

School of Forestry & Wildlife Sciences

FEATURE STORY

Faculty contributes to updated Audubon book highlighting North American viviparous quadrupeds pg.6



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SFWS NEWS • Summer 2018

Working with Nature for Society's Well Being

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Upcoming Events

Scholarship Ceremony and Dinner, August 25
Fall Icebreaker and Cookout, August 29
Fall Family Weekend Open House, September 28
Homecoming Barbecue, September 29



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2018 Advisory Council Meeting



Wildlife Sciences Study Abroad in Africa

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Spring Graduation



2018 Spring Awards





A Message from the Dean

Dear Alumni and Friends:

In this issue, it is our pleasure to share exciting new developments with you about the School, its faculty, and students. As you will learn, we have launched several new undergraduate degrees and developed a series of online graduate certificate programs, including restoration ecology and forest finance and investments. We are also moving forward with the One Health graduate certificate and the wildlife enterprise management degree, with enrollment beginning in fall 2019, pending approval.

Our research is improving timber harvesting and forestry operations, developing sustainable products from forest biomass, and discovering solutions to many of today's most critical challenges facing our wildlife and natural landscapes such as drought, habitat loss, pests, and invasive species. Finally, our outreach and Extension programs are serving to impart this science-based information to advance the well-being and business interests of our citizens and industries.

We are pleased to report we have surpassed the *Because This Is Auburn – A Campaign for Auburn University* development goal by 29 percent. These funds are improving natural resource education for our students and providing greater opportunities for faculty development. They are also allowing us to make significant improvements to our facilities.

Finally, we continue to strengthen the school's brand and join with Auburn to showcase our programs and elevate the university's reputation and ranking among peer institutions. We thank you sincerely for your support of these initiatives and look forward to sharing the details of these achievements within the summer issue of SFWS News.

Janaki R.R. Alavalapati

War Eagle!

Best regards,

Dean Janaki R.R. Alavalapati

Graduate Student SPOTLIGHT



SARA BOLDS Wildlife Sciences

Appeal of Auburn research lab leads graduate student to researching the impacts of wild pig populations

by Maggie Smith

For Sara Bolds, the SFWS seemed like the right fit for graduate school from the very beginning.

"Of all the schools I looked at for graduate school, Auburn's really stood out to me," said Bolds, a graduate student in wildlife sciences.

One of the primary reasons Bolds chose Auburn was to work in a research lab focused on invasive species. She decided to contact SFWS Professor Stephen Ditchkoff about working in his research lab studying the impacts of wild pigs on forested watersheds.

"I'm studying a population of wild pigs that's at a privately owned plantation," Bolds said. "I am looking at this population because they are very destructive to the land and are not native to the area."

Bolds said her team is collecting water and soil samples to look at the erosion that the pigs may be causing in the watershed areas.

Even though Bolds isn't too far along in her research project yet, she is already finding out some of the consequences of having a wild pig population in the area. "We are already seeing signs that wild

pigs are introducing a lot of *E. coli* to the watersheds," Bolds said.

Collecting data from the research area is what Bolds most looks forward to. "My favorite part of doing research is going over all the data. We collect it and then we look at it to see what's going on and try to piece together the puzzle and I think that's really cool," she said.

Because Bolds one day

wants to work for a federal agency primarily working with invasive species and doing conservation work, she said that the research she is doing with the SFWS has provided her with invaluable experience.

"It's given me a lot of experience working with invasive species. I'm really interested in invasive species ecology and conservation biology, and this research will help predict how ecosystems will change long-term if these animals have a continued presence," she said.

What Bolds loves most about Auburn is that everyone is friendly and eager to help others. "My advisory committee helped me a lot by being supportive and by introducing me to other people in my field and by giving me research opportunities that I would not have been able to have on my own, so I am very fortunate," she said.

Because working in a research lab has been so beneficial to her, Bolds encourages other graduate and undergraduate students to be a part of one as well. "I was involved in a research lab as an undergrad as well, and I believe it really helped prepare me for graduate school, so I would definitely recommend it."



"My favorite part of doing research is going over all the data. We collect it and then we look at it to see what's going on and try to piece together the puzzle and I think that's really cool."

-Sara Bolds

SFWS' new sustainable biomaterials and packaging bachelor's degree has been approved by the state for fall enrollment



Packaging is currently the third largest industry in the world. With an annual growth of 4 percent, it is expected to become a trillion-dollar industry by 2020, inspiring many traditional forest product companies to expand their operations to include biodegradable wood-based packaging. There are also emerging opportunities in plant-based packaging, and the new SFWS degree will position these students to be at the forefront of this economic boom.

The SFWS will launch its new sustainable biomaterials and packaging degree this fall to prepare students for in-demand careers within bio-based industries, such as nanotechnology, packaging, and construction.

Alabama's forest production and processing industry contributes nearly \$21 billion to the state's economy and positions it to be a leader in the development of a sustainable bio-based economy that includes wood processing, chemicals and energy, and bioplastics.

Auburn's new degree in wildlife enterprise management to equip students for careers in outdoor industries

by Charles Martin

Students who enjoy the outdoors will want to explore the SFWS' new degree program that provides the education and skills needed for a variety of careers in the hunting and fishing industries.

"The degree will help develop Auburn students as future leaders in outdoor enterprises nationally and internationally," said Auburn President Steven Leath.

The university's Board of Trustees approved the new wildlife enterprise management degree at its June 8 meeting. Official enrollment will begin in fall 2019 pending approval by the Alabama Commission on Higher Education in December.

Students will take classes across the Auburn campus, primarily in the SFWS, College of Human Sciences, and the Harbert College of Business. Courses will include wildlife management, hotel and restaurant management, accounting, and marketing, among others. In addition to earning the new bachelor's degree, students will earn a minor in business.

"Graduates will hit the ground running with lodges, hunting preserves, fishing resorts, outdoor experience companies, and many other types of consumptive-use businesses," said SFWS Dean Janaki Alavalapati.

According to the Outdoor Industry Association's 2017 report, The Outdoor Recreation Economy, consumer spending on outdoor recreation contributes \$887 billion to the US economy, employs 7.6 million Americans, and generates \$125 billion in tax revenues.

"We hope to attract students from across the country as we bring the outdoors inside the classroom," said Stephen Ditchkoff, the William R. and Fay Ireland Distinguished Professor of Wildlife Ecology and Management in the SFWS. "In five years, we anticipate 25-30 students in each incoming class, for a total of around 120 students in the program."

Auburn is one of two universities in the country to create this type of program; Kansas State University is the other.

"We developed our program based on our interviews with experts in the hunting and fishing lodge management industry," said Mark Smith, the W. Kelly Mosley Environmental Associate Professor of Wildlife Management and specialist with the Alabama Cooperative Extension System. "They gave us a list of skills that the ideal graduate needs."

Ditchkoff and Smith consulted with sporting organizations such as John Burrell's High Adventure Company, a global leader in

"Environmental concerns and evolving technologies are moving companies toward the use of sustainable forest biomaterial for everything from packaging, cosmetics, and automobiles to appliances, pharmaceuticals, and commercial construction," said Janaki Alavalapati, SFWS dean.

These developments are fueling the demand for professionals with diverse expertise in biomass production and operational logistics; conversion processes of products and packaging; and product development, sustainability, and business.

WestRock Company, a leading manufacturer of paper and packaging solutions which employs nearly 45,000 people around the world and is headquartered in Atlanta, provided important insights for the development of Auburn's curriculum.

"Well-balanced graduates with exposure to forest operations, sustainability, and business is a gap I currently see in the student population across a broad spectrum of universities," said Kevin Hudson, WestRock's senior vice president of forest resources.

Hudson feels Auburn's multidisciplinary curriculum will expose students to a suite of technical and social issues that will provide them with a more diverse perspective to apply towards growth

opportunities within the fiber industry.

"Students who possess key balances between the natural resources, marketing, and business sectors will continue to be sought-after commodities leaving the university," Hudson said.

One of the only programs of its kind in the Southeast, this degree program will be collaboratively taught by faculty from the SFWS, and Auburn's colleges of Agriculture, Engineering, Business, and Architecture, Design and Construction.

"This interdisciplinary approach to the curriculum was designed to prepare students for careers within diverse fields that include biomaterials research, packaging manufacturing, product development, marketing, timber harvesting, supply chain management, distribution, and logistics," said SFWS Associate Dean of Academic Affairs Scott Enebak.

The new sustainable biomaterials and packaging bachelor's degree was approved by the Alabama Commission on Higher Education in March and is available for fall 2018 student enrollment. For more information about the degree, visit auburn.edu/sfws or contact the SFWS Office of Student Services at workingwithnature@auburn.edu.



The SFWS is offering a new degree in wildlife enterprise management to prepare students for careers in hunting and fishing industries at lodges, hunting preserves, fishing resorts, outdoor experience companies, and other outdoor-related businesses. (Photo courtesy of High Adventure Company)

outdoor recreation facilities. High Adventure has locations around the globe, from the United States to Argentina to Africa.

"One exciting aspect is that students can apply for internships," Ditchkoff said. "High Adventure has numerous internships ready for our students. We expect to have 75-100 internships each year for our students at High Adventure and other companies. Students on internships will gain valuable, on-the-job training. It is not for class credit, but for experience. Students will not pay tuition during those semesters."

Burrell, president of High Adventure, added, "We can't get qualified employees

fast enough, and that limits the business opportunities we can consider. We are extremely excited about this new major that will shape these young professionals."

Graduates of the Auburn program will be in an excellent position to join outdoor companies, from an individual landowner's operation to larger corporations.

"It could be in a range of places like a single-owner hunting or fishing operation in the southeastern United States, a corporate retreat facility focused on outdoor experiences, or even an African safari outfitter," Smith said.

School of Forestry & Wildlife Sciences

SFWS NEWS • Summer 2018

Dean Janaki R.R. Alavalapati

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The SFWS newsletter is distributed to alumni and friends of the school. Inquiries and suggestions concerning the newsletter should be directed to the school's Office of Communications and Marketing at the address below.

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334-844-9248 • sfwscom@auburn.edu

Giving

Questions concerning the school's development program, including annual and corporate giving, planned gifts, and estate planning, should be directed to Heather Crozier, School of Forestry and Wildlife Sciences Building, 602 Duncan Drive, Auburn, AL 36849. Inquiries may also be made by email to vannhea@auburn.edu or by phone at 334-844-2791.



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Natural Resources Sampling Techniques Course

Recently, students from the Natural Resource Sampling Techniques course (NATR 2020) were at Chewacla State Park to participate in a stream discharge lab. Students worked in teams to compare two different methods of measuring stream flow at Moore's Mill Creek. Course instructors for this lab were Chris Anderson and Becky Barlow.

(Photos provided by natural resources management undergraduate student Jeffrey Hurley.)

Academics & Research



OVER 70 undergraduate and graduate degrees were conferred in 2017

11% INCREASE in enrollment in both undergrad and grad programs



Undergraduate Degrees

- Forestry
 - Forest Engineering Option
 - Geospatial and Environmental Informatics
 - Natural Resources Management
 - Sustainable Biomaterials and Packaging
 - Wildlife Ecology and Management
 - Wildlife Sciences – Pre-vet Concentration
 - Wildlife Enterprise Management*
- *Pending ACHE approval, enrollment will begin fall 2019

Undergraduate Minors

- Natural Resource Ecology
- Nature-based Recreation
- Urban Environmental Sciences
- Watershed Sciences

Graduate Degrees

- Forestry – MNR, MS, PhD
- Natural Resources – MNR, MS
- Wildlife Sciences – MS, PhD

Online Graduate Certificates

- Forestry Finance and Investments
 - Restoration Ecology
 - One Health*
- *Pending ACHE approval, enrollment will begin fall 2019

\$270,000
AWARDED ANNUALLY
for merit & financial aid scholarships & fellowships

10%
of SFWS students on the **DEANS LIST**
with 36 of 353 earning a 3.75+ GPA

37 RESEARCH FACULTY

9 Affiliated **RESEARCH CENTERS & Cooperatives**

5.2 PUBLICATIONS
average per faculty member



Extension & Outreach

The economic impact of Extension programs was nearly
12 MILLION

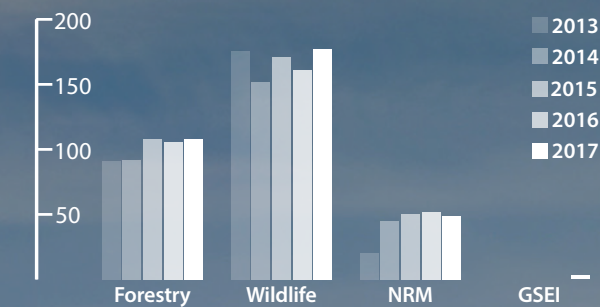
MORE THAN 30,000
people visit Kreher Preserve & Nature Center annually

NEARLY 5,000
children served by Kreher Preserve & Nature Center environmental education programs

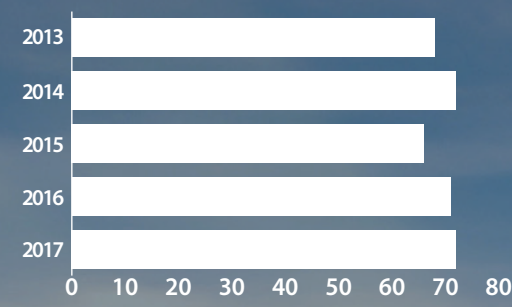
MORE THAN 10,000
people served by Extension forestry, wildlife, and natural resources programs

5,764
user days were recorded by the Dixon Center last year

Undergraduate Enrollment by Degree 2013–17



Graduate Enrollment 2013–17



School of Forestry & Wildlife Sciences

2017 Annual Report

Development



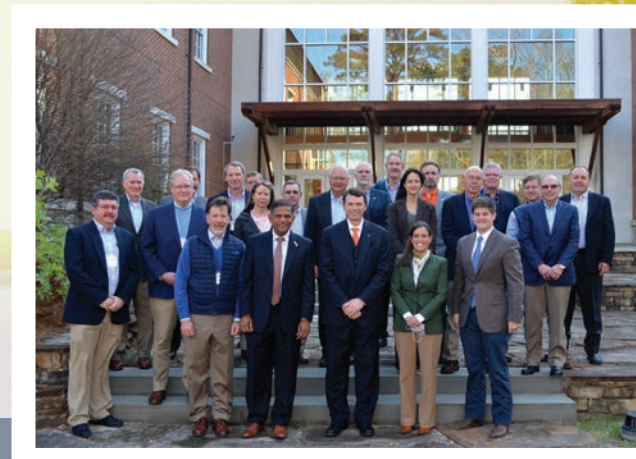
129% OVER GOAL
OF \$19,800,000



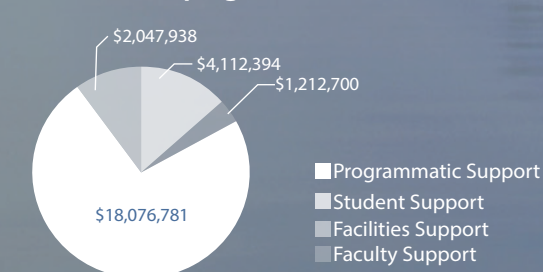
BECAUSE THIS IS AUBURN.

A Campaign for Auburn University

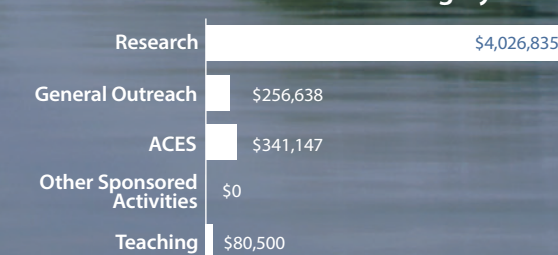
\$25,449,813
CAMPAIGN TOTAL TO DATE



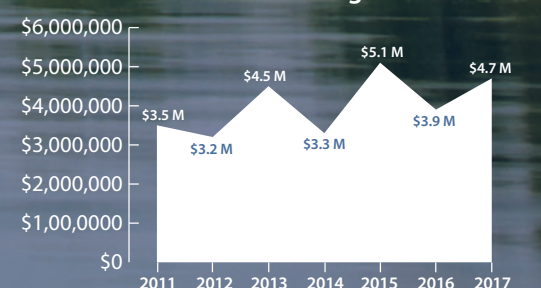
Overall Campaign Totals



Extramural Funding By Area



Total Extramural Funding 2011–2017



Journal into the Unknown World

SFWS faculty contributes to updated Audubon book highlighting North American viviparous quadrupeds

by Maggie Smith

Professors from the School of Forestry and Wildlife Sciences recently contributed to Audubon's *Last Wilderness Journey: The Viviparous Quadrupeds of North America*, a book containing reproductions of John James Audubon's last great natural history work.

The book features a reproduction of all 150 original, hand-colored lithographs from Audubon's color plate book, *Viviparous Quadrupeds of North America*, published in three volumes between 1845 and 1848. It also includes a timeline of Audubon's life and works, a map of his 1843 expedition into the pre-settlement wilderness, and

essays by noted experts in the fields of art history, conservation, and life science.

Audubon's Last Wilderness Journey debuted at the Jule Collins Smith Museum of Fine Art during a Launch and Learn event, where the book's contributors showcased their research and shared their perspectives on the project. To accompany the book launch, the museum exhibited the complete collection of artwork from Audubon's *The Viviparous Quadrupeds of North America*.

"The book is a great way to make these prints available to the public while providing updated information about the animals,"

said SFWS Professor and Extension Specialist James Armstrong, one of the contributing authors of *Audubon's Last Wilderness Journey*. Armstrong's role in the book was to describe human and wildlife interactions and how the populations of the various mammals in the book have fluctuated since the 19th century.

Armstrong said many of the mammals Audubon portrays in *Viviparous Quadrupeds of North America*, particularly coyotes, deer, and beavers, had to adapt to changing landscapes in North America since Audubon's time, and are now found in cities as well as rural areas. Changes in the animals' habitats have caused their

populations to fluctuate over the past 150 years.

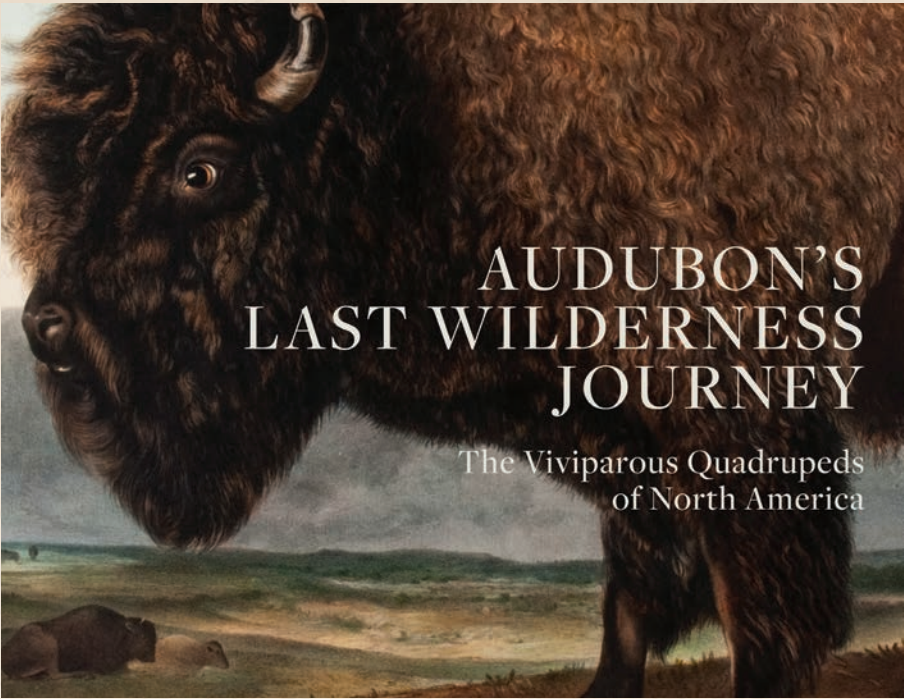
"Our actions need to be carefully planned for the positive and negative effects they will have on our wildlife resources," Armstrong said in *Audubon's Last Wilderness Journey*.

Robert Gitzen, an assistant professor with SFWS, contributed to *Audubon's Last Wilderness Journey* by assessing how Audubon's prints serve as sources of scientific information as well as valuable artistic pieces.

"John James Audubon's paintings and prints remain uniquely relevant to both art and science because of his interweaving of skills and passions as a naturalist and artist," Gitzen said.

"The broad cross-section of North American mammalian diversity beautifully portrayed by Audubon provides an opportunity to inspire new audiences to support conservation efforts of mammals and of the full gamut of our continent's biodiversity."

- Gitzen, pg. 73



"In a time when travel was restricted and people may not have encountered these species, Audubon's illustrations were not just a scientific book, but a journal into the unknown world."

- Zohdy, pg. 49

Audubon's Last Wilderness Journey was published by the Jule Collins Smith Museum of Fine Art and D Giles LTD of London. The book is available for purchase in the Museum Shop, local bookstores, online, and at the Auburn University Marketplace at aub.ie/quads or gilesltd.com.

In addition, Gitzen said that not only do the paintings provide realistic portrayals of the animals, but they provide scientists with valuable information. "What is exciting is Audubon and (John) Bachman introduced multiple species to science through their original text and Audubon's illustrations, such as the black-footed ferret, which over the last several decades has been one of the highest profile conservation success stories of any species in North America," stated Gitzen.

SFWS Professor Christopher Lepczyk wrote an essay for *Audubon's Last Wilderness Journey* that highlights how society's view of wildlife has changed since the original publication of *Viviparous Quadrupeds of North America*.

Lepczyk said that society now views nature and wildlife with a much greater ecological understanding as opposed to the 19th century. Then, most people believed there was an endless abundance of animal species, which led to overhunting of many mammals.

Another contributing author, Associate Professor of Disease Ecology Sarah Zohdy, wrote a section of the book highlighting the modernization of natural science and how the field of study has changed over the past 200 years. She hopes readers will have a greater appreciation for both art history and science.

"I would like the readers to see the images, and really appreciate that many of the illustrations were the first descriptions of those species

and often were the first introduction of those animals to the general public," Zohdy said.

In conjunction with the book launch, National Geographic photographer Joel Sartore visited Auburn to discuss issues affecting wildlife and their habitats. Like Audubon, Sartore's mission is to capture images of the world's rarest animals before they disappear. By creating the National Geographic Photo Ark, Sartore has amassed a collection of nearly 8,000 images of species he has photographed.

Zohdy said Sartore's Photo Ark is a perfect example of how capturing images of wildlife has evolved since Audubon's book was first published. "Joel Sartore is truly a modern-day Audubon," she said.

Audubon's Last Wilderness Journey was recently featured in the prestigious scientific journal, *Nature*, which listed the book as one of the best science publications of this year. Lepczyk's chapter titled, "The Shifting Views of Nature and Wildlife," was also reprinted in the March issue of *Natural History*.

"When Europeans first arrived in North America, most of the animals depicted in Audubon's quadruped paintings were relatively common. However, as the human population began to increase and move westward with the expansion of the frontier, many of the animal populations began to decline."

- Armstrong, pg. 55

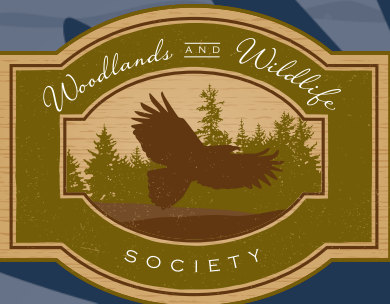


All plates are from the Auburn University Jule Collins Smith Museum of Fine Art's Imperial Folio in the Louise Hauss and David Brent Miller Audubon Collection, a gift of Susan Phillips.

"Thus, it is incumbent upon us as a society to continue harnessing the lessons of science and management in order to ensure that future generations have the wildlife experiences that we have today."

- Lepczyk, pg. 82





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SPOTLIGHT on alumni



CAMERON STOVALL '12

Four years later: Auburn grad reflects on hunting accident

by Abbye Rhodes

Cameron Stovall grew up like most boys in Gadsden, Alabama—hunting, fishing, and enjoying the outdoors whenever he could. He graduated from high school in 2006 and briefly played baseball for a junior college before transferring to Auburn. After a stint as an accounting major, Stovall realized he could study what he loved most: the forest. He became a student in the SFWS with a concentration in procurement. Upon graduating in 2012, Stovall immediately landed a job with a six-figure salary working in the woods every

day. An avid hunter, Stovall's life was truly working out the way he hoped it would. He had just made an offer on a house and bought his dream truck when the unthinkable happened.

"I can't imagine anything that stops you in your tracks like losing your vision," Stovall said.

It was April 22, 2014. Stovall's friends and family all gathered at the hospital and prayed. The shotgun pellets had planted in his chest, shoulders, and most detrimentally, his eyes. Stovall had been turkey hunting with a close friend and two cousins on a friend's farm on a rainy, foggy morning.

"My friend and I went to one side of the farm and my cousins went to the other side," Stovall said. "I needed to go to work so I went to the truck, but ended up passing the truck and ending up on the

other side of the farm, about 400 yards from my cousins. I had communicated with them and knew exactly where they were, but they had moved to get in front of a turkey they had spotted. The turkey left, and suddenly I became the turkey."

More than 150 shotgun pellets hit Stovall's body, only 15 yards away from the 1,350-feet-per-second blast. He was 26 years old at the time.

To read more about Cameron's inspiring story and his progress, visit sfws.auburn.edu/newsletter.



Golden Eagles Reunion

The SFWS recently hosted nearly a dozen alumni of at least 50 years during the annual Golden Eagles Luncheon. Emeritus faculty Dean Richard Brinker, Dean Emmett Thompson, and Professor Glenn Glover were also in attendance. The event provided a venue for the alumni to reconnect with the school and share news about their lives and careers with their fellow graduates.

Attendees included Don Downs '64, Ed Hill '62, Margaret Hill, Billy McIntyre '64, Ginny McIntyre, Gene Sample '54, Norma Sample, Jim Spears '58, Bobbie Spears, Marvin Whitley '64, and Nancy Whitley.



Tiger Giving Day

Thanks to our generous 2018 Tiger Giving Day donors, the SFWS was successful in providing new technology and equipment for the Forest Fire Management class. Our donors played a tremendous role in enhancing the quality of our students' educational experience by providing much-needed fire suits, radios and chest harnesses, backpack pumps, water bags, drip torches, and drones. The SFWS raised \$52,047, surpassing its original \$25,000 goal within 24 hours. With more than 130 different donors, and a 1:1 match up to \$25,000, the success was made possible by the support of students, alumni, and friends of the school.

Donors to the 2018 Tiger Giving Day gave their support to the Fire and Flying Project to help the SFWS improve safety for students who are learning about and becoming certified to conduct prescribed burns.

SPOTLIGHT on alumni



CHARLEY TARVER '68
Founder of Forest Investment Associates

Alumnus creates conservation site for the endangered red-cockaded woodpecker

by Maggie Smith

Charley Tarver has dedicated his life to conserving the longleaf pine ecosystem. So in 1999, when presented with the opportunity to buy a plantation in southwest Georgia, he did not hesitate.

Tarver, a 1968 SFWS alumnus and founder of Forest Investment Associates, has turned his longleaf pine forest into a conservation site for the endangered red-cockaded woodpeckers (RCWs).

"A significant portion of Longleaf Plantation is old growth longleaf forest with an open understory, primarily occupied by wiregrass and other warm-season native grasses and legumes. It is

prime habitat for RCWs," Tarver said.

Tarver's Longleaf Plantation was the third property in Georgia to be enrolled in the US Fish and Wildlife Service Safe Harbor Agreement for red-cockaded woodpeckers in 2001. As of today, Tarver believes there are about a dozen of the woodpeckers living on his property.

According to the US Forest Service, there are only 3,150 active clusters of RCWs left in the southeastern United States.

In 2012, Tarver had the first RCW to occupy a cavity at Longleaf Plantation. He named the bird "Eglin," whose name comes from the US Air Force base near Fort Walton Beach, Florida, from which biologists located the bird before releasing him in southwest Georgia.

Jonathan Burnam, a wildlife biologist for the Georgia Department of Natural Resources, said Tarver's efforts are helping to expand an established RCW population near his property. "Mr. Tarver's willingness to manage the habitat and create clusters

is regionally important in that it provides connectivity with a growing woodpecker population next door," Burnam said.

One of Tarver's favorite experiences from Longleaf Plantation happened this past January when he was able to capture and band the first RCW to fledge at Longleaf. With this bird, he decided to pay homage to his alma mater. "I named him Aubie and his bands are, of course, orange and blue," Tarver said. For Tarver, successfully establishing a viable population isn't the only reward from Longleaf Plantation. "I am also richly rewarded by sharing Longleaf and its RCWs with friends who understand the importance of conservation efforts on private lands," he said.

To read the complete story about Tarver's efforts to conserve the RCW, visit sfws.auburn.edu/newsletter.



President Leath Installation

Dr. Steven Leath was formally installed as Auburn's 19th president on Thursday, March 29, at a ceremony in Auburn Arena.

The installation marked a pivotal moment in Auburn history. Under Dr. Leath's leadership, Auburn is positioned to advance its reputation as a leading land-grant university by expanding economic development, increasing educational access, and advancing social change. Going forward, Auburn's impact will be seen in the research and creative activities we undertake, the graduates we produce, and the meaningful benefits our programs bring to the broader society.

With an emphasis on cultivating the next generation of student leaders, expanding Auburn's role as a partnership university, advancing transformative research and scholarship, and elevating our engagement with business, industry, and government, Dr. Leath is positioning Auburn to meet today's education needs while offering innovative and accessible approaches to instruction, research, and outreach.



Spring Awards Celebration and Dinner

More than 150 students, students' friends and family members, and donors joined faculty and staff to celebrate the awardees. Through the generosity of SFWS alumni and friends, nearly 20 awards were given to students, totaling over \$20,000. For all winners, see our online gallery.



Spring Graduation Ceremony and Reception

The SFWS held its graduation ceremony and reception on Sunday, May 6, where faculty, staff, and families gathered at the EBSCO Atrium to celebrate the spring 2018 graduates.

New Faculty & Staff

Please join us in welcoming new members of the faculty and staff:

- Charles Essien, Postdoctoral Fellow
- Will Harges, Research Assistant III
- Aaron (Sage) Morris, Tech II, Wildlife Program
- Andrew Thornton, Spec IV, Info Tech
- Kimberly Ward, Accountant II

Awards & Recognition

Congratulations to our faculty, staff, alumni, and students on their recent achievements.

The following staff celebrated milestone anniversaries: **Rajesh R. Sawant** (5 years) **Jennifer R. Lolley** (10 years) **Chad Newbolt** (10 years) **Victor E. Jackson** (20 years) **Thomas A. Stokes** (20 years) **Larry R. Stallings** (25 years) **Teresa J. Cannon** (30 years)

Professor **Tom Gallagher** and doctoral student **Marissa Jo Daniel**, First Place Technical Writing Award for 2018 at the Forest Resources Association's Southcentral Region Conference

Alabama Extension Specialist **Nancy Loewenstein**, Project Learning Tree's 2018 Leadership in Education award

Anna Tucker, wildlife sciences doctoral student (Maj. Prof. Conor McGowan), 2018 student presentation contest, American Ornithological Society annual conference, Tucson, Arizona.

Benjamin McKenzie **Alisia Diamond** **Hannah Kelly** **John Mensah** **Xuechun Feng** **Diego Maldonado**, Auburn's This is Research Symposium award winners, (Maj. Profs. are Sarah Zohdy, Lori Eckhardt, and Maria Soledad Peresin)

The Forestry Club, finished 4th overall and 3rd (among 13 schools that participated) in technical events at the 61st Annual Forestry Conclave held at Abraham Baldwin Agricultural College in Tifton, Georgia.

Maria Celeste Iglesias (Maj. Prof. Maria Soledad Peresin), First Place Graduate Student Poster Award, Cellulose and Renewable Materials Division Conference of the American Chemical Society

The Auburn Graduate Council chose SFWS graduate student **Angelina Hayes** (Maj. Prof. Robert Gitzen) as one of Auburn's outstanding master's students for 2017-2018.

Wildlife graduate student **Kent Keene** (Maj. Advisor Asst. Professor William Gulsby), third place at the 41st Annual Meeting of the Southeast Deer Study Group poster competition

Spring 2018 Dean's List

Congratulations to our students who qualified for the Dean's List:

- Zachary Slay, Dylan Taylor, Ansley Wellham, Blaise Linehan, Jace McCauley, Noah Nunyan, Todd Lamb, Andrew Kelly, Crystal Boutwell, Joshua Bradford, Mary Berkstresser, Bailey Morton, Brian Swimelar, Cody Krause, Cullen Anderson, Emma Mires, Gabrielle Ripa, Haley Downey, James Shortnacy, Katherine Stahl, Marissa Plunk, Nicholas Yashko, Olivia Wilkes, Shannon Lambert, Sophia Fox, Tara Durboraw, Tucker Heptinstall, Victoria Harrison, Abigail Morgan, Aida Holland, Allison Dees, Ally Monfort, Julia Lazo, Kirsten Rice, Sara Hankins, Sarah Shaner

SFWS research team discovers Zika-transmitting mosquito species in Alabama

by Maggie Smith

Auburn researchers have discovered the presence of *Aedes aegypti*—the primary mosquito that transmits Zika virus, yellow fever, and other flaviviruses—in Alabama.

After a 26-year absence of the mosquito, SFWS Assistant Professor of Disease Ecology Sarah Zohdy and wildlife sciences undergraduate student Victoria Ashby have discovered the species in Mobile. *Ae. aegypti* was thought to have been eliminated from the state.

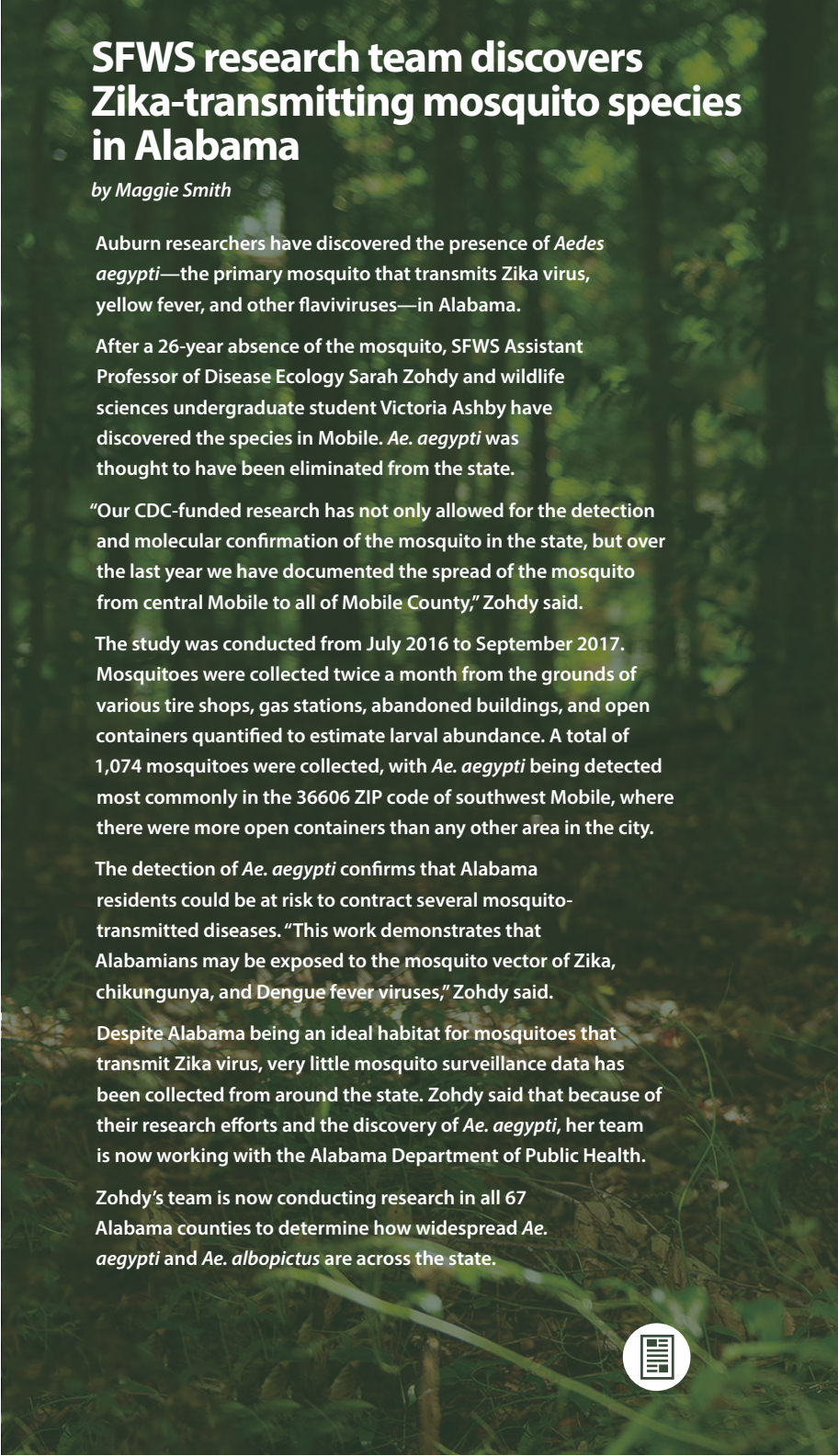
"Our CDC-funded research has not only allowed for the detection and molecular confirmation of the mosquito in the state, but over the last year we have documented the spread of the mosquito from central Mobile to all of Mobile County," Zohdy said.

The study was conducted from July 2016 to September 2017. Mosquitoes were collected twice a month from the grounds of various tire shops, gas stations, abandoned buildings, and open containers quantified to estimate larval abundance. A total of 1,074 mosquitoes were collected, with *Ae. aegypti* being detected most commonly in the 36606 ZIP code of southwest Mobile, where there were more open containers than any other area in the city.

The detection of *Ae. aegypti* confirms that Alabama residents could be at risk to contract several mosquito-transmitted diseases. "This work demonstrates that Alabamians may be exposed to the mosquito vector of Zika, chikungunya, and Dengue fever viruses," Zohdy said.

Despite Alabama being an ideal habitat for mosquitoes that transmit Zika virus, very little mosquito surveillance data has been collected from around the state. Zohdy said that because of their research efforts and the discovery of *Ae. aegypti*, her team is now working with the Alabama Department of Public Health.

Zohdy's team is now conducting research in all 67 Alabama counties to determine how widespread *Ae. aegypti* and *Ae. albopictus* are across the state.



Auburn undergraduate student Victoria Ashby carries a backpack aspirator, similar to a gentle portable vacuum, to collect mosquitoes for molecular research including virus testing. She is part of a SFWS research team investigating the presence of the Zika-carrying *Aedes aegypti* mosquito in Alabama. (Photo by Phillip Smith)

Auburn University study shows growing bear population in northeast Alabama and distinct genetic group near Mobile

by Charles Martin



Auburn researchers record data from a tranquilized black bear.

An Auburn study on the black bear population in Alabama shows a growing number of bears in northeast Alabama and a distinct genetic group in southwest Alabama.

The state has two areas with bear populations: one with an estimated 30 bears centered around Little River Canyon near Fort Payne and another with an estimated 85 bears in Mobile and Washington counties north of Mobile. The latter number could be as high as 165.

SFWS Professor Todd Steury and graduate students Christopher Seals and John Draper conducted the multiyear study and recently published the results in the scientific journal, *PLOS One*. Their article, "Genetic health and population monitoring of two small black bear populations in Alabama, with a regional perspective of genetic diversity and exchange," is available online.

The researchers collected DNA samples from hair left on more than 300 hair snares placed in bear habitats, finding and collecting bear scat using Auburn's EcoDogs program, using game cameras, and tracking bears with radio collars.

The north Alabama black bear population, which originally migrated from north Georgia, has more than doubled in the past four years. "One interesting aspect we observed is that mother bears in north Alabama often have three or four cubs in a litter," Steury said. "Normally a mother bear has only two cubs."

The bears north of Mobile seem to be their own distinct group without any genetic connection to other bear populations. "We found high inbreeding in those bears," Steury said. "They have the lowest genetic diversity of any comparison population in the Southeast."

Previous studies conducted in lab settings have shown low genetic diversity can lead to lower survival rates and lower reproduction rates, according to Draper. However, he said those lab results are very difficult to prove in a wild population.

The study was funded primarily by the State Wildlife Grants program from the Alabama Department of Conservation and Natural Resources, which also helped with fieldwork.

Auburn Earth System study of grazing herbivores' impact on global climate featured in recent Eos Research Spotlight

The work of the SFWS research team, led by alumnus and Solon Dixon Professor Hanqin Tian, was recently the focus of the prestigious *Eos* Research Spotlight.

Eos, a publication of the American Geophysical Union, is a leading news source for information related to the earth and space sciences.

The paper titled, "Integrating Herbivore Population Dynamics into a Global Land Biosphere Model: Plugging Animals into the Earth System," was co-authored by Tian and former doctoral student Shree Dangel, among other Auburn researchers, including Shufen Pan and Jia Yang.

Tian's research team showed that grazing herbivores have a profound impact on carbon dioxide and methane exchanges between earth and its atmosphere, as well as on global climate.

Recently published in the *Journal of Advances in Modeling Earth Systems*, the study highlights the important role that these animals play in their local and global ecosystems.





A blue headed vireo is one of the species often spotted at the birding blind at the Kreher Preserve and Nature Center. (Photo by Lewis Scharpf)

Kreher Preserve and Nature Center added to Alabama Birding Trails

The Alabama Birding Trails has announced that Auburn’s Louise Kreher Forest Ecology Preserve will be designated as an Alabama Birding Trail location as part of the regional Piedmont Valley Birding Trail.

The 120-acre preserve, located just north of Auburn, features five miles of well-marked trails that traverse seven natural bird habitats including pine, oak/hickory, bottomland hardwood, and mixed pine/hardwood. As part of the Saugahatchee Creek Watershed, visitors will also find a stream, small waterfall, pond, and wetland areas.

Approximately 80 different bird species can be found on the property throughout the year, including the belted kingfisher, Mississippi kite, and indigo bunting. The preserve habitat hosts migratory birds in the spring such as warblers, vireos, tanagers, and orioles. Fall and wintering birds such as nuthatches, kinglets, and woodpeckers are frequently observed.

Visitors to the Kreher Preserve are also able to observe various species of raptors including hawks, owls, and vultures. Nesting bald eagles are present on nearby properties and are frequently observed flying into and over the preserve.

“The Kreher Preserve and Nature Center is enjoyed by the university community as well as thousands of locals and visitors every year,”

said Janaki Alavalapati, SFWS dean. “We hope that by adding it to the Alabama Birding Trail, even more families will be exposed to the opportunity to enjoy this unique discovery center with its miles of beautiful trails, natural habitats, and educational programs.”

Preliminary findings from the US Fish and Wildlife Service’s 2016 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation estimates that in 2016, more than 101 million Americans—nearly 40 percent of the US population—participates in some form of fishing, hunting, or other wildlife-associated recreation such as birdwatching or outdoor photography.

"The economic impact of outdoor and wildlife-related recreation is a boon for the US economy, representing nearly 1 percent of the gross domestic product," said John Wild, president of the Auburn-Opelika Tourism Bureau.



Alabama Jr. MANRRS Leadership Institute provides opportunity for students to discover agriculture, natural resources fields

by Maggie Smith



At the first Alabama Jr. MANRRS Leadership Institute, panelists led a discussion titled, “It’s all Related,” which exposed students to the diversity of people, backgrounds, and career paths found within forestry and natural resource-based fields. Panelists pictured at the front of the room are, from left, moderator Jodie Kenney, SFWS director of student services, and panelists Dana Little of Weyerhaeuser Corp., Kenneth Day of the US Army Corps of Engineers, Sylvia Staples with the US Forest Service, and Ron Brown from Weyerhaeuser Corp.

Auburn is helping minority youth to discover firsthand how agriculture, engineering, technology, and natural resources relate to the world around them and experience the excitement of academic excellence, leadership, technical development, and teamwork.

Attended by 132 students from 40 schools located across the state, the SFWS recently hosted the first Alabama Jr. Minorities in Agriculture, Natural Resources, and Related Sciences Leadership Institute, or MANRRS, to stimulate interest in science, technology, engineering, agricultural, and mathematics fields.

MANRRS is a national program open to all students with chapters located at colleges and universities throughout the country. Created to support long-term academic success and leadership development of minorities, the Jr. MANRRS program serves to encourage junior high and high school students to attend college while providing opportunities for students to explore careers and foster a professional network.

For those minority students wishing to pursue

forestry and natural resources management degrees at Auburn, the SFWS offers generous scholarships through the African American Alumni Endowed Scholarship and the Resource Management Service Annual Scholarship.

Brenda Allen, SFWS assistant professor of urban forestry and faculty advisor for Auburn’s MANRRS and Jr. MANRRS, said she believes the program is a good way to teach and strengthen leadership skills in students that can be used in all aspects of their lives. “At the same time we are also introducing them to the STEM disciplines,” said Allen.

The program was made possible with the support of LaRay Martin Transportation, Marcus Washington, Toyota Motor Manufacturing of Alabama, USDA Veterinary Services, Weyerhaeuser, and other major sponsors, including the College of Agriculture and SFWS.

Exhibitors who participated in the event included Auburn’s Office of Admissions, Outreach, College of Agriculture, College of Sciences and Mathematics, and the American Institute of Certified Public Accountants, Army Corp of Engineers, and the US Forest Service.

Dixon Center chosen for national Wildland Firefighter Apprenticeship Program, first academy in the eastern US

For the first time in its history, the national Wildland Firefighter Apprenticeship Program (WFAP) is providing training in the eastern US at the Auburn Solon Dixon Forestry Education Center.

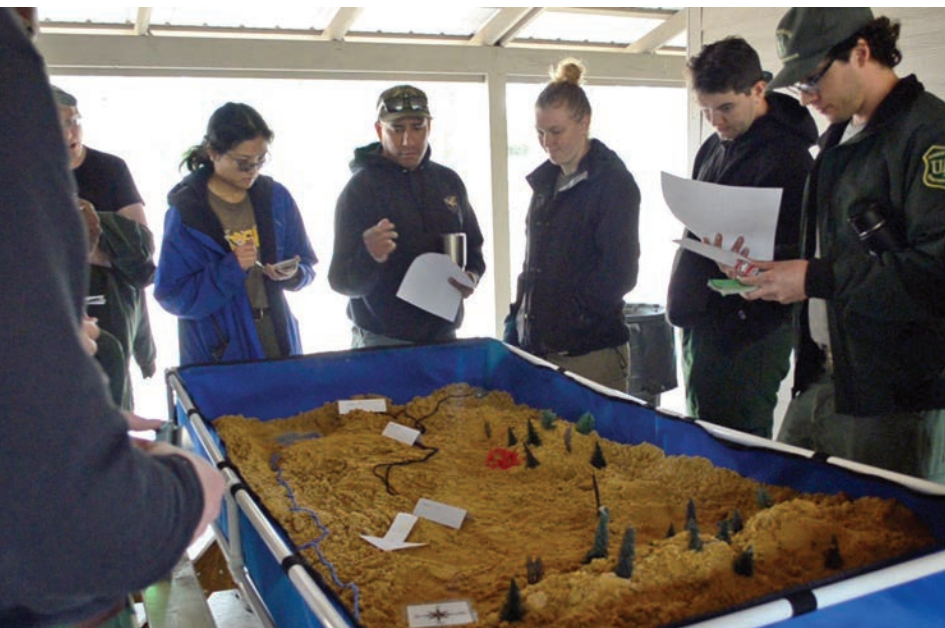
In early February, 48 wildland firefighter apprentices gathered for the first WFAP academy at the Dixon Center. They attended classes taught by seasoned fire experts about fire behavior, fire suppression tactics, weather, safety, leadership, risk management, and incident command.

Firefighter apprentices also gained hands-on field experience with situational awareness and tactical decision-making, while practicing safety and teamwork skills.

Participating agencies include the US

Forest Service, US Fish and Wildlife Service, the National Park Service, Bureau of Land Management, and Bureau of Indian Affairs.

“The center is really ideal for this type of long-term immersive training,” said Janaki Alavalapati, SFWS dean. “Once a group arrives, all of their needs can be met without leaving the property. This helps students to focus for longer periods, while reducing travel expenses—all things that ultimately lower training costs.”



Wildland Firefighter Apprenticeship Program instructors use a sand table to teach and evaluate tactical decision-making skills. The table allows the firefighters to recreate a fire scenario to test scenarios or to reevaluate the tactics and strategies that were used during a previous incident or training exercise.