



Above: Drone's eye view of Cedar Point Biological Station, June 27, 2022. Photo by Alex Wiles. Below right: Cedar Point catbird sticker, design by Allison Johnson - stickers available soon!

ISSUE 7 - JUNE 2023

CEDAR POINT TIMES

The Newsletter of Cedar Point Biological Station (CPBS)
School of Biological Sciences
University of Nebraska - Lincoln

Cedar Point hosts Nebraska State Envirothon

This April, Cedar Point hosted the 31st annual Nebraska State Envirothon. The Envirothon is a competition about environmental knowledge for high school students. The focus is on soils, water, forests, policy, wildlife, and grazing lands. Five-person teams competed for prizes and the chance to compete at the regional and national levels. This year, the Dawson County Envirothon Club won and will advance to the National Conservation Foundation Envirothon. "Being at Cedar Point allowed our competitors to see some of the unique educational opportunities that await them if they choose a career in natural resources," said Megan Grimes, Envirothon coordinator. "We hope students continue to further their education with classes at Cedar Point."

The Envirothon allows students to "take what they have learned in the classroom and apply it to life". Getting outside and learning by doing is very much the Cedar Point way. We are so happy to have been able to host the event and wish the Dawson County Club luck at nationals!--John P. DeLong

Omaha Zoo Academy students measure trees at Cedar Point as part of the Nebraska Envirothon. Photo credit: the Nebraska Association of Resources Districts.



In this issue

Envirothon at Cedar Point

PAGE 1

Cedar Point Spider
Research

PAGES 2

Cliff Swallow Migration

PAGE 3

From the Vault

PAGE 4

Announcements, Events,
and Updates

PAGE 4



CEDAR POINT TIMES --- [HTTPS://CEDARPOINT.UNL.EDU/](https://cedarpoint.unl.edu/)



Cedar Point spider research in the news

An unbanded wolf spider (*Hogna baltimoriana*) with a moth at Cedar Point. Photo by John P. DeLong.

Adapted from a Nebraska Today article (see it at [this link](#)) by Scott Schrage.--Ecologists have long known that predators with otherwise-similar diets can coexist by divvying up food sources to ease competition and, ideally, leave enough prey for everyone. But analyses of wolf spiders in Nebraska suggest that when the diversity of their mutual prey is lacking, the eight-legged predators might instead maintain an ecological equilibrium, in part, by eating one another.

A decline in the variety of prey should spell bad news for weaker predators, which are then put into more direct competition with their stronger counterparts, said Stella Uiterwaal, who led the study while earning her doctorate at Nebraska. Predators that manage to at least occasionally kill and eat their more competitive peers could benefit in a couple of ways that collectively act as an “equalizing mechanism,” she said.

“Some of your diet is now coming from that other predator, instead of the shared prey that you’re competing for,” said Uiterwaal, now a postdoctoral researcher at Washington University in St. Louis. “And you’re also reducing the population size of that better predator, so you have fewer of them to compete with.”

The study originated from what Uiterwaal observed while studying and later teaching at Cedar Point. “We noticed that there are many different wolf spider species that all seem to be doing the same thing,” Uiterwaal said. “And there’s this classic ecological idea that species can’t be doing the exact same thing. If that happens, they won’t be able to persist in the environment for very long.”

So she spent two summers collecting specimens of eight wolf spider species and their potential prey. Many of the same prey appeared in the wolf spider diets: flies, grasshoppers, crickets, butterflies, moths, aphids and, yes, other spiders. “You name it, and they’ll eat it,” Uiterwaal said. “We’ve even seen spiders out there eating toads.”

Uiterwaal and the team also analyzed the ratio of lighter vs. heavier nitrogen atoms, or isotopes, in the tissues of spiders. Because heavier nitrogen atoms persist and accumulate through the food web, predators tend to contain more of those isotopes than do their prey — meaning that researchers can use them to estimate an animal’s trophic level in a local food web. In many food webs, plants rank as a 1, plant-eating animals as a 2, and the predators of those herbivores as a 3, with the predators of predators coming in at a 4. Often that’s about as high as a terrestrial food web seems to stretch. The average ranking of a wolf spider species at Cedar Point Biological Station? Nearly a 6. One particular spider rated an 8.5 — an especially lofty perch for a predator that, as Uiterwaal put it, “is not exactly what anyone would call the top of the food chain.”



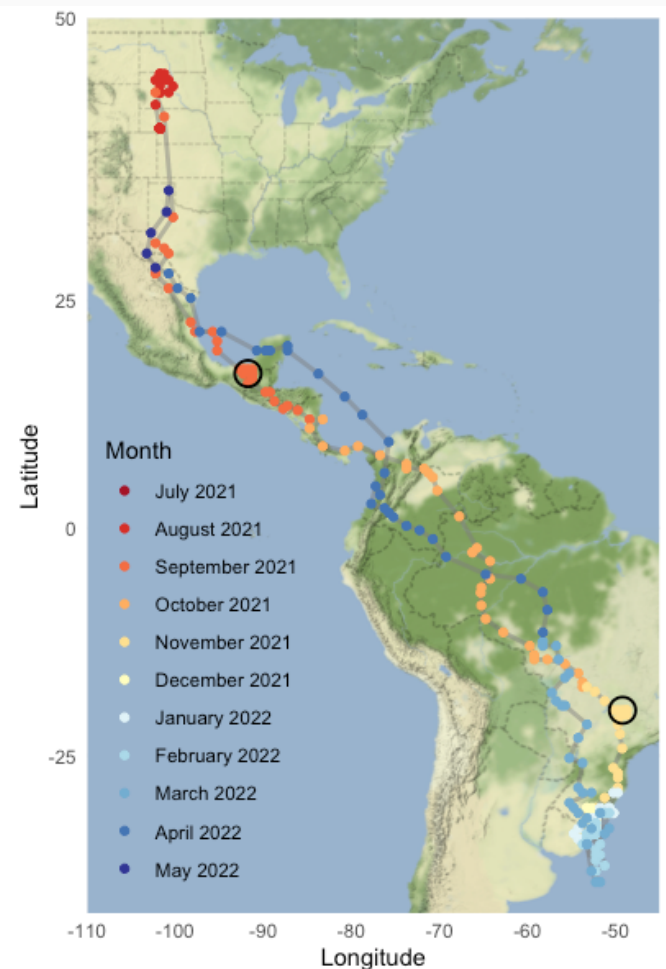
Cedar Point cliff swallow winters in southern Brazil

Charles Brown (University of Tulsa) and his team have obtained the first complete migratory track ever found for a cliff swallow from the western Nebraska study area. They had no idea of actual wintering areas or routes the swallows used to travel to South America. In 2021, they put out 29 geolocators on cliff swallows at a colony ("Junkyard") just north of Cedar Point. In 2022, they managed to recapture two of those birds. Data were corrupted on one of them, but the other yielded the track on the right. For Charles, this is one of the most exciting findings in the history of the project, simply because it represents a time in the life cycle that we know nothing about.

"What was really surprising is that the track indicates some overwater migration in spring, which cliff swallows were not known to do, but is consistent with birds trying to get back in the spring as soon as possible to nest," says Charles. He adds, "equally interesting is that our birds, based on this one, seem to be wintering farther east in Uruguay and southwestern Brazil than we had thought, which is consistent with a band recovery from back in the 1980's of one of our birds in southwestern Brazil almost exactly along the track of this bird."

The project is a collaboration with grad student Amy West from the University of Tulsa and Dr. Eli Bridge at the University of Oklahoma.

Top: a cliff swallow in flight. Photo by Don Debold, accessible at [this link](#). Inset: a cliff swallow at a nest near Cedar Point. Photo by Charles Brown. Bottom right: the migration path of a cliff swallow outfitted with a geolocator tag near Cedar Point.



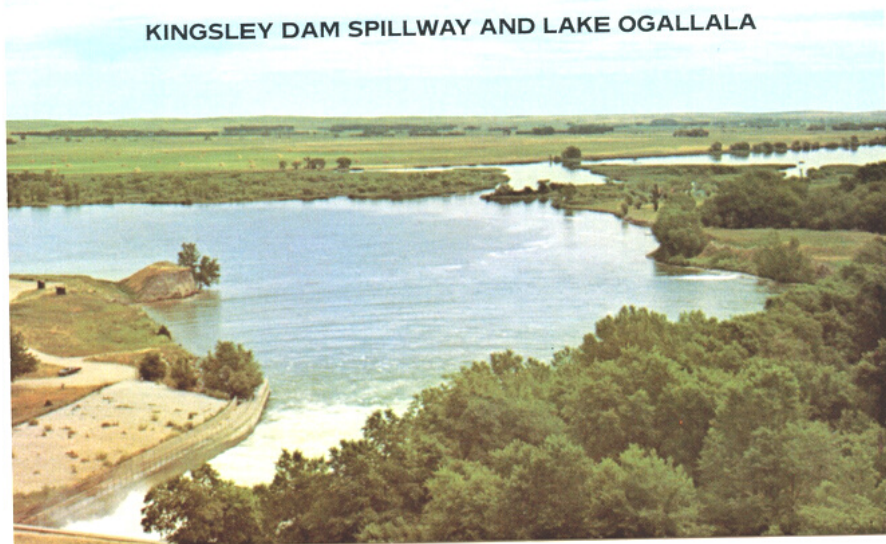


Sunset over Lake Ogallala. Photo by George Wheeler.

About the Station

Cedar Point Biological Station is a site for research and experiential learning located along the banks of Lake Ogallala in western Nebraska. CPBS is surrounded by a wide range of habitats, ponds and lakes, and landscape features such as box canyons, making it an ideal place to learn about and interact with nature. CPBS is operated by the School of Biological Sciences at the University of Nebraska - Lincoln. The station provides unparalleled experiential learning in the high plains through a wide range of courses and partnerships with the School of Natural Resources; the School of Art, Art History, and Design; the College of Architecture; the Department of Hospitality, Tourism, and Restaurant Management; and the School of Global Integrative Studies at UNL.

From the Vault



Although Kingsley Dam was constructed during 1936-1941, the hydroelectric station wasn't added to the structure until the early 1980s, coming online in 1984. This post-card shows Lake Ogallala sometime before construction on the plant started, likely in the early 1980s. Note how much more land can be seen across the middle of the lake, where today it is wide open. The post-card inscription reminds us that Lake Ogallala was formed by excavation for material to build Kingsley Dam. Thanks to Karen Janovy for digging out and sharing this old card.

Summer 2023 schedule

May 17 to May 20

Grad Student Writing Retreat

Session 1 (3 weeks) - May 21 to June 9

Avian Biology

Fundamentals of Biology II

Session 1 (2 weeks) - May 21 to June 3

Literature and the Environment

Session 2 (3 weeks) - June 11 to June 30

Predator Ecology

Field Herpetology

Session 3 - July 2 to July 21

Field Epidemiology

Fundamentals of Biology II

Ecology and Evolution

Session 4 (3 weeks) - July 23 to August 11

Field Parasitology

Session 4 (2 weeks) - July 23 to August 4

Field Limnology

Session 4 (2 weeks) - July 31 to August 13

Arabic language immersion

Contact or Follow Us

Director: John P. DeLong

Email: jpdelong@unl.edu

Associate Director: Jon Garbisch

Email: jgarbisch2@unl.edu

Program Coordinator: Airicca Roddy

Email: aroddy2@unl.edu

CPBS website:

<https://cedarpoint.unl.edu/>

CPBS Facebook page:

www.facebook.com/CPBS.unl

CPBS Twitter: @CPBS.unl

Mailing address: 170 Cedar Point Dr.,

Ogallala, NE 69153

Station phone: 402-472-5977

Cedar Point Works is supported by grants and donations. If you would like to support experiential learning at CPBS, please consider donating to one of our student-oriented funds.