WATERSHED
CONSERVATION RESEARCH CENTER
ALLEGHENY COLLEGE

April 2026 Newsletter

IN THIS ISSUE

Welcoming New Faces and Celebrating Lasting Impact

The past few months have seen a great deal of change for the WCRC. We are wrapping up a multi-year grant studying native fishes and round gobies and recently received a new grant to perform two new stream restorations. In the coming months, we will say goodbye to several graduating students who have worked with the WCRC for years and also welcome a new group of students to the WCRC!

In this newsletter, we also highlight a new research collaboration with the Foundation for Sustainable Forests, show off our use of drones in conservation, introduce our 2026 summer research team, highlight some of the amazing research recently completed by our current students, and check in with a few alumni.

C. Bradshaw-Wilson, B. Winston, and K. Pearce pictured at our restoration site at Stainbrook Park

Mission Statement

Our mission at the WCRC is to engage in strategic conservation activities and train future watershed stewards to protect, restore and enhance our land and water resources for future generations in the upper Allegheny River basin, focusing on the French Creek Watershed.

Sea Grant Supported Research Drives New Discoveries on Round Gobies

New experiments reveal how native fish communities may help resist invasive round gobies

With support from Pennsylvania Sea Grant under award number S006013-NOAA from the National Oceanic and Atmospheric Administration, U.S. Department of Commerce, we have been working to better understand how invasive round gobies interact with native fishes and stream ecosystems. Over the past two years, this project combined field surveys and controlled experiments to understand how native benthic fish species may be impacted by round gobies.

Our fieldwork in French Creek involved surveying aquatic macroinvertebrates and native darters to create a snapshot of ecosystem health. At the same time, we examined feeding relationships among darters and gobies. By studying stomach contents and chemical signatures in fish tissues, we were able to infer what native species eat and whether they compete for the same food as round gobies.

Experiments included replicating habitats in artificial stream, pond, and tank environments to observe how invasive gobies performed alongside native fish species. Our findings suggest that strong, diverse native fish communities may help limit the performance of round gobies in French Creek.

Celia Cocca ('25) setting up flume experiment

Darters acclimating for mesocosm experiments

This project also created meaningful learning opportunities. Nine students helped carry out the research, contributing to five presentations, including two led by students. Outreach programs connected the project with 40 K–12 students and 75 adult learners. In March, we published a peer-reviewed article in the *Journal of Freshwater Research* highlighting this project.

This article was prepared by the WCRC with support from Pennsylvania Sea Grant under award number S006013-NOAA from the National Oceanic and Atmospheric Administration, U.S. Department of Commerce. The statements, findings, conclusions, and recommendations are those of the authors and do not necessarily reflect the views of the National Oceanic and Atmospheric Administration or Department of Commerce.

Big News for Local Streams: Major Restoration Projects Coming to the French & Oil Creek Watersheds

We are excited to share that the WCRC was awarded a new grant that will support two large-scale stream restoration projects in the upper Allegheny River watershed, restoring two unnamed tributary streams using large wood additions (adding downed trees back in the stream channel). This approach helps streams reconnect to their floodplains, reduce sediment, stabilize streambanks, slow water down and improve habitat for fish and aquatic life.

This effort brings together an incredible team of WCRC partners, including the Western Pennsylvania Conservancy, Crawford County Conservation District, Woodcock Creek Township, and 10 local landowners.

What makes this project especially impactful is the science behind it. The WCRC team will carefully monitor each site before and after restoration, measuring both biological communities, such as wildlife, fishes, aquatic insects, and physical stream conditions such as the morphology of the stream bed. This data will help us understand how restoration improves ecosystem function and will guide future restoration work.

Severe erosion and stream bank de-stabilization at one of the restoration sites

This restoration project will help reduce sediment buildup, pictured here, on Woodcock Creek

Shaping Diversity: How Forest Structure Supports Mammal Communities in Northwest Pennsylvania

Starting in summer of 2025, the WCRC partnered with the Foundation for Sustainable Forests (FSF) to examine how forest structure, shaped by natural and management practices, influences mammal diversity across sites in NW Pennsylvania. By pairing habitat surveys and camera traps at 10 FSF properties, we are uncovering how features like fallen logs and coarse woody debris influence mammal richness. K. Pearce and Abi Ridel will present our early findings at the Society for Conservation Biology Conference in Wisconsin in July.

Co-Director K. Pearce and Abi Riedel (‘27) setting camera traps in Summer of 2025

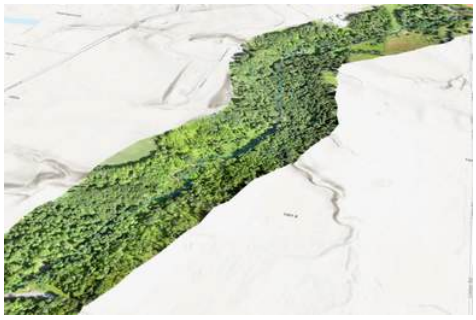
From Above: Drone Technology and Local Conservation

Drone technology has become an increasingly powerful tool in conservation efforts worldwide. This type of technology has given scientists the capability to detect habitat changes, assess threats to protected areas, monitor wildlife populations, and identify risks more efficiently than traditional field surveys alone.

Taryn LaPlatney ('26) prepares AgEagle eBee X fixed wing drone for riparian corridor survey

At the WCRC, drones, paired with Geographic Information Systems (GIS), have been integral to ongoing work in the French Creek watershed. Leading these efforts is Chris Shaffer, GIS Manager and instructor at the college. Through his expertise, drones have been used to map canopy cover along stream corridors, evaluate herbicide treatments in sensitive fen habitats, document active restoration projects, and support a range of other conservation initiatives. In addition, many courses at Allegheny utilize our WCRC drones, including Conservation Biology, Forest Ecosystems and Management and Junior Seminar courses.

We have been able to purchase 3 drones and multiple cameras/sensors for the WCRC through funds from the Richard King Mellon Foundation.



Meet our 2026 Summer Stream Team

Name: Gage Johnson
Year: Sophomore
Hometown: Cambridge Springs, PA
Major/Minor: Environmental Science and Sustainability
Minor: Energy & Society
Clubs/Activities: Intramural Soccer
Favorite Animal: Great White Shark

Name: Jacob Hochstetler
Year: Junior
Hometown: Cochranton, PA
Major: Biology
Minor: Writing
Clubs/Activities: Volleyball, Cochranton Christian Life Group
Favorite Animal: Echidna

Name: Emma Stephens
Year: Sophomore
Hometown: Cranberry Township, PA
Major: Environmental Science and Sustainability
Minor: Biology and Art, Science, & Innovation
Clubs/activities: Bird Club, Green Coalition, and Clay Club
Favorite Animal: Barred Owl

Meet our 2026 Summer Stream Team

French Creek Valley Conservancy Intern

Name: Evan Kurpakus
Year: Junior
Hometown: Mars, PA
Major: Environmental Science and Sustainability
Minor: Psychology
Clubs/Activities: Phi Kappa Psi Fraternity Vice President, Interfraternity Council, Volleyball club
Favorite Animal: Raccoon

WCRC Geospatial Intern

Name: Ian Dombach
Year: Senior
Hometown: Lansdowne, PA
Major: Environmental Science and Sustainability
Minor: Studio Art
Clubs/activities: President of Allegheny Christian Outreach
Favorite Animal: Wobbegong Shark

Celebrating our Graduating Seniors

Josephine Reiter: Wood Frog Reproductive Success

Josephine recently defended her comp estimating reproductive success for Wood Frogs at two properties in Northwest Pennsylvania. Josephine used a combination of acoustic monitoring, egg mass surveys, and abundance data from pitfall traps to find a clear temporal relationship in Wood Frog breeding, with clear peaks during the breeding season. She also found that there were variations between Wood Frog calling and egg mass deposition which may be the result of environmental factors. Upon graduation, Josephine will begin an internship with Trout Unlimited.

Celebrating our Graduating Seniors

Lorenzo Tovanche: Legacy Impacts on Salamanders

Lorenzo recently defended his senior comp investigating the differences in responses of stream-dwelling and terrestrial salamanders to different legacies of land-use across Northwest Pennsylvania. He found that the salamanders responded in unexpected ways to soil moisture and soil and air temperature, suggesting additional factors may be affecting local salamander populations. After graduation, Lorenzo will be working as a research technician for a national salamander research monitoring program.

Celebrating our Graduating Seniors

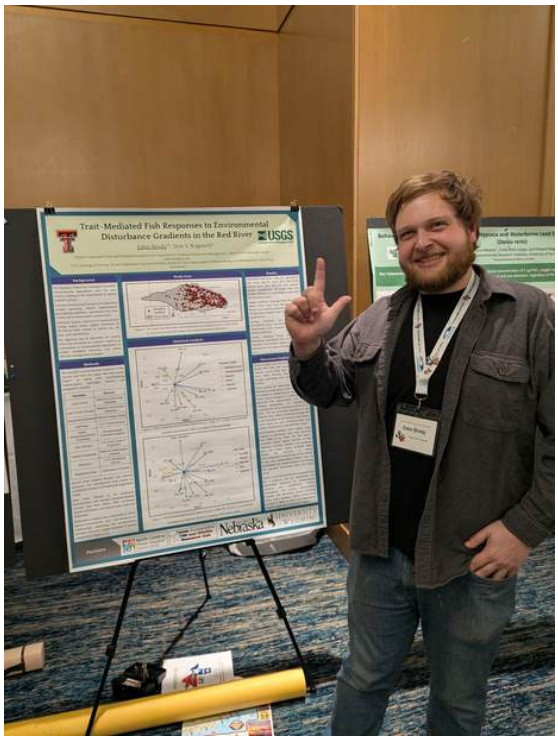
Ryan Cox: Round Gobies and Native Darters

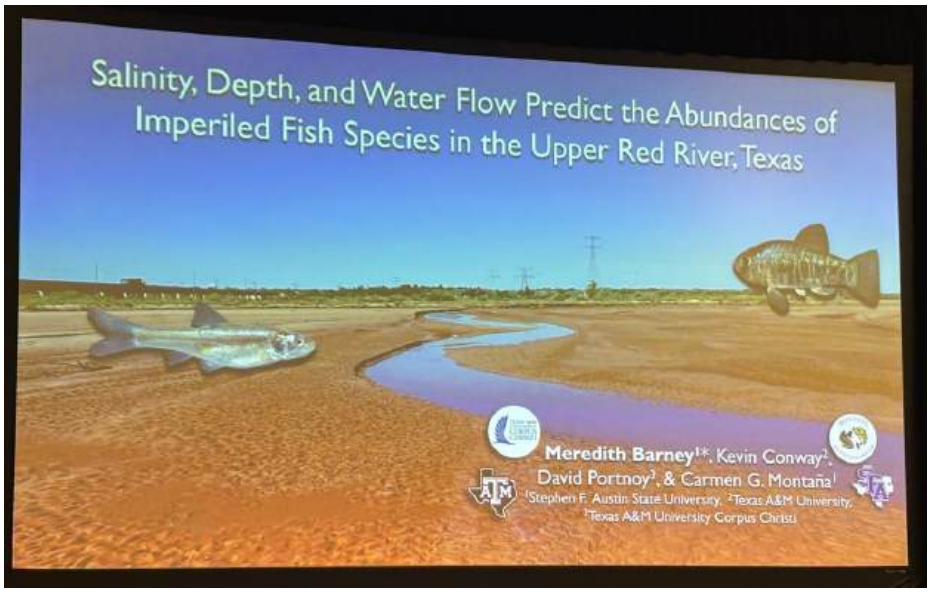
Ryan recently completed their comp studying the behavioral interactions between invasive Round Goby and five native darter species from French Creek using resident–intruder trials. Through their work, Ryan found that gobies were most often found in cobble shelters and become more aggressive toward fish closer to their own body size. Round Gobies were also the only species to show nesting behavior, suggesting parental care may play a role in how aggressive they are. After graduation, Ryan has an internship with the Regional Science Consortium in Erie, PA.

Round Goby displacing Greenside Darter from cobble shelter

WCRC Alumni Highlights

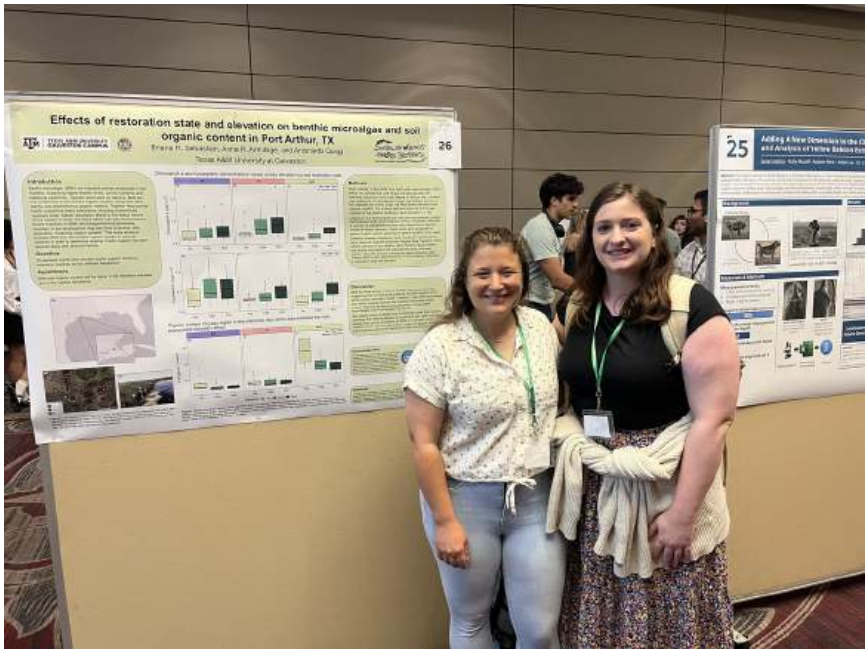
Earlier this year, WCRC alumni Eden Brody ('24) and Meredith Barney ('21) attended the 50th Annual Meeting of the Texas Chapter of the American Fisheries Society. Eden, representing his graduate program at Texas Tech University, presented a poster on species- and trait-environment relationships of fish assemblages in the Red River Basin of Texas and Oklahoma. Meredith, representing her graduate program at Stephen F. Austin University, did an oral presentation on how salinity, depth, and streamflow predict the abundances of two imperilled fish species in the Texas portion of the Red River Basin. At the awards banquet, Eden received the TCAFS Student Scholarship, and Meredith received the Clark Hubbs Student Scholarship. Meredith was also chosen as the 2026 Outstanding Fisheries Student of the Year, a prestigious award that shows her commitment to studying and restoring fisheries across Texas!

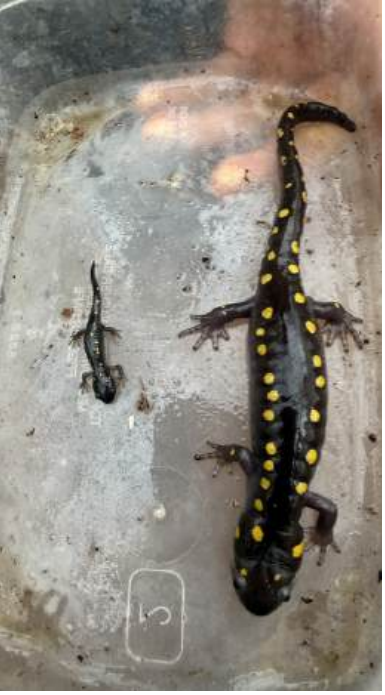




WCRC Alumni Highlights

Recently, our two former Assistant Research Scientists, Briana Sebastian and Meredith Barney reunited at the Ecological Integration Symposium at Texas A&M. Briana presented her PhD research project “Effects of restoration state and elevation on benthic microalgae and soil organic content in Port Arthur, TX.” This study looked at how these factors affected benthic microalgae (BMA) and soil surface organic content across marsh sites. Her results suggest that BMA can rapidly recolonize restored marshes, but soil oranic content takes more time to develop following restoration efforts. We love to see our WCRC alumni reuniting at these conferences and presenting their amazing research!





A Note from our Co-Directors

The last few months have been a season of transition and growth at the WCRC. As we celebrate the theme of *Welcoming New Faces and Celebrating Lasting Impacts*, we are reminded that our strength lies in both the people who have shaped our work, and those who will carry it forward.

We are proud to be wrapping up a multi-year study on native fish and round gobies, a project that reflects years of dedication from our students, current and former staff, and partners. At the same time, we are excited to launch new efforts, including stream restoration work supported by a new grant, research collaborations with local community partners and innovative drone technology to enhance data collection and improve our understanding of the landscapes we conserve. Together, these projects highlight the diversity of conservation work happening at the WCRC.

Thank you for being part of this journey with us as we continue to learn, grow, and work together to conserve, restore, and enhance the places we care about.

- Casey and Kelly

Find us on social media
instagram.com/wcrc_allegheny/
facebook.com/WCRCAllegheny/
sites.allegheny.edu/WCRC/