

NATURAL RESOURCES & ENVIRONMENTAL SCIENCES

Welcome!



IN THE NEWS

Find out what is happening around
the department

EVENTS

Holiday Party

CLUBS

NRES Club Activities

STUDENT RESEARCH

Ashley Woods' research on
Bald Eagles



IN THE NEWS

NRES ALUMNI HIGHLIGHT

By Rachel Stone

Matthew Stone, a 2019 graduate, currently serves as a Prescription Forester with the Ozark-St. Francis National Forests. In the summer, he focuses on writing management prescriptions to ensure the forest remains healthy, while also fulfilling his responsibilities as a member of the Multicultural Advisory Committee. This employee-led, voluntary group advocates for diversity and advises on hiring practices within the Forest Service. Throughout the rest of the year, Matthew is often found in the field, collecting data from various forested areas. Last spring, he had to navigate the Wild and Scenic Mulberry River to reach a stand of bottomland hardwoods. While wading across the rocky riverbed in deep, swift water, he narrowly escaped being swept away. Fortunately, his studies in the Forestry and Wildlife Program at Alabama A&M University equipped him with the skills and knowledge to handle such challenges.



Photos by Matthew Stone



WINTER WILDLIFE TRIP TO WHEELER N.W.R.

By Dr. William Stone and Rachel Stone

Members of the AAMU student chapter of The Wildlife Society (TWS) and their Advisor, Dr. Stone, traveled to Wheeler National Wildlife Refuge (NWR) in Decatur in early January to view and learn more about Whooping Cranes and wintering waterfowl on the refuge. Dr. Stone had previously led a group of students to Wheeler in late December to view the waterfowl as part of a Forestry Field Techniques course, but they failed to see any Whooping Cranes on that trip. However, there were thousands of Sandhill Cranes, a close cousin of the Whooping Crane. A Bald Eagle and ten species of ducks and geese were also present in December.

The January trip by the TWS group was led by a staff member of the International Crane Foundation (ICF), Olivia Burkholz, who shared information about their efforts to breed more Whooping Cranes in captivity at their Wisconsin headquarters and track their migration to Alabama and other wintering sites in the eastern flyway. Formerly, Whooping Cranes were only found in western states and Dr. Stone shared how he first saw them wintering in Texas on a college trip as a student. But part of ICF's restoration has been to establish an eastern population that includes the flock that AAMU students observed at Wheeler NWR.

Whooping Cranes were never as abundant as their Sandhill Crane cousins, but were reduced to as few as twenty individual birds during the last century because of habitat destruction, overhunting, pesticides, and egg and feather collecting. Whooping Cranes live and feed in wetland marshes. These habitats have been reduced in availability because of agricultural use or development by humans for homes and transportation corridors. Whooping Cranes were listed as threatened in 1967 and upgraded to endangered in 1970. This protected them from being hunted. Although the banning of DDT in the USA in 1969 has helped Bald Eagles and Peregrine Falcons to be delisted from the endangered species list in 1998, Whooping Cranes have not recovered as quickly. With the hard work of conservationists, the number of Whooping Cranes has increased from 22 in 1941 to 807 in winter 2021.



Olivia demonstrated a Whooping Crane puppet that was used by biologists to raise Whooping Cranes in captivity and prevent the chicks from imprinting on humans. Imprinting can lead chicks to recognize humans as their parent providers instead of adult cranes. She also shared other conservation techniques they are currently using for parents to raise their young in captivity at their Wisconsin headquarters.

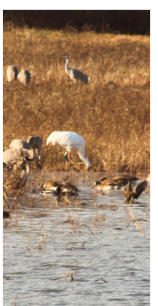
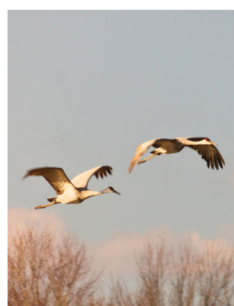
The students got to see one lone Whooping Crane on their visit to the refuge. She stood out starkly against the grays of the Sandhill Cranes, gleaming white as she searched for food in the marsh. She was identified by Olivia using two colored bands around her legs. Olivia told us that this Whooping Crane was known as 14-15, or affectionately known as Reba by the refuge and ICF. Whooping Cranes are monogamous and mate for life. Sadly, Reba has not found her mate yet and is flying solo at this time.

The group of eight students also learned about Whooping Crane management, courtship behavior, and techniques to teach young adults how to follow a small aerolite airplane to migrate south in the Fall. Some of the Whooping Cranes at Wheeler NWR have been radio-tagged and studied by Andrew Cantrell, a doctoral student in the NRES department.



Olivia Burkholz demonstrated how radio-tracking works and challenged students to find a crane transmitter she had hidden on the refuge using a radio receiver and an antenna. The frequency on the radio created a beeping sound that would become louder when the students got nearer to the hidden transmitter. After following beeps, the students found the crane transmitter hidden by one of the landmarks on the refuge.

Dr. Stone was grateful for the demonstration of the radio telemetry technique along with the information about the recovery progress of this tallest bird in North America, standing at around five feet tall with a wingspan of seven feet. Students enjoyed observing the cranes and waterfowl from the newly renovated observation building at the Visitor's Center because the temperature outside was near freezing during the trip. Nevertheless, the students braved the cold to see an awesome scene of ducks, cranes, geese, deer, and a Bald Eagle soaring high above.



Photos by Rachel Stone

EVENTS

NRES HOLIDAY PARTY

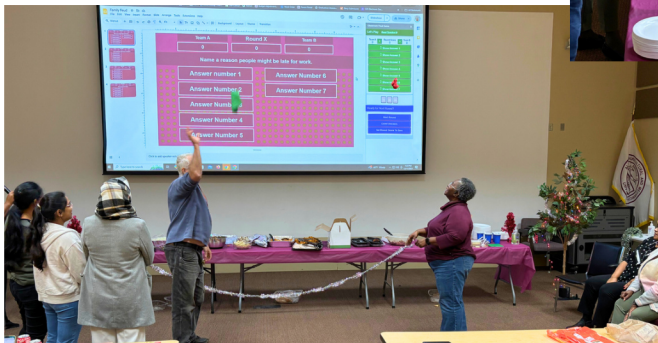
By Rachel Stone

On Wednesday, December 11th, 2024, the Natural Resources and Environmental Sciences Department held its annual end-of-year holiday party. This party let's department members relax and celebrate their accomplishments of the year. No party would be complete without food, and the spread at this function did not disappoint. The potluck-style lunch had many delicious dishes to choose from, including chicken biryani, seafood fried rice, pasta salad, collard greens, banana pudding, and much more! This time of year is a wonderful time to commune with one another, and it's always better when yummy food is involved.

A series of games followed the feast, including a version of The Price is Right featuring silly items, Family Feud, an Ugly Sweater Competition, and a gift exchange game. Graduate student, Asima Bibi, won The Price is Right game, and Dr. Elica Moss, Mrs. Phyllis Campbell, Mrs. Beverly Joiner, and Ms. Sharon Steele played a perfect game in Family Feud. Rachel Stone took home the win in the Ugly Sweater Competition with her festive apparel.

After the main festivities ended, a group of staff and graduate students continued the fun with a fast-paced card game.

Overall, the event was well-attended, with a visit from Dr. Walker, the Dean of the College. There was plenty of food and fun to go around.



Photos by Penny Stone and Evan Hunt

CLUB ACTIVITIES

COMMUNI-TREE

By Rachel Stone and Christopher Holden

On December 7th, Environmental Science Club members teamed up with Operation Green Team to plant trees at Calvary Hill Community Center. Hundreds of trees were planted to expand Huntsville's tree canopy. Christopher Holden, a research technician and member of the Environmental Science Club, attended the tree planting.

"As a Forester trees are at the heart of what I do. It was exciting to see the community come together and plant a legacy for generations to enjoy. The trees that were picked to be planted were native trees which showed me that the event organizers were knowledgeable and thoughtful about the threats to biodiversity and came up with a solution that I think should be executed more often. It was nice to see city workers, community members, and students work in harmony to serve the community," Holden wrote about his experience.



Photos from Alexis-Marie Parrish

ALPHA KAPPA ALPHA

By Alexis-Marie Parrish, president of the ESC

Over a period of three days in December, the Environmental Science Club assisted with a collaborative table event with The Gorgeous Gamma Mu Chapter of Alpha Kappa Alpha Sorority, Incorporated to promote and educate students on recycling through trivia, games, and incentives. The ESC got a total of 209 responses for their survey.



FIREDAWGS- STUDENT WILDFIRE FIREFIGHTERS

By Bradley Massey



The FireDawgs were established in 2009 to train students in wildfire fighting, managing controlled burns, and educating the public on fire prevention. We are a student-led wildfire fighting team with the same mission today, while also creating countless opportunities for students to grow and learn.

I joined the FireDawgs during my freshman year in 2021 and received wildland fire training through the 1890 Land Grant Institution (LGI) Fire Training Program Consortium. This program started 13 years ago to increase the participation of minorities in fire management. It brings together students from four HBCUs- Alabama A&M University (AAMU), Florida A&M University (FAMU), Southern University (SU), and Tuskegee University (TU)- to earn their basic wildland fire certification.

This training is led by experienced professionals from the U.S. Forest Service. Through this program, I became a certified Type 2 wildland firefighter, learning critical skills like digging hand lines, operating water tanks, and using chainsaws. The experience was particularly rewarding because many of our instructors were former AAMU students. Their relatable approach made it easier to understand the significance and dangers of wildland firefighting.

Our training is valuable by putting “boots on the ground” during real-world operations. One of our primary responsibilities is conducting controlled burns for private and public landowners. Burns are also conducted on Winfred Thomas Agricultural Research Station (WTARS). These burns are essential for reducing risk, managing wildlife habitats, and maintaining healthy forests.



Controlled burns serve as opportunities to refine the skills we gained during training. Since joining, I have participated in more than ten controlled burns, ranging from 5 to over 100 acres of forested land. My most memorable experience took place in the spring of 2024, during a burn at Lake Guntersville State Park. The area had not been burned in years and the buildup of vegetation and downed trees created significant challenges throughout the operation. As the largest burn I've ever been a part of, it truly reinforced how vital fire is for maintaining landscapes.

Beyond fieldwork, the FireDawgs spend a lot of time engaging with our local communities to highlight the importance of prescribed burns and their benefits to natural resources. We visit schools, participate in high school career days, join Earth Day activities, and host forestry fairs at our university. I especially enjoy giving back to the community and inspiring the next generation of natural resource managers. One of my most unforgettable experiences was traveling to Monterey, California to present at the 10th International Fire Ecology and Management Congress. I spoke about the FireDawgs and our role as a student-led wildland fire crew at an HBCU. The response from the attendees was eye-opening, helping me realize how impactful a program like ours is and how it could inspire similar initiatives at other universities.

As the program continues to grow, we have strengthened our partnership with the Natural Resources Conservation Service (NRCS), acquired a new truck fully equipped for wildfire response, and expanded our opportunities for controlled burns and community outreach. I'm grateful to be part of such a transformative program and excited for what the future holds for the FireDawgs.



Photos from Bradley Massey

STUDENT RESEARCH

WINTER IS FOR THE BIRDS- LITERALLY!

By Ashley Woods, a Forestry, Fish, and Wildlife Student



Winter has arrived, and the fields of AAMU's Winfred Thomas Agricultural Research Station (WTARS) have transformed into a sanctuary for migrating birds of prey. Among them, bald eagles, northern harriers, and merlins grace the skies, playing essential roles in maintaining biodiversity and supporting ecosystem health. My research at WTARS focuses on monitoring the station's first bald eagle nest, which was established in 2023. The eagles laid a single egg that year, but unfortunately, it was non-viable, meaning it failed to hatch. In late 2024, the Bald Eagle was officially made the national bird of the United States.

Bald eagles are monogamous birds that can live for 20 to 30 years, constructing the largest nests of any North American bird. These nests, often reused year after year, grow as the eagles add new materials, sometimes weighing up to a ton and measuring 13 feet deep. Once nearly extinct due to habitat loss and pesticide use, bald eagles have made a remarkable recovery but still face ongoing threats. Understanding why the WTARS eagles' egg was non-viable in 2023 is crucial for addressing local threats to raptors, including industrial runoff contamination, lead poisoning from spent ammunition, pesticide exposure, and continued habitat loss. Furthermore, environmental stressors, such as extreme weather conditions, may affect egg development during incubation, while human disturbances near nest sites can lead to stress, further reducing reproductive success and threatening the long-term survival of eagles in our region.



To study these issues, I use a combination of advanced tools and field techniques. One fascinating method involves analyzing raptor pellets. A pellet is a compact mass of indigestible materials—such as fur, bones, and feathers—that birds of prey regurgitate after feeding. Dissecting these pellets provides invaluable information about a raptor's diet and hunting behaviors, offering a window into the prey species they rely on.



In addition to pellet analysis, I use a camera with a zoom lens to capture detailed images for species identification and behavioral observations, binoculars for tracking raptors in the field, GIS spatial analysis, and Google Earth for aerial imaging to examine habitat characteristics and potential feeding areas. Field guides ensure accurate species verification, while my skills in aging and sexing individuals enhance my understanding of population dynamics and breeding success.



Beyond research, educating the community is crucial to protecting raptors. Sharing information about the federal laws safeguarding eagle nests and emphasizing the importance of minimizing disturbances helps ensure the long-term survival of these majestic birds. In addition, safely witnessing the awe-inspiring sight of bald eagles in the wild can inspire a deep sense of responsibility and a desire to preserve them for future generations.

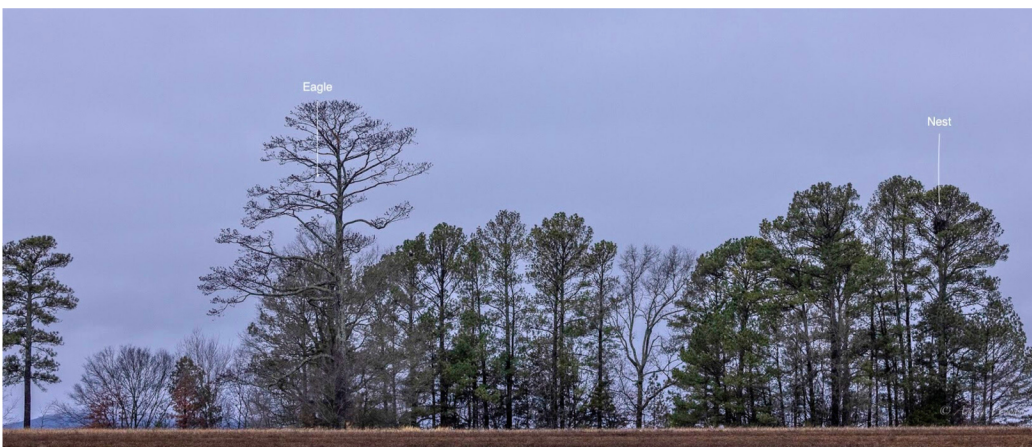




I am closely monitoring the WTARS eagles' nest this winter, although the outcome remains uncertain. If the pair successfully hatches an egg, a fledgling—an immature bird that has recently grown its flight feathers and is ready to leave the nest—could take its first flight as early as late spring or early summer. Observing this process will provide valuable insight into the reproductive success of this nest. On the morning of January 9th, 2025, I noted the female bald eagle flying to the nest, perhaps indicating the presence of an egg. She flew in and out of the nest several times. We are observing the eagle to see if she is bringing food to the nest.

Winter at WTARS offers a unique opportunity to witness the beauty and importance of the birds of prey that migrate through the area. Safeguarding these raptors is crucial in maintaining a healthy, balanced ecosystem for future generations to enjoy.

If you're passionate about wildlife or want to learn about the WTARS raptors, consider joining the Alabama A&M University Student Chapter of The Wildlife Society. Scan the QR code below to get involved!



Scan for more info
about TWS

WANT TO KNOW MORE?

>>> INTERNATIONAL CRANE FOUNDATION

Contact Olivia Burkholz
oburkolz@savingcranes.org

>>> THE WILDLIFE SOCIETY

Contact Dr. William Stone
william.stone@aamu.edu
ext. 4248

>>> ENVIRONMENTAL SCIENCE CLUB

Contact Dr. Elica Moss
elica.moss@aamu.edu
ext. 8219

>>> FIREDAWGS

Contact Jeremy Whigham
jeremy.whigham@aamu.edu
ext. 4220

>>> BALD EAGLE PROJECT

Contact Dr. William Stone
william.stone@aamu.edu
ext. 4248

CONTACT
NRESNEWSLETTER@AAMU.EDU
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SHARED!

