestive tract and absorb less than 75 percent of the nutrients from their insect prey, leaving behind a nutritious source of food for the salamander and other cave life, including the federally-threatened Ozark cavefish.

An analysis of the guano piles revealed the bat droppings had a surprisingly high crude protein content (54 percent); more than twice that of a Big Mac! The study also showed bat guano has two-thirds the amount of calories as the double layer of beef topped with cheese, lettuce, onions and pickles on a sesame seed bun.

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Endangered Bat Plays Role in Rare Salamander's Diet, Continued:

The grotto salamander, a blind cave-obligate, often resides with large numbers of bats.

In a dark, nutrient-deficient cave environment, grotto salamanders and other cave-dwellers must take advantage of every wholesome morsel, even if it is a little unconventional. If gray bats weren't providing this extra source of food, indirectly by attracting insects and directly by way of their droppings, the caves wouldn't be able to support the same number of unique and fascinating creatures that call Oklahoma's underworld "home."

Species Profile: Graham's Crayfish Snake

Locally common, secretive, and a pillager of burrows, the Graham's crayfish snake is an unusual watersnake.

Instead of focusing on fish and frogs like other watersnakes, this nonvenomous snake specializes on molting crayfish. They are active foragers; prodding and poking burrows in search of soft-bodied crayfish. They seize and subdue these crustaceans without constriction. Though crayfish are the main source of food for this snake, they will also feed on frogs and tadpoles.

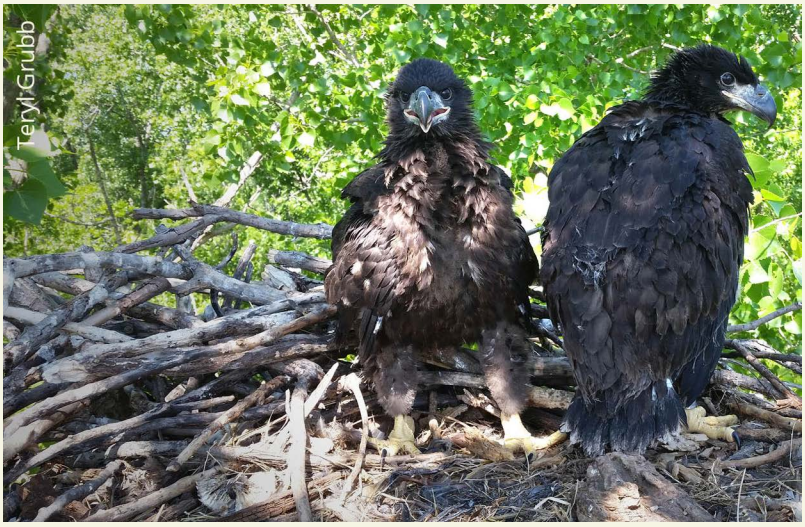
Rarely longer than 2 feet, the Graham's crayfish snake ranges in color from brown to gray. The underside is cream-colored. The back and belly are separated by three rows of scales a few shades lighter than the back with a dark line underneath.

Graham's crayfish snakes can be found throughout Central Oklahoma and in the Red River drainage. They are semi-aquatic, living in lakes, ponds and slow-moving waters with abundant crayfish populations .They can also be found in urban areas. Crawfish snakes are active from April through November.

Learn more about the Graham's crayfish snake and Oklahoma's other reptiles in "A Field Guide to Oklahoma's Amphibians and Reptiles" by Greg and Lynnette Sievert.

Oklahoma Eagles Part of National Studies

With large rivers and man-made lakes in the east and vast rangelands in the west, Oklahoma supports both species of North American eagles, the bald and golden eagle. Oklahoma is also where the "wind comes sweeping down the plains" and is a leading state for wind energy. In fact, our state ranked third nationwide in 2015 for total wind energy generation.



These Oklahoma-hatched bald eagle chicks were selected for a U.S. Geological Survey research project that will track their movements after they fly from the nest.

To better understand eagles use of terrain and potential interaction with the nation's growing alternative energy resource, the U.S. Geological Survey and the U.S. Fish and Wildlife Service selected Oklahoma-hatched eaglets for their independent research projects.

Ten chicks - seven eagles and three golden - were outfitted with a "backpack-style" transmitter that track their movements across the state and nation. Following the eagle's journeys will help biologists better understand their habitat needs and how to manage for these "species of greatest conservation need" as listed in Oklahoma's Comprehensive Wildlife Conservation Strategy.

USGS Tracks National Bird

USGS researchers visited more than a dozen bald eagle nest trees in early May in search of eaglets. Once they scaled the nest tree, the research team checked the length of the chick's flight and tail feathers as well as other development cues to determine their age. If deemed old enough, the chicks were stowed in a rucksack and lowered to the waiting ground team.

At ground level, the chicks were banded with a unique identification number and a small amount of blood was drawn to determine the "DNA zip code" of Oklahoma's eagles and to check lead levels. Next, a small transmitter that collects GPS locations and transmits those data by way of cell towers was fastened to the chick's back using a special non-abrasive Teflon ribbon. This special cord was positioned over the shoulders and under the wings to form a "backpack," then tied and sewn to the transmitter.

Information about this bald eagles movements will be relayed to biologists by way of cell towers.

To receive a transmitter the chicks had to be at a certain growth stage. By eight weeks of age the chicks had been flapping their wings in the nest long enough to develop sufficient flight muscles and had grown enough feathers that the transmitter fit properly. Once the transmitter was secured the bird was returned to the rucksack and raised into the nest.

The research team visited 13 bald eagle nest trees across Central Oklahoma, but only nine nests were accessible. Those nests held 15 chicks, seven of which were the right age to receive a transmitter.

USFWS Follows Golden Eagles on the Southern Great Plains

While the USGS project centered on Oklahoma's bald eagles, the U.S. Fish and Wildlife Service initiated a complementary study on golden eagle chicks in extreme western Oklahoma.

Though similar in size, bald and golden eagles have different diets and use different habitats. Where bald eagles prefer fish, golden eagles feed primarily on prairie dogs and rabbits. Bald eagles typically build stick nests in large trees near a body of water; golden eagles typically build stick nests on sheer cliff faces surrounded by prairie.

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Oklahoma Eagles Part of National Studies, Continued:

To access the golden eagle nests, USFWS researchers hiked to the top of the bluff and rappelled to the nest ledge. Once the chicks were captured, they were processed similar to the bald eagles. The birds were banded with a unique number, blood drawn, and a small transmitter fastened to their backs using Teflon cord. Unlike the bald eagle project, transmitters fitted on golden eagles send GPS data via orbiting satellites.

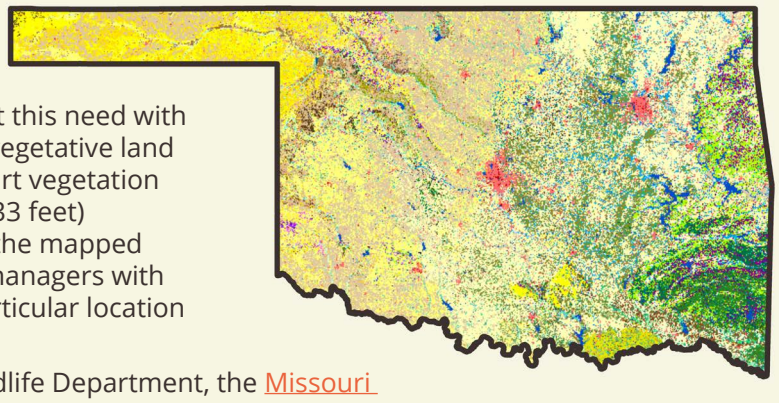
Researchers visited two golden eagle nests in Oklahoma's Cimarron County. Three chicks were present, and all three were large enough to receive transmitters. Information about these birds will feed into an ongoing multi-state research project. To date, 17 golden eagle chicks have been fitted with transmitters in Oklahoma, New Mexico and Texas as part of this study.

This golden eagle was one of three chicks fitted with a satellite transmitter in late May.

In addition to discovering where the birds travel, the USFWS is interested in learning about golden eagle survival and causes of mortality. They hope to find important wintering grounds as well as where these chicks decide to nest once they mature. So far, golden eagles in this study are flying less than 80 miles from their nests before setting up a new territory. Most juvenile birds have selected areas with abundant prairie dogs, especially in winter.

Mapping Vegetation to Enhance Conservation

For many years, land managers in Oklahoma have sought a more detailed understanding of the state's plant life in order to conserve wildlife more effectively. In late 2015, the Oklahoma Department of Wildlife Conservation helped to meet this need with the completion of a state-wide map of Oklahoma's vegetative land cover. The Ecological Systems Map is a state of the art vegetation map for Oklahoma that was created at a 10-meter (33 feet) resolution. Biologists involved in the project sorted the mapped vegetation into 165 color-coded classes, providing managers with detailed information about vegetation types in a particular location at a glance.



The map was a collaborative effort between the Wildlife Department, the Missouri Resource Assessment Partnership (MoRAP), and the Oklahoma Biological Survey, with funding support from the Great Plains and Gulf Coast Prairie Landscape Conservation Cooperatives.

Accessing the Ecological Systems Map

The new Ecological Systems Map is available online for download. You can download a detailed interpretive booklet describing the characteristics of each mapped vegetation class (including photographs) as well as the GIS raster dataset.

The Ecological Systems Map is an innovative planning tool that conservation agencies, including the Wildlife Department and the U.S. Fish and Wildlife Service, are using to make management decisions on public lands. Additionally, it is being used to improve surveys and monitoring programs for species of greatest conservation need and species with specialized habitat requirements. Often, these species are restricted to one or a few habitat types; the Ecological Systems Map helps biologists identify these habitats on the landscape and tailor their work to match the appropriate locations. This tool has been made public so that landowners, researchers, students and land managers can use these data to better understand their natural heritage and implement ecologically effective and cost effective management actions.

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Mapping Vegetation to Enhance Conservation, Continued:

Using the Map to Plan the Conservation of Oklahoma's Wildlife

Although the new Ecological Systems Map is an excellent representation of current conditions, Oklahoma is prone to droughts, wildfire, and climate variability. Responsible stewardship of Oklahoma's natural resources requires consideration of the future, and the Ecological Systems Map allows us to do just that. The Great Plains Landscape Conservation Cooperative has partnered with the South Central Climate Science Center at the University of Oklahoma to develop future versions of the Ecological Systems Map based on future climate and drought scenarios. Researchers at the U.S. Geological Survey are also partnering with the Wildlife Department and Oklahoma Biological Survey as well as other regional experts to investigate the long-term distribution and condition of Oklahoma's iconic grasslands. By joining forces with partners through our state's four Landscape Conservation Cooperatives, we are leveraging resources and demonstrating our commitment to working across boundaries to preserve our state's biological heritage.

Provided by Jessica Blackband, Great Plains LCC Communications Intern

New Certified Wildscape: #471 - Steve & Pam Hamilton, Oklahoma County

The Hamiltons recently extended their existing Wildscape to include wetland plantings along the shoreline of a lake that their home borders. Plantings included Buttonball Bush (Cephalanthus occidentalis) and Texas Star Hibiscus (Hibiscus coccineus) which attract butterflies and hummingbirds.

Learn about ways to enhance your wildlife habitat in "Landscaping for Wildlife: A Guide to the Southern Great Plains." In addition to wildscape designs, you'll learn about plants that attract wildlife, get project ideas for your family and more! Order your copy at wildlifedepartment.com.

Buttonbush is a butterfly nectar source that is associated with wet habitats. It also provides seeds for waterfowl and songbirds.

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