

CONFLUENCE



FALL 2022



"Shout Out" Section

A big shout out to Clark Hendrix, our Field Technician, for his dedication and commitment to HBS. Clark recently retired from MSU to pursue a new job. He worked at HBS for over 10 years and captained over 180 Long-Term Monitoring Cruises on the lake. Clark was instrumental in maintaining boats and equipment and was always willing to lend a helping hand. His hard work and great personality will be missed! See page 11 for pictures of his going away celebration.

We also want to congratulate Clark on retiring after 20 years in the Air Force Reserves and we wish him the best as he starts a new job in Huntsville, Alabama.

Highlights

This Edition features:

- *Graduate Student: Levi Umland
- *Invasion Species Removal Training
- *Photo Club Trip
- *Calloway High group
- *Highlights from the 50th celebration
- *Highlights from Classes and Events held at HBS Fall 2021

More Information

Follow us:



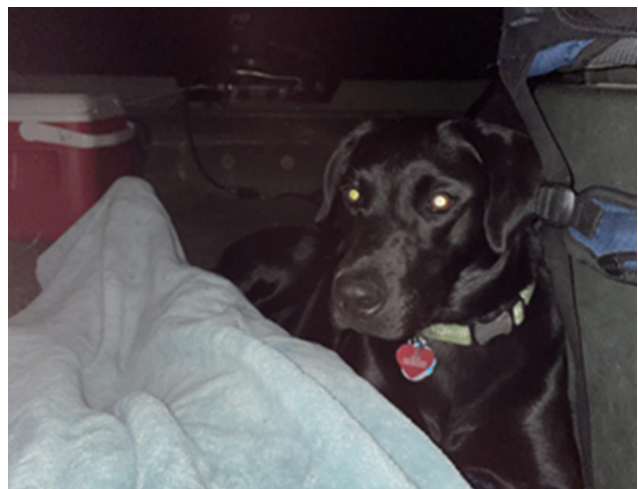
Featured Graduate Student: Levi Umland

Over the previous two years I tracked Silver Carp *Hypophthalmichthys molitrix* using ultrasonic hydroacoustic telemetry within Kentucky and Barkley reservoirs. Silver Carp are aggregatory pelagic potamodromous broadcast spawners and are fecund species that quickly reach sizes that exceed the gape limitation of most predators. Being a planktivorous species, Silver Carp have the potential to outcompete other native planktivores and young of the year fishes that depend on phytoplankton as a food source.

Most of the research pertaining to this species in the U. S. has been conducted in large rivers. Few studies have analyzed diel movements of Silver Carp within reservoirs, and even fewer have analyzed macrohabitat use of Silver Carp within reservoirs. Knowledge of the behavioral ecology of Silver Carp within a reservoir setting is lacking. Therefore, half of my study analyzed the diel movements of Silver Carp, while the other half analyzed macrohabitat use.

I hypothesized that wind would influence plankton location within these reservoirs and since animal location can be tightly linked to food source, perhaps wind would also influence Silver Carp location. I collected movement rate data on 30 Silver Carp, and I collected macrohabitat use data on 126 Silver Carp between these two reservoirs. A linear regression suggested that wind did not have an effect on swim rates in Kentucky reservoir, but wind did have an effect on swim rates in Barkley reservoir ($F_{1,4} = 12.5$, $p = 0.02$, $R^2 = 0.76$). With all my macrohabitat data combined, a Kruskal Wallis test suggested the daily mean wind speed of locations used by Silver Carp was significantly different among macrohabitats (Chi - square = 10.7, $df = 4$, $p = 0.03$). A post hoc analysis indicated Silver Carp favored coves greater than 5 ha, but less than 100 ha over the thalweg. With movement rate data on six Silver Carp within Barkley reservoir and seven Silver Carp located within coves, it is difficult to draw a powerful conclusion. Since both reservoirs are fairly productive, it is possible that these Silver Carp, since they have an abundance of evenly distributed food and no natural predators, swim randomly throughout these reservoirs.

Photo left: Tagged Silver Carp. Photo right: Sleeping in the boat overnight to complete a 24-hour track on a Silver Carp.



Invasive Species Removal Training Group

September 2022



The Calloway County Team of Riverlands Alliance Invasive Species Task Force Team (RAIST) organized an invasive species removal safety training led by Mr. Jeff Jenkins with the Ohio Forestry Association, Inc.

Four Rivers Watershed Watch

September Sampling



FRWW teams up with HBS to sample local streams with the help of local volunteers three times a year. Learn more about becoming a volunteer at frww.org

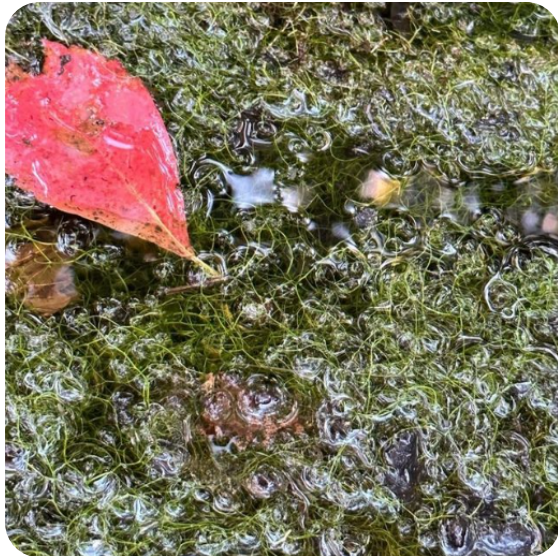


Photo Club visit

October 2022



The Murray State University Photo Club came to visit HBS to explore our natural grounds. Professor Cintia Segovia Fiueroa had given the students a photo scavenger hunt. They had to photograph a vine, tree in seasonal change, frog, water, faces on rocks, sun setting, boat or kayak, zoom in on a flower, something slimy, and moss. The flower and something slimy photos are below.



SPARK Day at Murray State University

September 2022



SPARK day provides 8th graders hands-on experience of different career choices for their future. Angie Hayden and Clark Hendrix demonstrated how HBS collects water samples from Kentucky Lake during monitoring cruises. Zooplankton were displayed under microscopes to show students a variety of taxa. Hayden and Hendrix showed how the zooplankton community can be used to indicate the health of Kentucky Lake.



Movie Night at HBS

October 2022



The MSU student chapters of Backcountry Hunters and Anglers (BHA) and the Wildlife Society (TWS) hosted movie night at HBS. The movie was "Deer 139" about three bold women who test their endurance and wits as they brave the formidable, migratory journey of a pregnant, scrawny doe.



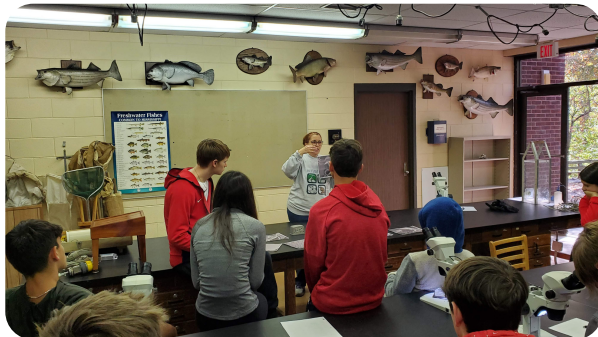
ALLOWAY COUNTY HIGH SCHOOL

Biology Class Field Trip to HBS



GUIDED TRAIL WALK

Gage Barnes led the trail walk and focused on the prairie restoration and explained how fire suppression has influenced our current landscape, tree identification, and other fun facts of the wooded area.



ZOOPLANKTON

Angie Hayden showed the students how to collect zooplankton using the schindler trap and how to identify and count them in samples using microscopes. Hayden explained the importance of zooplankton and highlighted the fact that they are an indicator of the health of the lake.



ELECTROFISHING

Megan Brandt and Nathan Klein used electrofishing to gather different species of Kentucky Lake fish, and Dr. Spier led a group of students to observe.

50TH CELEBRATION

October 29th



HOURLY BOAT RIDES AND GUIDED TOURS

Clark Hendrix and Jason Harris lead our hourly boat tours. Gage Barnes led the trail walk and focused on the prairie restoration. Phil Kavourairis and Karissa Coffield lead cabin tours.



MSU ALUMNI JAZZ BAND

Live music performed by a MSU Alumni Jazz Band was an amazing addition to our Celebration!



PAVILION DEDICATION

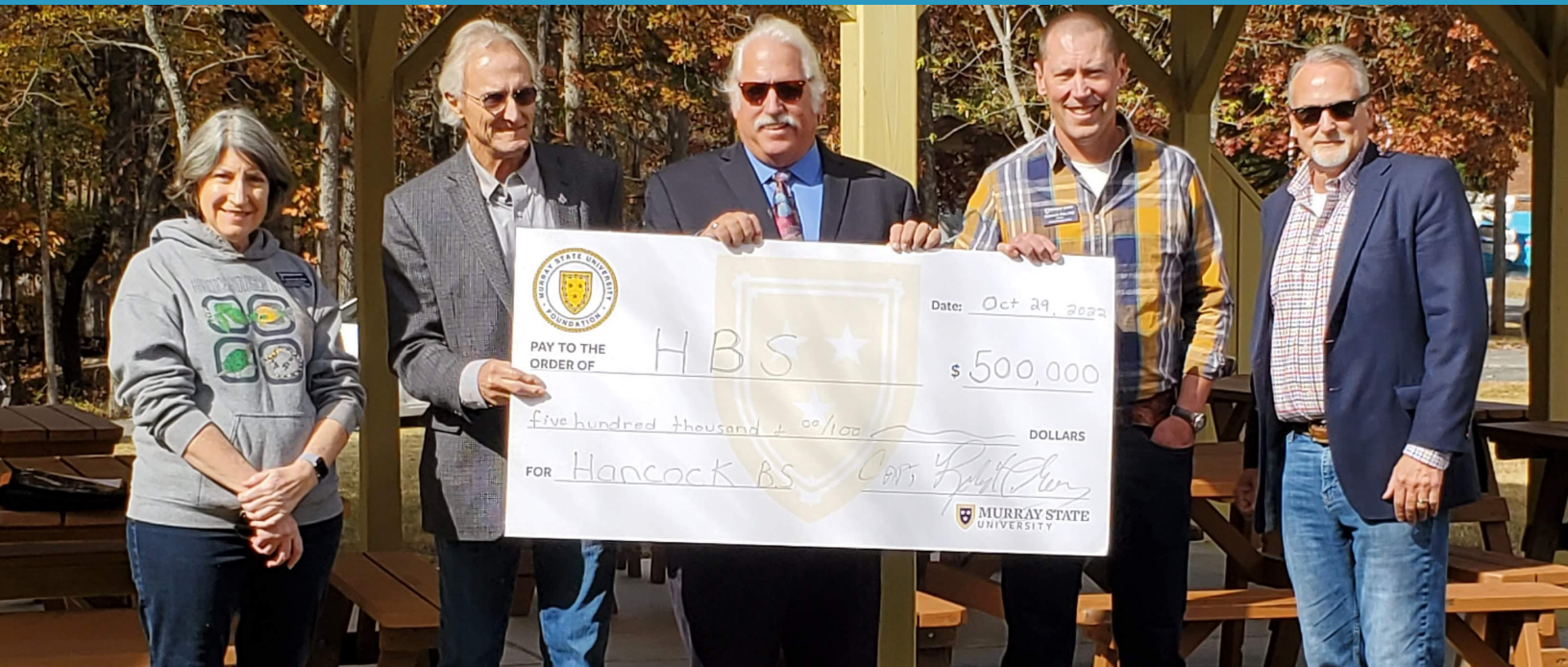
Dr. Flinn presented Dr. David White with a plaque and dedicated the pavilion for his year of service and dedication to the Station as a Director.



APPRECIATION PLAQUE

Dr. Flinn presented Dr. Susan Hendricks with a plaque for her service, research contributions and dedication to the Station.

More on next page.



Hancock Biological Station receives a \$500,000 donation!

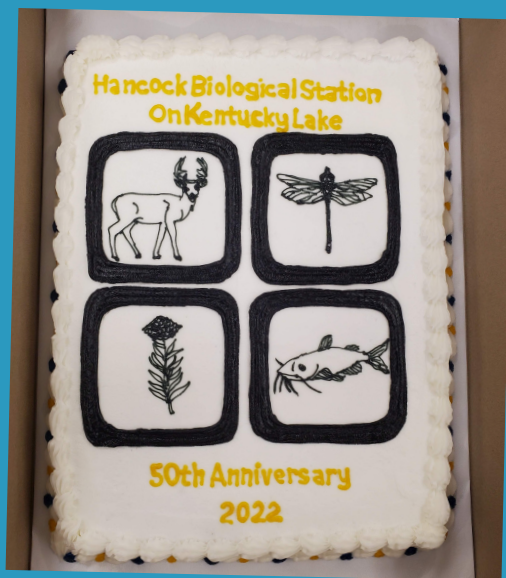
Capt. Bob Cherry and family generously made the donation on the 50th Anniversary of HBS. Capt. Cherry conducted research at Murray State and Hancock Biological Station to earn his Bachelors of Integrated Studies. The donation will be used to update some of the facilities, docks, boats and equipment, and will help facilitate travel and research for students in the region.



From the HBS Director:

“This is an amazing gift and Hancock Biological Station will benefit greatly! I am so grateful and I am excited to put this donation to work. We have a backlog of maintenance on the boathouse and dock, our resident cabins need renovating, our boats need new engines, and some of our research equipment needs upgrades. This gift will boost our ability to complete our mission of education, outreach and research. Importantly, this gift will ensure that students will get the opportunity to experience and utilize HBS, just like Capt. Cherry did!”

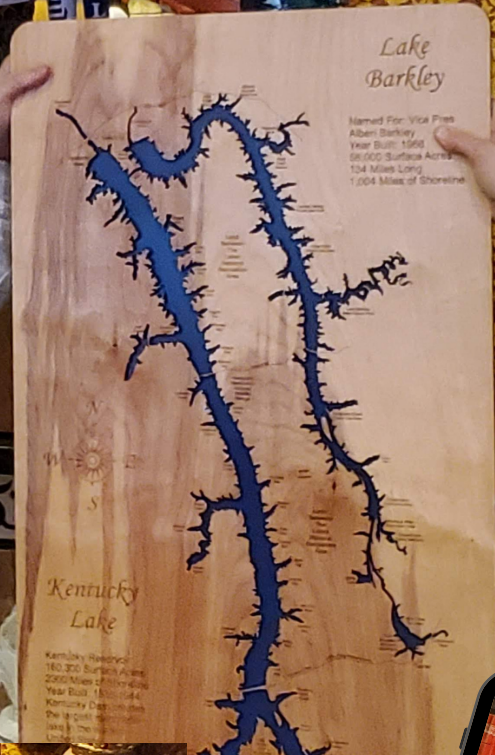
Find out more about donation to Hancock Biological Station, including HBS in your estate plans or setting up planned giving by giving us a call at 270-809-2272, or emailing msu.hbs@murraystate.edu. You can also find out information from the MSU Development office by calling 270-809-3406.



Other activities that day include the students from ARC (Amphibian and Reptile Conservation) had a live animal exhibit. Pictured bottom left was the students from RAIST (Riverland's Alliance Invasive Species Task) teaching visitors the difference between native and invasive plant species in our area.



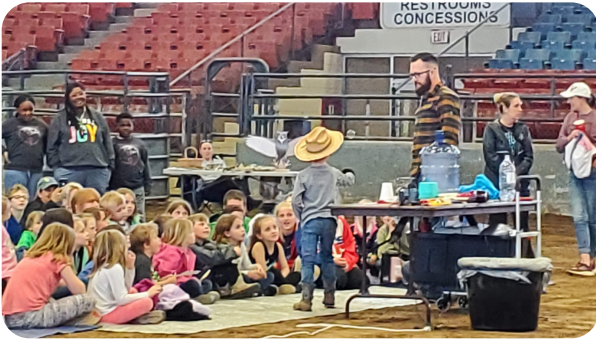
PHOTO GALLERY FROM CLARKS GOING AWAY LUNCHEON



JOIN US FOR THE ANNUAL FOUR RIVERS WATERSHED SUSTAINABILITY FESTIVAL!

April 2023

Upcoming dates are tentative. Please stay tuned in for the next Confluence for official time(s) and date(s).



FAMILY DAY

April 4th at the Arboretum unless it is raining then go to the EXPO Center



TWS/BHA BEAST FEAST

Tentatively Saturday, April 8th or 15th (TBA), location TBA



WSI RESEARCH SYMPOSIUM

April 12th in the Barkley Room of the Curris Center from 8am-4pm



FOUR RIVERS WATERSHED SUSTAINABILITY SUMMIT

April 21st for the 6th Annual Summit Four Rivers Watershed Sustainability Summit will be in the Large Ballroom of the Curris Center