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Researchers (from left to right) Sarah Chinn, Jacob Ashe, and Jim Beasley, are seen attaching a GPS tracking collar to a wild pig to better understand the movement behavior of this invasive species. (Photo courtesy of Jim Beasley)

RESEARCH

Wild Pig Management and the Science Behind Trapping

By: Tyjaha Steele

Across the United States, there is a battle unfolding between wild pigs and farmers, landowners, and wildlife managers. These fast-breeding animals are an invasive species in North America whose adaptability to different environments has allowed them to thrive in novel areas, while causing extensive ecological and economic damage. Wild pigs in particular harm natural habitats, spread disease, and destroy crops and property as their populations and ranges continue to expand. Scientists are working to evaluate and improve methods for managing wild pig populations to slow their expansion and reduce the costly damage that they cause.

[Read more here.](#)



Top: A sounder (group) of wild pigs foraging next to a wetland. (Photo courtesy of Jim Beasley)

Bottom: Wild pig sow and piglets are rooting in the leaf litter for food. (Photo courtesy of Jim Beasley)



Both images: Student researchers can be seen conducting wetland research at SRS. (Photo courtesy of Daniel Kaplan)

Following the Flow: How water movement impacts ecosystems and contaminants in a riparian wetland **By: Tyjaha Steele and Katrina Ford**

Researchers at the University of Georgia's Savannah River Ecology Laboratory studied water movement in wetlands and its role in filtering contaminants in the Tims Branch watershed, a riparian wetland on the Savannah River Site in Aiken, South Carolina.

"We chose this area specifically to understand how water moves. This allows us to predict how wetlands hold onto contaminants," explains Daniel Kaplan, a senior research scientist at SREL, associate director of the University of Georgia's Research Institute, and lead investigator of this study.

The research team collected monthly water samples from rainfall, streams, and groundwater at different sites within the watershed. By analyzing stable isotopes of hydrogen ($\delta^{2}\text{H}$) and oxygen ($\delta^{18}\text{O}$), they traced how different water sources mixed over time. Additional measurements were collected and helped determine how groundwater chemistry influenced stream water quality.

The study found that groundwater renewed at 2–4% per day, taking about two to four weeks to mix fully. Groundwater contributed up to 4% of stream water in some areas, while stream water comprised nearly 70% of groundwater in others.

These exchanges shifted seasonally, with groundwater flowing into streams more in winter and stream water seeping into the soil in summer, influencing water quality and contaminate movement.

These exchanges shifted seasonally, with groundwater flowing into streams more in winter and stream water seeping into the soil in summer, influencing water quality and contaminate movement. The movement of water within the environment is a key factor in assessing the distribution of various heavy metals and contaminants, including uranium, throughout a riparian wetland. Effective environmental management is crucial to ensuring the health and safety of the Central Savannah River Area.

"For future work, we hope to utilize this hydrological model with other studies to improve contaminant management and reduce risks to both human and environmental health across the CSRA and DOE Complex," states Kaplan.

The original study titled, "[Hydrological controls of a riparian wetland based on stable isotope data and model simulations](#)," was published in the journal *Isotopes in Environmental and Health Studies* (IEHS) and was written by Peter H. Santschi, Chen Xu, Peng Lin, Chris M. Yeager, Pieter Hazenberg, and Daniel I. Kaplan. This work was completed in collaboration with researchers from Texas A&M University, Florida International University, and the Argonne National Laboratory, and the University of Georgia's Savannah River Ecology Laboratory.



Sydney Brewer is seen smiling alongside an anesthetized wild pig being fitted with a GPS collar to monitor movement patterns. (Photo courtesy of Sydney Brewer)

Graduate Student Highlights: Meet Sydney Brewer

By: Tyjaha Steele

Sydney Brewer is from Falls City, Nebraska, and is currently pursuing a Master of Science degree at the University of Georgia's Savannah River Ecology Laboratory (SREL), where she works in the Beasley Lab. I had the opportunity to interview Ms. Brewer and learn more about her background and why she chose to study at the Savannah River Ecology Laboratory. Growing up on a crop production farm, Brewer became aware of the extensive damage wild pigs were causing to agriculture in the Southeast. Later, while working as a sea turtle technician on Georgia's barrier islands, she witnessed the same species rooting up entire nests, leaving a lasting impression and sparking a desire to better understand how to manage this invasive animal.



Sydney Brewer is fitting a wild pig with a GPS tracker. (Photo courtesy of Sydney Brewer)



Sydney Brewer draws blood from an anesthetized wild pig for disease sampling. (Photo courtesy of Sydney Brewer)

Q: Why did you choose to study at SREL/UGA?

A: I worked technician positions in the Southeast and knew I enjoyed the area. I had numerous professors in undergrad and supervisors at technician jobs that were connected to UGA and had only good things to say about Warnell and the wildlife program here. Jim posted my position on the job board, where I stumbled upon it, and it really struck my interest. I grew up on a crop production farm in Nebraska and had heard of the detrimental damage this species was causing for farmers in the Southeast and understood the need for improved management. I also was previously a sea turtle technician on the GA barrier islands and had seen how this species can root up whole nests, causing huge negative effects on threatened sea turtles. These two reasons sparked my interest in pursuing wild pigs as a study species during my MS.

Q: What does your current research focus on, and what drew you to this field?

A: My research focuses on understanding how to improve attractant methods for wild pigs to improve management activities including trapping, aerial and ground shooting, and toxic baiting to manage this invasive species and its negative impacts on the environment and economy. Specifically, my research aimed to provide insight to managers on what type of

attractant they should use (i.e. bait, scent), where they should place sites on the landscape (i.e. distance to water, understory type), and what influences visitation when sites are placed within an animal's home range.

Q: What do you enjoy most about working at the lab, and how has it challenged or inspired you?

A: I appreciate that we all work on a huge variety of species and topics at SREL. I have greatly enjoyed going out in the field with my peers to catch alligators, check funnel and pitfall traps for herpetofauna, and track gopher frogs in their burrows. It is awesome to see what techniques other people are using and the questions they are asking to broaden the way I think about things. I also really enjoyed taking people out with me on pig captures and getting to also teach them.

Q: What skills or lessons have you learned during your time at SREL?

A: Many of us get into this field because we don't want to deal with people; however, that is a huge part of being a wildlife biologist. During my degree, I learned to work with a wide variety of people and how to navigate difficult conversations with other people working on SRS to trap pigs, technicians I supervised, and suppliers such as collar companies.



Sydney Brewer is darting a wild pig in a trap using a projector to safely anesthetize the animal before processing it for data. (Photo courtesy of Amanda Hurst)

Q: What is your most memorable experience in the field?

A: If I had to pick just one, it would be capturing and processing the first wild pig of my project. I had never worked with wild pigs or seen them up close before this position. These are large mammals with unique features that enable them to be a successful invasive species. It was exciting to dart these animals, process them while they are anesthetized, and start collecting the important GPS data for my project. Every capture was exciting as every animal responds differently, which kept me learning.

Q: What challenges have you faced in your research, and how did you overcome them?

A: As any field project goes, I have had to deal with a variety of challenges. During my first collaring season, 80% of my GPS collars failed, and I had to have difficult conversations with the collar company to come to a resolution. I learned how to have difficult conversations while I am not happy and how to deal with large companies.

Q: What are your career aspirations after graduation, and how has your time at SREL/UGA shaped your future goals?

A: I am staying on with Jim and working as a research technician for the Blackbeard Island

wild pig eradication project. I am excited to have the opportunity to directly use what I learned during my project in this new position managing wild pigs. I knew I wanted to stay in the Southeast and wanted a job directly doing wildlife fieldwork, but my time here solidified that

Q: What advice would you give to aspiring graduate students?

A: If you set your mind to it, you can do it. Graduate school is meant to challenge you, and these types of projects expect a lot of you. If you go into it with the right mindset and continue to push, you will achieve the goals you set.

Q: If you could share one key takeaway about your work, what would it be?

A: The main directives for managers from my work are to 1) utilize a bait (food item) to attract wild pigs to a location, 2) be wary of utilizing scent attractants since they do not attract pigs from further distances and may even lead to avoidance, 3) take the time to select a good location for a bait site by considering important habitat features for wild pigs including distance to water and understory as well as finding locations where there is high density of pig sign, 4) consider removing adult males in order to attract females and sounders to a site for removal.

OUTREACH

Augusta University Students Wade Into the Wetlands

By: Tyjaha Steele

Amanda Hurst, an Augusta University alum and Community Engagement Specialist at the Savannah River Ecology Laboratory (SREL), recently visited Dr. Cromer's Wetlands Ecology class at Augusta University as a guest lecturer. She led students in discussions about the ecological significance of wetlands, their role in supporting biodiversity, and the challenges that these habitats face.

The class later joined Hurst, Katrina Ford, Linda Lee, and Sean Poppy, for a field experience at Dry Bay, where students had the opportunity to observe and learn about some of the unique wildlife found in wetland ecosystems through hands-on interactions, reinforcing key concepts covered in the course. These real-world applications helped bridge the gap between classroom learning and field research, offering students a deeper understanding of the wetlands.



Hanna Patel smiles as she holds one of the frogs brought to the classroom. (Photo courtesy of Tyjaha Steele)



Sade Hogan proudly holds a younger American Alligator during the classroom visit. (Photo courtesy Tyjaha Steele)



Tyler Schultz digs through the wetlands with his fishing net. (Photo courtesy of Tyjaha Steele)



Austin Plagens is intently observing a plant using a botany hand lens. (Photo courtesy Tyjaha Steele)



Amanda Hurst removes the metal flashing of the enclosure. (Photo courtesy of Tyjaha Steele)



John Curnyn displays the metal flashing he pulled up. (Photo courtesy of Tyjaha Steele)



Anya Weiss (left) and Mary Beard (right) are all smiles at the Eco-Litter Cleanup. (Photo courtesy of Tyjaha Steele)



Carson Pakula carefully places the metal rods from the enclosure onto the truck for removal. (Photo courtesy of Tyjaha Steele)

SREL Comes Together to Cleanup

By: Tyjaha Steele

The Savannah River Ecology Laboratory (SREL) recently came together for its annual Volunteer Day, an annual tradition that celebrates environmental stewardship, collaboration, and community spirit. This year's Eco-Litter Cleanup centered around clearing out old, unusable enclosures near Rainbow Bay, opening up the space to benefit native wildlife in the area. Armed with shovels, gloves, and plenty of determination, lab volunteers worked side by side to remove metal flashing and other materials that no longer served a purpose. It was a tough job, but the momentum never wavered thanks to the collective effort. Events like these reflect SREL's ongoing commitment to hands-on conservation and habitat restoration. By dedicating time and resources to projects like this, the lab continues to protect critical environments and support the long-term health of wildlife across the Savannah River Site and beyond.

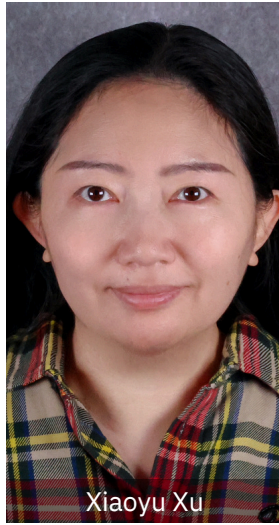
ACHIEVEMENTS



Jim Beasley



Krista Capps



Xiaoyu Xu

The Savannah River Ecology Laboratory is proud to celebrate the excellence of three outstanding faculty members. Dr. Jim Beasley and Dr. Krista Capps were recently honored with research awards from UGA, Beasley received the International Collaborative Research Award, and Capps was awarded the 2025 Creative Research Medal. We also congratulate Dr. Xiaoyu Xu on her well-deserved promotion to Associate Research Scientist.

We are also proud to recognize the accomplishments of our graduate students for their recent conference successes. At the Spring 2025 Graduate Student Symposium, Sydney Brewer earned 2nd place and Brennan PetersonWood received 3rd place in the Wildlife category. Additionally, Aidan Branney was awarded 3rd place for Best Oral Presentation at the Georgia Chapter Meeting of The Wildlife Society. Congratulations!



Sydney Brewer



Brennan PetersonWood



Aidan Branney

FINANCIALS

Every month, SREL faculty, researchers, and staff are hard at work applying for a variety of funds to support new and continuing projects. Below are few of the ones that have been awarded to SREL researchers since December 2024.

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SUPPORT SREL



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**Savannah River
Ecology Laboratory**

Did you know that your donation supports a variety of different projects at SREL? Your support assists graduate students researching ways to help soft-release Eastern box turtles, the outreach team who works tirelessly bringing hands-on wildlife presentations to the Central Savannah River Area, and everything else in between. We ask you to consider supporting SREL today by using this [link](#).