



## The Wild Side!

June 2015

### Cover Photo

A Carolina Mantis (*Stagmomantis carolina*) perches on a Wood Duck nest box at Red Slough Wildlife Management Area. Photo credit: United States Forest Service

### Upcoming Events

#### Butterfly Count

June 20, 2015

Help count butterflies at The Nature Conservancy's Pontotoc Ridge! [Register now!](#)

#### Butterfly Count

July 14, 2015

Help count butterflies at the Nature Conservancy's J.T. Nickel Preserve! More details can be found at :

[nature.org](http://nature.org)

### Greetings Wildlife Enthusiasts!

In celebration of [National Pollinator Week](#), this Wild Side issue is all about insects!

In Oklahoma, insects far outnumber vertebrates. Biologists estimate that at least 10,000 species of insects can be found in the state compared to 634 native vertebrate species! Over 3,500 species of beetles have been identified in Latimer County alone!

These six-legged creatures have been described as the "glue" that keeps ecosystems together.

They serve as pollinators, decomposers and food sources for fish and other wildlife. Many bees, butterflies, moths and flies are essential pollinators of native and cultivated plants.

Termites and beetles play a large role in the decomposition of organic matter and nutrient recycling. Furthermore, insects are the primary source of food for many kinds of birds during the summer as well as for amphibians and reptiles year-round.



We hope this issue of the Wild Side gives you newfound appreciation for the insects that may be hiding in plain sight and gives you a new perspective as you explore Oklahoma this summer!

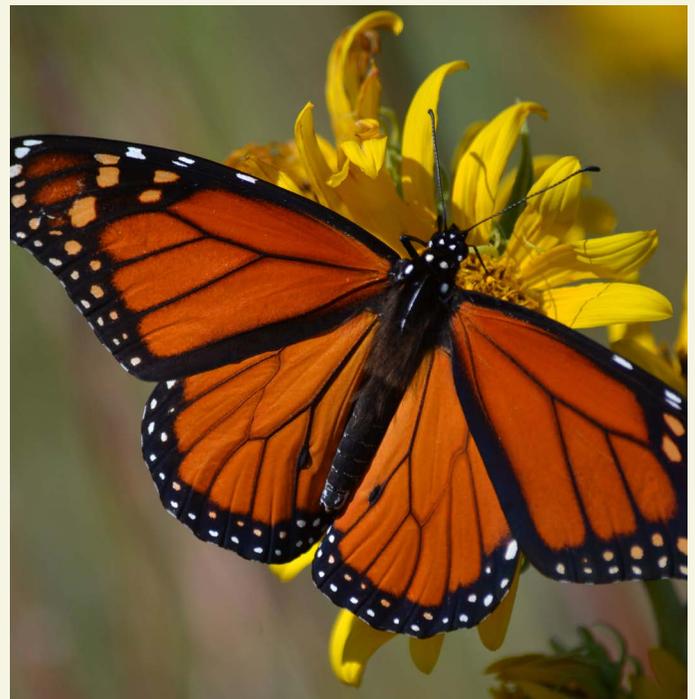
## Species Profile: Monarch

With striking orange and black wings, the monarch (*Danaus plexippus*) is perhaps one of the most recognized of North American butterflies. Thin, black veins intersect the orange wings and lead to thick marginal borders peppered with white spots. Monarchs are fairly large butterflies and measure 3.5 to 4 inches in length. Males can be identified by the black scent patches located on the hindwings.

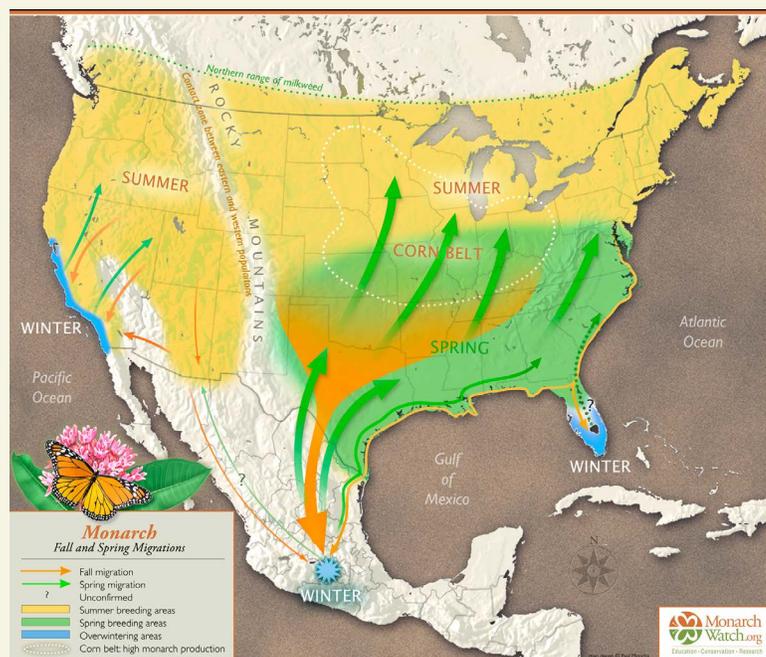
Monarchs undergo complete metamorphosis. Development from an egg to an adult typically takes one month. After mating in the spring and summer, the female monarch lays one egg on the underside of milkweed leaf. (She can lay up to 300 eggs in her short life span!) Three to four days later, the egg hatches into a caterpillar. These caterpillars feed exclusively on the milkweed plant for about two weeks. To compensate for their growing body, caterpillars shed their skin five times during this stage. After two weeks, the caterpillar forms a hardened, green pupa. One to two weeks later, an adult butterfly emerges from the pupa and begins the next generation! Adult butterflies feed on nectar from flowering plants like goldenrod, asters and gayfeather.

Two distinct populations of monarchs can be found in the United States. The western migratory population breeds in the western United States and Canada and winters near the California coast. Monarchs found in Oklahoma belong to the eastern migratory population. This population breeds in the central and eastern United States and southern Canada and winters in Mexico. Some butterflies in the eastern population migrate over 2,000 miles! The monarch is the only butterfly to make such a long two-way migration.

The incredible journey from Mexico to Canada and back may only take one year, but requires four generations of monarchs! The first three generations are relatively short-lived and are focused on creating the next generation. During one month's time, the adult butterflies must travel north, find a mate and lay eggs on milkweed plants. The fourth and final generation of the year hatches in the northern United States or southern Canada and is focused on migration. These fourth generation butterflies travel more than 600 miles south to traditional monarch wintering grounds in Mexico. It is believed the migratory behavior of this final generation is triggered by environmental cues like decreasing day length and evening temperatures. After arriving in Mexico, monarchs form dense clusters, or colonies, on tree branches and trunks. Individual colonies can cover 1 to 12 acres of forest!



Black scent patches can be found on the hindwing of male monarchs. Photo by Jena Donnell.



Dark clouds of migrating monarchs were first described in the fall of 1857, but the destination of these butterflies remained unknown for more than 100 years! To help solve this mystery, Canadians Fred and Norah Urquhart began tagging individual butterflies in the 1930s. By the 1950s, the Urquhart's had enlisted school children, naturalists and other volunteers to help tag monarchs. (This citizen science effort is now known as **Monarch Watch**, a nonprofit educational outreach program based at the University of Kansas.) It wasn't until 1976 that Dr. Urquhart would **find the first tagged butterfly** in the recently discovered monarch wintering grounds in Mexico.

# State Wildlife Grant Action Report: Status, Distribution and Ecology of the Ozark Emerald

*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.*

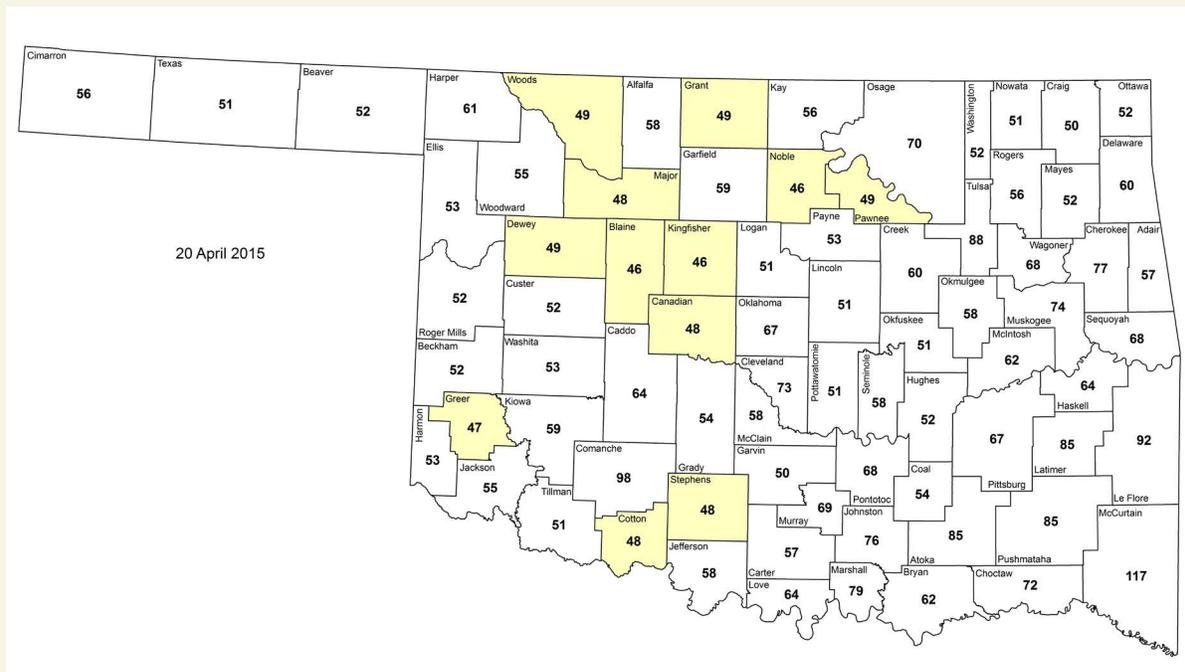
Though small in stature, dragonflies and damselflies play a large role in maintaining our ecosystems health. They feed heavily on mosquitoes, swarming flies, gnats and midges which helps keep these insect populations in check.

Thanks to extensive statewide surveys most recently conducted by the Oklahoma Biological Survey's Brenda Smith-Patten and Michael Patten, 168 species of dragonflies and damselflies (members of the order Odonata) have been documented in Oklahoma. Their county-by-county searches have uncovered Oklahoma's vast Odonate diversity; each county in our state has at least 45 species of dragonflies and damselflies. McCurtain County, in southeastern Oklahoma, has the highest Odonate diversity with 117 species documented!



The Ozark Emerald prefers small forested streams in the Ozark Plateau and Ouachita Mountains. Photo by David Arbour.

Because these statewide surveys have shown which Odonates occur in the state and where, Smith-Patten and Patten turned to their next project - estimating population sizes, habitat associations and conservation need of our dragonflies and damselflies. In 2013, the team was awarded a State Wildlife Grant to determine the status, distribution and habitat requirements for three dragonflies considered as Species of Greatest Conservation Need, the Ozark Emerald, Ozark Clubtail and Oklahoma Clubtail. These three dragonflies are only found in the Ozark Plateau and Ouachita Mountains of Oklahoma, Kansas, Missouri and Arkansas. The project's secondary goal is to determine the conservation need of five other Odonates found in eastern Oklahoma.



To accomplish these goals, the team spends over 40 days in the field each year between April 5th and October 1st. This timeframe corresponds to the traditional flight period of our dragonflies and damselflies. The team walks along streams, lakeshores, around ponds and in a variety of other habitats when conducting surveys. They document any species of dragonfly and damselfly found and keep a tally of each individual encountered.

So far, the surveys have been very productive. The team has documented four new locations for the Ozark Emerald, seven new locations for the Ozark Clubtail, and 12 new locations for the Oklahoma Clubtail. Smith-Patten and Patten have also recorded new locations for three other Odonates. Surveys continue this year and a final report is expected by 2016. Information provided in the interim reports has been incorporated in the Comprehensive Wildlife Conservation Strategy.

Find a checklist of Oklahoma's Odonates at [biosurvey.ou.edu](http://biosurvey.ou.edu)!

## New Certified Wildscape! #468 - Jenks High School "Flycatcher Trail"

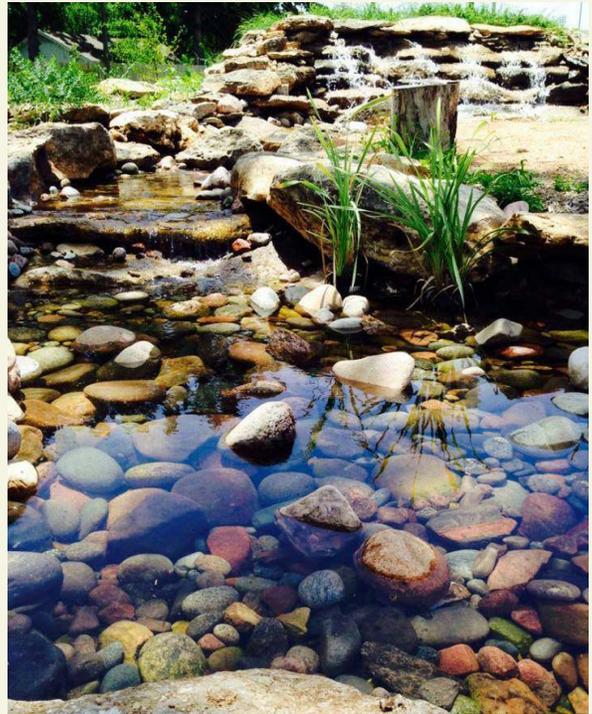
Congratulations to Jenks Public Schools and the Tulsa Audubon Society! Their Flycatcher Trail Outdoor Classroom and Demonstration Garden located at Jenks High School has been certified as a Wildlife Habitat!

This Outdoor Classroom is considered a "living laboratory" and demonstration habitat for teaching conservation and stewardship. Jenks biology and ornithology students and Tulsa Audubon Society members will maintain the 1/3 acre area.

Flycatcher Trail demonstrates how to create a bird-friendly environment with water, food sources from native plants and shelter for raising young. The area also shows effective water conservation techniques, attractive landscaping with native plants that eliminate use of pesticides and provides an example of the benefit of reducing or eliminating lawn monocultures.

The Flycatcher Trail design incorporates large oaks, smaller trees like American hollies, dogwoods and redbuds, shrubs like American beautyberry and spicebush, native grasses, flowers and vines. Native perennials like purple coneflower and milkweeds can be found in the butterfly garden. These plants provide the needed food for larval caterpillars and pollen for bees and butterflies.

Keep in touch with the Flycatcher Trail on [Facebook!](#)



The Flycatcher Trail offers a water feature, prairie, water reclamation system, butterfly garden, chimney swift towers and a woodland edge! Photo provided by Todd Humphrey.

### Insect Resources...

- [Butterflies of Oklahoma, Kansas and North Texas](#) by John M. Dole, Walter B. Gerard and John M. Nelson
- [Dragonflies and Damselflies of Texas and the South-Central United States](#) by John C. Abbott
- [Landscaping for Wildlife: A Guide to the Southern Great Plains](#) by Jeremy D. Garrett



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](http://wildlifedepartment.com) for more wildlife diversity information and events.

For questions or comments, please email [jena.donnell@odwc.ok.gov](mailto:jena.donnell@odwc.ok.gov)

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