



ISSUE 2 - MARCH 2021

CEDAR POINT TIMES

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

Cedar Point to open in 2021

In 2020, CPBS activities were greatly reduced by the COVID pandemic. Now, with a COVID mitigation plan in place and vaccination ongoing in Nebraska, CPBS will open for 11 courses this summer. Yet life at the station in 2021 will not be exactly as it was before 2020. This year we will have limitations on personal trips to restaurants and bars, for example, along with increased sanitation, social distancing, and wearing face coverings. But with protections in place and an aggressive testing plan, we can conduct courses in much the same way as usual.

We also can grow the Cedar Point Works (CPW) program, which is our umbrella program for experiential learning. The goal of CPW is two-fold: First, create work opportunities for students so that they can afford to be at the station and take a course. Second, channel the creativity and energy of students into the station itself. Already, CPW students - working with Associate Director Jon Garbisch and Hospitality Coordinator Jenn Somma - have gained transferable skills of all sorts, from human resources management to running chain saws. The creative efforts of CPW students have already improved the way the station runs, helped to reduce erosion, increased trail safety, and enhanced the health of CPBS habitats. We will have more updates on CPW in the next issue.



CPW student and sustainability intern Drew Havens installing a donated solar panel on the Baxa cabin in summer 2020. Photo by Jon Garbisch.

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Dr. Charles Brown fumigating Cliff Swallow nests. Photo by Stacey Hannebaum.

Research Focus: Cliff Swallows adapt to the impacts of parasites

Long-term research is central to a better understanding of life in nature, and one of the longest-running field studies of birds anywhere is the Cliff Swallow study at CPBS. Led by the University of Tulsa's Dr. Charles Brown (see his [website](#)), and now in its 40th year, the Cliff Swallow project shows how continued exploration of a system leads to cumulative benefits. Just out last month, new research from the project shows the capacity for species to adapt to the negative impacts of parasites (see the paper [here](#)).

Cliff Swallows nest in colonies, formerly on cliffs but now mostly on bridges, and these sites can develop heavy infestations of the bedbug-like, blood-sucking swallow bug. In the early 1980's, Dr. Brown and colleagues showed how swallow bugs greatly reduce the growth and survival of Cliff Swallow chicks. They did this with an experiment in which they fumigated some nests so they could compare bug-infested with bug-free nests. They repeated this study in 2015-19 and found that now, three decades later, the impact of swallow bugs on chick growth is greatly reduced. Using the vast storehouse of observations collected over the years, Dr. Brown was able to rule out possible causes of the change such as altered food deliveries by parents, changes in bird-to-bird transmission by bugs, or climatic effects, leaving only one hypothesis standing – the Cliff Swallows adapted to the stress in some way that reduces the cost of being parasitized. This finding illustrates how hosts can sometimes evolve to tolerate (rather than resist) their parasites and provides one of the few examples of tolerance known in animals.

The Cliff Swallow project continues. Dr. Brown hopes to get a least 50 years in on this project, asking questions about the ecology, sociality, and host-parasite dynamics in these birds.



Cliff Swallows at nest. Photo by Charles Brown.



Swallow Bugs at a Cliff Swallow nest. Photo by Art Gingert.

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.



Male (left) and female (right) Orchard Orioles captured during Avian Biology in 2019. Below right: students birding in the Colorado Rockies in 2019. Photos by Allison Johnson.

Teaching Focus: Avian Biology gets a next gen instructor

The Cedar Point Avian Biology class is a timeless field course, melding evolutionary and ecological concepts with field-based identification of birds by sight and sound. Today, the course is led by Dr. Allison Johnson, who represents both a new generation of ornithologist and a connection to the past. A chance encounter watching Sandhill Cranes brought Dr. Johnson (from Scotts Bluff, NE) and former Avian Biology instructor Dr. Paul Johnsgard together in 2003. They bonded over art and birds (both of their art is currently on display at the Great Plains Art Museum (see website [here](#)) in Lincoln, NE), and afterward, Dr. Johnson was hired as a teaching assistant and a research assistant for the Cliff Swallow project (see Research Focus, previous page). Dr. Johnson spent three summers working at CPBS from 2006-2011. After getting her PhD, she is now back at the University of Nebraska - Lincoln as a post-doctoral scholar in the lab of Dr. Dai Shizuka, continuing her pioneering work on the behavioral ecology of fairy wrens in Australia and now Tree Swallows at CPBS.

Teaching Avian Biology at CPBS brings Dr. Johnson full circle. Her spin on the course adds a focus on student research, technology, and scientific literacy – all key features of a modern science education. Yet Cedar Point is a place where on-the-ground skill still matters. After all, no matter how digital the world gets, identifying birds takes good old-fashioned skill!



Dr. Allison Johnson holds an Indigo Bunting during class morning banding. Photo by Laura Vandermeiden



CPBS students hiking in mixed-grass prairie on their way to the prairie dog town in 2019. 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 habitat types, 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, and the Department of Hospitality, Restaurant and Tourism Management (HRTM) at UNL.

From the Vault



Tami Cook (then Tami Percival) (Right) and Duane Dunwoody (left) at Dunwoody Pond in 1992. Dunwoody Pond was the type location for a new genus and two new species of parasites from damselflies, one of them named for Dunwoody. The sampling technology back then is exactly the same as today - the reliable insect net. Tami published two papers on these parasites as part of her Master's Thesis at UNL. After her time at CPBS, Tami went on to get a PhD in Entomology and embarked on a career in parasites and entomology at Sam Houston State University, where she still studies Gregarine parasites of invertebrates today (see her [website](#)). Photo by John Janovy Jr.

Summer 2021 schedule

May 12 to May 16

Grad Student Writing Retreat

Session 1 - May 16 to June 4

Avian Biology

Fundamentals of Biology II

Session 2 - June 6 to June 25

Predator Ecology

Field Herpetology

Working with Watercolor

Session 3 - June 27 to July 16

Field Epidemiology

Fundamentals of Biology II

Ecology and Evolution

Session 4 - July 18 to August 6

Field Parasitology

Session 4a - July 18 to July 31

Literature and the Environment

Underwater Forensic Investigation

September

Science Focused Program weekend

Rocky Mtn Parasitology Conference

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