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Above: Wallflowers along Cedar Point Drive at Cedar Point Biological Station, June 1, 2023. Photo by John DeLong. Below right: Painted turtle, photo by Larkin Powell!

CEDAR POINT TIMES

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

In this issue

Cedar Point rebuilding for a 2nd half-century

In the past few years, Cedar Point has been engaged in a massive repair-and-restore campaign of the physical landscape at the station. Decades of erosion, road wash-outs, cedar encroachment, invasive weeds, and 70-year-old buildings have combined to challenge our resources and ability to keep up. But as we near our 50th year of operation, we are energized to set the stage for the next half-century. Major road re-routes are done and underway, retaining walls are installed, new erosion-resistant paths and stairs are installed, native prairie and riparian forests are being restored, and roofs have been replaced.

This effort is possible because of our experienced and creative team of on-the-ground staff: Jon Garbisch, Dru DeLaet, and Roy Bailey, along with a slew of Cedar Point Works student interns. This team gets it done with minimal resources while training students in a huge range of skills. Cedar Point Works students learn to use saws, the mill, the shop, landscaping tools, and some of our heavier equipment. It's difficult to overstate the value of our team. So next time you are out there, take the time to notice the landscape and to thank the staff for their daily facilities miracles!--John P. DeLong

Dru DeLaet installs a cedar retaining wall along the Midge path. Photo by John P. DeLong

Cedar Point Biological Station

Left. Students in the Wildlife Management Techniques course at Cedar Point Biological Station in 2005 hold the first painted turtles captured at the study pond near Keystone, Nebraska. The project has continued each summer except for 2009. Photo by Larkin Powell. *Below*. Ellen Dolph, Tristan Powell, and Charrissa Neil (left to right) - undergraduate co-authors of the two new studies - adjust bait for capturing painted turtles in a hoop net at the study pond near Keystone, Nebraska in June 2016. Photo by Larkin Powell.

Painted turtles and drought: a class activity turns into long-term undergraduate research

Contributed by Larkin Powell.--Research based at Cedar Point Biological Station has shed light on the effects of drought on painted turtles. According to two recent studies (see them here and here), both males and females had ~10% lower probability of surviving drought years compared to non-drought years during 2005-2016, and the species' carapace (top shell) grew more slowly in length during drought years. In addition, reports Larkin Powell from UNL's School of Natural Resources, the proportion of males in the sub-adult size class (95-130mm) decreased when incubation conditions were hotter and drier.

Below. Painted turtle. Photo by Larkin Powell.

The study site for the research is a 0.3-ha pond on private rangeland northwest of Keystone, Nebraska. The research was published by Powell with co-authors Allison Beard, Ellen Dolph, and Charrissa Neil. All three UNL alums used the long-term data for their theses in the UNL Honors Program.

The long-term study started as a class activity to estimate population size and teach mark-recapture methods during summer field courses in 2005 and 2007. The turtle population was used in 2006 by undergraduate students engaged in a NSF-funded science/math program through UNL's Department of Mathematics and the School of Biological Sciences. "I normally use birds for my population studies," Powell noted. "But it was hard to stop working with painted turtles, because they are so easy to capture." Thus, small teams of undergraduates have continued to visit Cedar Point for a week each summer with him to keep the long-term data set alive.

As the data accumulated over years of drought and non-drought conditions, Powell saw the opportunity to assess the effects of drought on growth and population dynamics. Although the study is based on one turtle population in a single pond, the long-term data has potential to hold broader lessons. Climate predictions suggest that the Great Plains will be at higher risk for drought conditions in the future, and the Nebraska study has potential to inform how pond turtles may respond to warmer, drier periods in the future. "This is a wonderful example of impactful undergraduate research," said Powell. "Over time, the contributions from approximately 50 team members led to analyses by three students that may inform conservation plans for other species of turtles during dynamic climate conditions."

CPBS classes are scheduled for 2024, see them at https://cedarpoint.unl.edu/course-list.

Cedar Point writing retreats continue to benefit students across UNL

Top: Chih-Chung Lee writing in view of Lake Ogallala. Photo by John DeLong.

Among the hardest skills to develop as a scientist is writing. Graduate students have to write a thesis or dissertation while also learning about their field, learning the techniques of their trade, and grasping what their work is really about. It should come as no surprise, then, that writing can be a hurdle to many students.

Most graduate students are used to seeing the gallons of red ink advisors use to improve and direct their writing. Yet students often need to discover how to capture a narrative for themselves and how to develop skills and routines that let them express that narrative in writing. That's where Cedar Point's graduate student and post-doc writing retreat comes in. We started the annual retreat in 2019 and developed it in collaboration with the UNL Writing Center and the School of Biological Science's Kristi Montooth, who has run the retreat each year. The retreat teaches tricks to help focus, develop better writing habits, and create accountability. Attendees have raved about the retreat, saying I "probably got as much done over these 3 days as I have in the last 2-3 months" and "I have better tools now to be more sustainable with writing." And of course the place helped: "Being at CPBS definitely facilitated my writing because I was isolated from campus duties and because being in nature helped me more easily clear my mind and focus."

Students also say that the retreat has a lasting impact. Says one attendee, we "had our weekly writing group today and we realized we've been holding them consistently since the SBS writing workshop last summer. We've both written multiple papers and applications through our weekly writing practice, so we thought we'd drop you a note to tell you how effective it's been for us." Thanks!

Given this success, the UNL College of Arts and Sciences Associate Dean William Thomas is now running a parallel annual retreat for a broad disciplinary group of graduate students from across the college in September.

We appreciate the funding support for the retreat from the Clair Ranking Fund, the Edna and William Linder Fund, and the John Janovy Curiosity Fund. Because of these donations, we have been able to run the writing retreat free of charge to all students and post-docs.

Bottom left: writing retreat attendees write away on a chilly day in Goodall Lodge. Photo by Kristi Montooth. Bottom right: Attendees enjoy a little outdoor writing time on the back deck of the Gainesforth building. Photo by John DeLong.

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Starting out on the Gazebo Trail. Photo by John DeLong.

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.

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Art @ Cedar Point

The Cedar Point art program hosts 5-10 artists-in-residence each summer. Run by Hixson-Lied College of Fine and Performing Art's Kat Morrow and Aaron Holz, summer 2023 saw the return of artist-in-resident Katie Nieland. Here Katie holds up one of her works from this summer. Says Katie, "I like to make art using the field guides from the library, so this painted box turtle was created with help from a field guide on reptiles and amphibians". Katie is also the designer of our popular damselfly and lizard stickers and Associate Director at the Center for Great Plains Studies.

2024 Course schedule

Week starting (or specific dates)													
19-May	26-May	2-Jun	9-Jun	16-Jun	23-Jun	30-Jun	7-Jul	14-Jul	21-Jul	(7/26-28)	28-Jul	4-Aug	11-Aug
TD workshop	Avian Biology			Predator Ecology			Field Epidemiology			Wilderness CPR	Field Parasitology		
Writing retreat	Life 121			Field Herpetology			Life 121				Field Limnology		
	Lit in the Environment		YNS	Ecology and Evolution			Indigenous Cedar Point		Japanese Immersion			Art @ CP	

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.