ROB AND BESSIE WELDER WILDLIFE FOUNDATION

2025 ANNUAL REPORT

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VISION

A future where every generation is connected to nature, guided by science, and empowered to conserve the wild heritage of South Texas and beyond.

MISSION

The Rob and Bessie Welder Wildlife Foundation fosters an appreciation for natural resources by advancing wildlife conservation through research, education, and land stewardship- connecting people to nature and protecting it for future generations.

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MESSAGE FROM THE CEO

DALE JAMES, PH.D.

Dear Friends, Supporters, and Partners in Conservation,

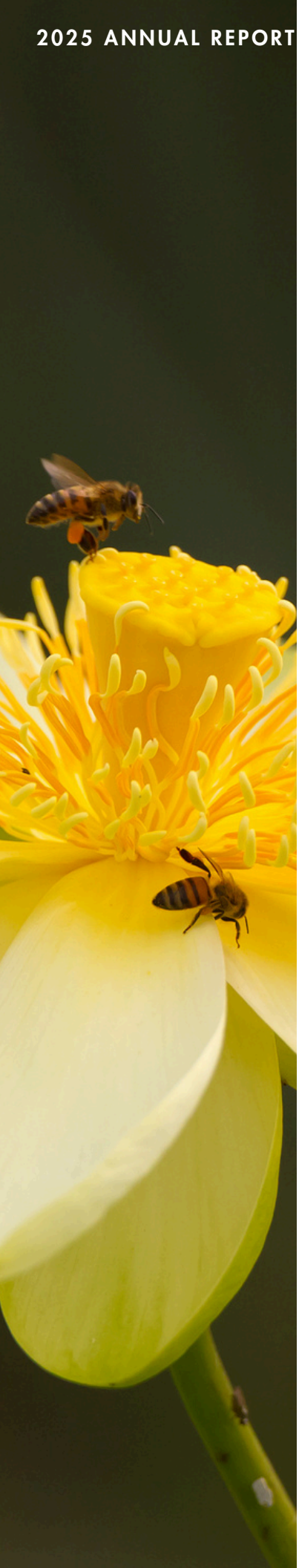
As I begin my fourth year leading the Foundation, I'm reminded of how defining the first three to five years are in shaping an organization's direction, culture, and long-term momentum. This is the period when vision becomes reality, leadership solidifies, and the foundations for lasting growth take shape. For Welder, 2025 truly reflects that truth, a year marked by renewal, progress, and intentional investment in both the land we steward and the people who share in its care.

Renewal is woven into the very fabric of this place as seen in the changing seasons, the return of migrating birds, and the resilience of the land itself. That same spirit guided our work throughout 2025, shaping our decisions, our priorities, and our vision for the future. Together, these themes of renewal and steady growth set the stage for the work that defined the year, work that strengthens our facilities, revitalizes our landscape, expands our educational reach, and deepens our commitment to the broader community of life that calls this place home.

Our role as a conservation partner also grew in meaningful ways this past year. In 2025, the Foundation was honored to host the Gulf Coast Joint Venture Science Team and Management Board, along with field engagements and meetings with Quail Forever, Delta Waterfowl, the Gulf Coast Prairies Practitioners' Forum, and the Texas Conservation Alliance. Welder's landscape, facilities, and scientific heritage make it a natural gathering place for organizations working to advance habitat conservation across the region. By convening these partners, contributing to shared priorities, and offering a neutral space for collaboration, we help strengthen the broader conservation community of which we are a part. These partnerships elevate the visibility of the Foundation and demonstrate our commitment to being an active, dependable, and forward-looking ally in the success of conservation efforts across the Gulf Coast and beyond.

"The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals."

—Aldo Leopold



Our facilities saw meaningful enhancements that improved the experience of researchers, educators, and visitors alike. These upgrades are more than infrastructure; they are investments in the next generation of conservation science and outdoor learning, ensuring that the Foundation remains a place where people can study, explore, and connect with the natural world. In doing so, we continue to widen the circle of individuals who understand and value the land's ecological community.

One of the most powerful expressions of renewal this year came through our prescribed fire program. Fire has always been a natural and necessary force on this landscape, shaping habitats and restoring ecological balance. Our burns will revitalize native grasses, improve wildlife habitat, and reinforce our commitment to science-based land stewardship. This work has been strengthened by a Harvey Weil Conservation Grant from the Corpus Christi Rotary Club, which has helped modernize our capacity and expand our educational reach.
As you'll read in Ty Higginbotham's stewardship update, this past year marked a turning point as we began implementing the next generation of management practices across the refuge. Through this work, the land can breathe again, healthier, more diverse, and more resilient, while the next generation learns how to steward it.

We also experienced significant growth in conservation education. More children, families, and adults step outdoors with us, exploring the refuge, learning about wildlife, and discovering the wonder of South Texas ecosystems. These moments of discovery plant the seeds of future conservation leadership and strengthen our role as a trusted resource for hands-on, nature-based learning. Each new learner becomes part of the expanding community Leopold envisioned, one that recognizes its connection to soils, waters, plants, and animals.

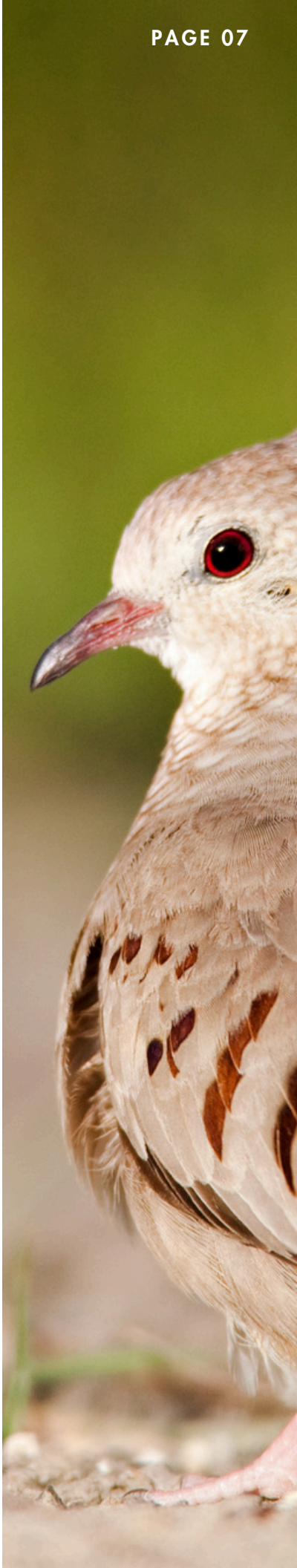
This year also marked an important step in shaping our long-term direction. We initiated a comprehensive strategic planning process to guide the Foundation's next chapter of growth, stewardship, and impact. This plan will help us clarify priorities, strengthen our programs, and ensure that our decisions reflect both our legacy and our aspirations. We look forward to finalizing the plan in 2026 and sharing a clear, mission-driven roadmap for the years ahead.

A highlight of this 2025 report is our Welder Research Fellow Spotlight, featuring former research fellow John Gwaltney, whose career and leadership embody the values of this Foundation.

As CEO of Forestry Suppliers, Inc., John champions the tools and technologies that support wildlife conservation across the country. His continued commitment to supporting our fellowship program demonstrates the lasting impact of the Welder experience. His story reminds us that the seeds planted here grow far beyond our gates, strengthening the conservation community well beyond our fencelines.

We also take great pride in our current cohort of Welder Research Fellows, who bring energy, curiosity, and scientific rigor to their work, whether they are conducting studies on the ranch or advancing Welder-supported research across South Texas and beyond. Their questions challenge us, their discoveries inspire us, and their dedication strengthens the Foundation's legacy of research excellence. In their hands, the land ethic becomes lived practice, extending Welder's scientific community into the broader landscapes where their work unfolds. Mentoring these emerging scientists is one of the most rewarding parts of our work, and we look forward to showcasing their accomplishments—and welcoming former research fellows, partners, and supporters—at our 2026 Welder Research Symposium, where the next generation of conservation science will be on full display.

2025 also brought a meaningful moment of reflection and connection to our past. We were honored to welcome the family of Caleb Glazener, our former Assistant Director and the second Director of the Foundation. Though Caleb has since passed, his daughter-in-law, grandson, and wife visited the Foundation to reconnect with the place he helped shape so profoundly. During their visit, they returned a display case that had been presented to Caleb at his retirement by former Welder research students (now showcased in the memorial lounge), a gesture that symbolizes both gratitude and continuity. Caleb was instrumental in establishing the operational backbone of the Foundation in its early years, and his family's visit reminds us that Welder's strength rests not only in the land we steward but in the people whose dedication built the foundation we continue to grow upon.



None of the Foundation's programs, activities, successes, or progress is possible without the dedication of our staff and trustees, and the many donors, partners, and volunteers who form our larger conservation community. Your support fuels our mission and strengthens the legacy entrusted to us by Robert H. Welder. We are grateful for every hour, every contribution, and every shared belief in the importance of conservation, education, and stewardship.

As we look ahead to 2026, we do so with optimism and purpose. The work before us is meaningful, and while the conservation challenges ahead are great, so too are the opportunities to meet them with science, creativity, and collaboration.

Together, we will continue to steward this wonderful "Eden on the Aransas," inspire future generations, and advance the research and education that define the Welder Wildlife Foundation, continuing to enlarge the community of care that Leopold so wisely described.

With gratitude and stewardship,

LAND STEWARDSHIP AND INFRASTRUCTURE UPDATE

TY HIGGINBOTHAM

2025 was a big year for the Land Stewardship and Infrastructure team, and we have a lot to cover in this update! Before we dive into this past year's accomplishments, I would like to first thank our donors, volunteers, and partners who helped us achieve everything this year. Without their support and collaboration, reports like this wouldn't be as exciting.

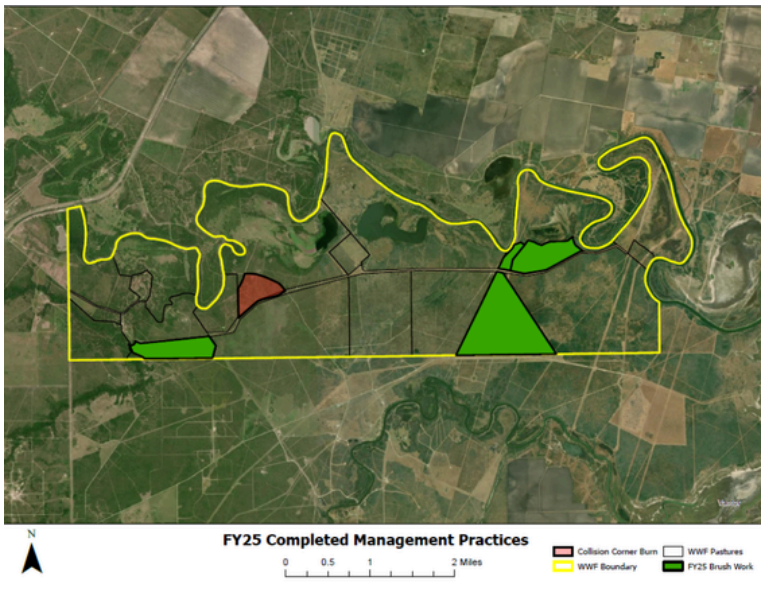
Last year's update, I talked a lot about the new management practices we will be implementing in the coming years on the refuge, and I am excited to be able to say we started implementing those practices. Starting with prescribed fire, we were awarded a Harvey Weil Grant, allowing us to update our equipment for use as a management tool, as well as an education tool for university students across Texas. Staff training started early last year with a prescribed fire basics course taught in the classroom, along with equipment training in our parking lot. Continuing with new equipment, we purchased a Kubota M6 tractor with attachments late last year, which allowed us to start implementing fire breaks across the refuge. Even with getting the tractor late and having multiple rain delays, we were able to burn 2 small demonstration units in headquarters and one 100-acre unit in Pollito before the end of the year, with 593 acres prepped going into 2026. We also utilized Partners for Fish and Wildlife funds through the U.S. Fish and Wildlife Service and Quail Forever to treat 729 acres of brush across 3 different pastures on the refuge. These efforts have totaled 836 acres of habitat improvements across the refuge since August, and we are currently working on installing 7 new cattle troughs so we can start effectively implementing prescribed grazing in 2026. I want to end this section of our update by letting everyone know we have revised the Land Stewardship page on our website to give better insight into how management will be moving forward

In last year's infrastructure update, our biggest priorities going into 2025 were to remodel Residence 2 and the Rotunda, and we accomplished both goals and more. The Residence 2 remodel started in early February and ended in mid-May, encompassing modernizing everything within the residence, from paint to septic.

Shortly after finishing Residence 2, we started working on the Rotunda remodel, which finished in August.

For anyone who has ever been to one of our events, which we put on or host every year, knows just how important the Rotunda is to this Foundation. We did not do a full remodel, but we were able to re-paint the entire building, install new screening, update bathroom fixtures, and repair kitchen cabinets, among other things. There are a few items left in the Rotunda that we still have planned to update over time as funds allow, but the improvements made this year gave new life to an integral part of what we do here. Intermixed throughout the year, in between larger projects, we tackled some vital smaller projects across our facilities. Some of the more notable ones are repairing internal and external wall damage from last year's releveling project. The Memorial Hall and museum internal cracks were repaired, and everything got a fresh coat of paint, along with the exterior of our Administration. Building. Looking forward to 2026 we have two large infrastructure projects planned, being the releveling of Residence 3 and fully remodeling the Ranch House. We hope to accomplish some smaller projects sprinkled throughout the year as well.

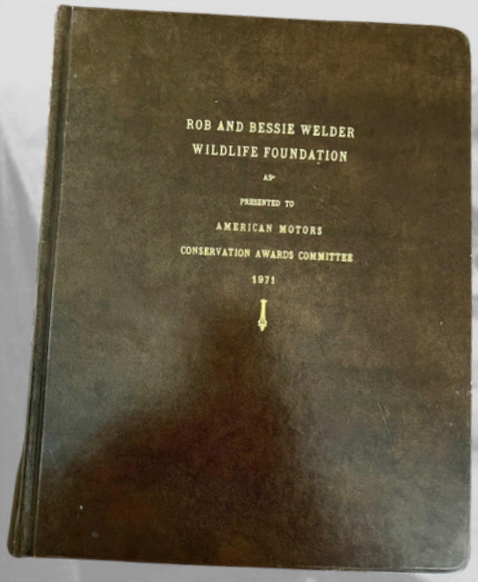
As the Land Stewardship and Infrastructure Manager, it has been an exciting year seeing progress across not only our infrastructure but also on the refuge as we work towards getting the Foundation and its acreage back in shape. We were also able to add two new employees to the land stewardship and infrastructure team, increasing our capacity to do more on-site. 2026 is already looking to be a promising year with more habitat improvements being planned and updates to our infrastructure continuing. I hope everyone has a great year, and I look forward to updating y'all again next year on what our team will accomplish in 2026! ^



THE FOUNDATION
LOOKING BACK
AMERICAN CONSERVATION MOTORS AWARD

In 1971, the Rob & Bessie Welder Wildlife Foundation received one of the nation's most respected conservation honors of its era: the American Motors Conservation Award. Established in the 1940s and continuing through 1981, the award recognized individuals and institutions whose work advanced wildlife conservation, soil and water stewardship, and responsible land management. For the Welder Wildlife Foundation, then only in its second decade, this national recognition affirmed its rising influence in wildlife science, graduate education, and private-lands stewardship.

The prominence of the award is best understood through the stature of the committee that selected its winners. The judging panel included Arthur H. Carhart, a foundational figure in the American wilderness movement and an authority on national parks and forests; C. R. Gutermuth, vice president of the Wildlife Management Institute and a major architect of modern wildlife policy; Charles Callison, executive director of the National Audubon Society and a leading voice for environmental education; Richard H. Pough, director of the Natural Area Council and a pioneering conservationist whose work helped launch The Nature Conservancy; and Dr. A. Starker Leopold, one of the most influential wildlife ecologists of the 20th century and author of the landmark Leopold Report. The awards program was directed by Ed Zern, a nationally known conservation and outdoor sports writer who helped bring conservation issues into mainstream public discourse. Selection by this group placed the Welder Wildlife Foundation among the most respected conservation institutions in the country and represented one of the highest forms of peer recognition available at the time.



The Foundation's recognition in 1971 reflected the strength of its scientific leadership. Dr. Clarence Cottam, Welder's inaugural director, brought national credibility and scientific rigor to the organization beginning in 1955. A former Assistant Director of the U.S. Fish and Wildlife Service and a widely respected wildlife biologist, Cottam championed long-term ecological research and the integration of science into land management. His leadership positioned Welder as a premier training ground for graduate students and a model for private-lands conservation.

Mr. Caleb Glazener

Working alongside him was Caleb Glazener, who served as Assistant Director and later as the Foundation's second Director. Glazener strengthened the operational backbone of the organization, supporting field research, expanding natural history collections, and ensuring that the refuge functioned as a living laboratory for students and scientists. His leadership was recognized nationally when he received the American Motors Conservation Award in 1968 as a professional conservationist, underscoring the caliber of expertise guiding the Foundation during its formative years. Together, Cottam and Glazener built the institutional culture and scientific reputation that made the Foundation's 1971 recognition both possible and deserved.

Although the American Motors Conservation Awards ended in 1981, their legacy continues through several modern equivalents. Today, honors such as The Wildlife Society's Aldo Leopold Award, the National Fish and Wildlife Foundation's national conservation leadership awards, and major federal recognitions from the Department of the Interior occupy similar space in acknowledging transformative contributions to wildlife science and stewardship. Among corporate-sponsored programs, the long-running Chevron Conservation Awards served as the closest successor, continuing the tradition of honoring conservation leaders well into the 2000s.

For the Welder Wildlife Foundation, the 1971 American Motors Conservation Award remains a defining milestone as an early national affirmation of a mission rooted in science, stewardship, and education. It stands as a testament to the enduring legacies of Dr. Clarence Cottam and Caleb Glazener, whose leadership helped establish Welder as one of the nation's most influential wildlife research and training centers and continues to guide the Foundation's commitment to advancing wildlife science, stewarding private lands, and preparing the next generation of conservation leaders. Λ

RESEARCH PROGRAM

The Welder Wildlife Foundation has conducted and supported wildlife conservation research since 1956. Our science activities seek to understand relationships between wildlife species and their habitats and aim to provide solutions for land managers by linking the best available science to on-the-ground implementation. The 7,800-acre Welder Wildlife Foundation Refuge is a biologically diverse area that serves as a research station and "living laboratory" for staff, partner scientists, teachers, and research fellows.

The objectives of the Welder Wildlife Foundation research program are focused on sustaining wildlife populations, the natural habitats they depend on, and the many benefits the natural world bestows on people.

Below are the institutions of several visiting researchers we had the pleasure of working with in 2025:

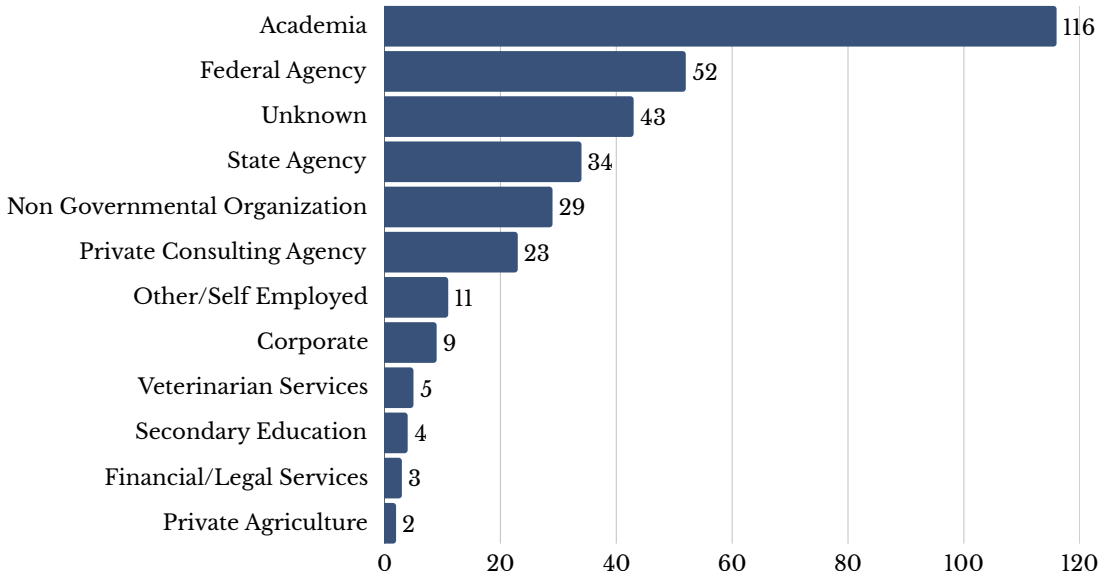
Canadian Museum of Nature
Tarleton State University: Wildlife and Natural Resources
Texas A&M Corpus Christi: Life Sciences
Texas A&M AgriLife Extension Service
Texas Tech University: Natural Resources Management
Virginia Museum of Natural History

ROB and BESSIE WELDER WILDLIFE FOUNDATION
Research | Conservation | Education

WELDER FELLOWSHIP PROGRAM

Since 1956, the Welder Research Fellowship Program has awarded 351 graduate level degrees. These researchers have continued their professional careers with various conservation entities, and the impact they have had, and continue to have, on natural resource conservation is immeasurable. Many have mentored countless individuals as university and college professors and state and federal agency personnel. Below are the numerous roles our Welder Fellows serve in, today:

Welder Wildlife Research Fellows (n=332)



The Aldo Leopold Award is one of the highest awards a conservationist can receive in the natural resource field, and we are incredibly proud to highlight several Welder Fellows and Foundation directors who have received this award:

Aldo Leopold Memorial Award Winners

1955 –Dr. Clarence Cottam (WWF Director)
1994 –Dr. James G. Teer (Welder Fellow & WWF Director)
2006 – Dr. Paul Krausman (Welder Fellow)
2017 – Dr. Winifred Kissler (Welder Fellow)

RESEARCH PUBLICATIONS

(Bold Denotes Welder Research Fellow)

PEER-REVIEWED ARTICLES

Moeller, Christin A., Saren Perales, Wraith Rodriguez, Scott E. Henke, David B. Wester, **Cord B. Eversole** and Sandra Rideout-Hanzak. 2025. Is detectability of Texas Tortoises, Gopherus berlandieri (Agassiz, 187), affected by time of day or temperature in southern Texas? Herpetology Notes 18:267-272.

Moeller, Christin A., Saren Perales, Wraith Rodriguez, Alynn M. Martin, **Cord B. Eversole**, Sandra Rideout-Hanzak, Paul Crump, Clayton D. Hilton and Scott E. Henke. 2025. Surveillance of Mycoplasma agassizii in Texas tortoises (Gopherus berlandieri) for translocation with emphasis on treatment and recovery. Frontiers of Veterinary Science 11: 1525179.

Moeller, Christin A., Juan Elissetche, Saren Perales, Wraith Rodriguez, Scott E. Henke, Sandra Rideout-Hanzak, David B. Wester, Jason Singhurst, and **Cord B. Eversole**. 2025. Habitat preferences of Texas tortoises, Gopherus berlandieri (Agassiz, 1857), in southern Texas, USA. Herpetology Notes 18: 259-265.

Peterson, Miranda R., Hsiao-Hsuan Wang, and William E. Grant. 2025. Spatially explicit modelling of woody plant encroachment: A review of models published from 2013 through 2022, Ecological Modelling 504:111095.

PEER-REVIEWED ARTICLES FROM WELDER SUPPORTED RESEARCH

(Logistical and/or Data Collection Support)

Bowman, E.A., Hawkes, C.V., Jones, N., Plowes, R.M., Martins, D.J. and Gilbert, L.E. 2025. Invasive Buffelgrass, *Cenchrus ciliaris*, Balances Opportunistic Acquisition of Foliar fungi With Host and Environmental Filtering in Its Introduced Range. Molecular Ecology 34(2): e17609

Daily, T. S., C. E. Dannenfelser, M. M. Granger, E. Guest, **O. A. Kost**, S. D. McCay, B. R. L. Olsen, M. P. Riggs, A. Smith, M. E. Marshall, L. A. Martinez, and R. R. Lopez. 2025. Importance of private lands in ESA implementation: 50 years of reflection and conservation. *Wildlife Society Bulletin* 49:e1597.

Donovan, Victoria M., Allie V. Schiltmeyer, Carissa L. Wonkka, Jacob Wagner, Devan A. McGranahan, William E. Rogers, Urs P. Kreuter, and Dirac Twidwell. 2025. High mortality of huisache (Vachellia farnesiana) with extreme fire during drought. Fire 8, no. 7: 242

Foster, Jamie L., Megan K. Clayton, Meagan M. Lesak, Kimberly McCuistion and Trent Teinert. 2025. Combining Management Techniques for Short-Term Reduction of Introduced Old World Bluestems in South Texas Rangelands. Rangeland Ecology & Management 99: 50-57.

RESEARCH PUBLICATIONS

(Bold Denotes Welder Research Fellow)

THESES AND DISSERTATIONS

Castanon, Nadia Nikole. 2025. Investigating the Impact of Invasive Plants and Grazing Practices on Spider Communities in Texas Rangelands. MS Thesis, Tarleton State University.

Dickey, Myra. 2025. Disease Ecology and Genetic Diversity of a Wild Population of Honey Bees (Apis mellifera) in South Texas. Doctoral dissertation, Texas A&M University, College Station .

Everett, Elizabeth. 2025. Microplastics as a Disturbance to Food Web Dynamics in Texas Gulf Coastal Bays. MS Thesis, Texas A&M Corpus Christi, Corpus Christi, Texas.

Kiel, Camryn Marie. 2025. Texas tortoise (Gopherus Berlandieri) Resource Selection, Movement, Thermal Ecology, and Response to Prescribed Fire in Southern Texas. Doctoral dissertation, Texas A&M University, College Station, Texas.

STAFF CO-AUTHORED PUBLICATIONS

Loken, Z., Ringelman, K.M., Mini, A., **James, J.D**. and Mitchell, M. (2026), DuckNet: an open-source deep learning tool for waterfowl species identification in UAV imagery. Remote Sensing Ecological Conservation. https://doi.org/10.1002/rse2.70028

WELDER FELLOW SPOTLIGHT

JOHN GWALTNEY, M.S.

John Gwaltney was first introduced to the Rob and Bessie Welder Wildlife Foundation on a college field trip from Auburn University. A master's student studying wildlife biology at the time, he and a group of classmates were visiting several locations, and luckily, the Rob and Bessie Welder Wildlife Foundation was on that list. They spent about two days at the Refuge, where they had the opportunity to meet Dr. Clarence Cottam and Mr. Caleb Glazener, our first Director and Assistant Director of the Foundation. During their visit, they enjoyed an informative overview of the Refuge, toured the property and facilities, and learned about the research being done at that time. That was John's first exposure to the Rio Grand subspecies of the wild turkey; the wild turkey being the species of focus for his thesis research. In fact, while here, his project, Habitat Preferences of the Eastern Wild Turkey in an Area Under Intensive Even-aged Timber Management in Alabama, was discussed, and he was told to submit a proposal of support through a Welder Fellowship. John did just that and was awarded support for two years that allowed him to finish his research. John shared that "without the support from the Welder Foundation, I am not sure my project could have continued." His research sparked an interest in Assistant Director, Mr. Glazener, as he went to Alabama for a couple of days to see his research firsthand. It was common for Dr. Cottam and Mr. Glazener to be present with our first Welder Fellows and in the field with fellow researchers, as they strived to be mentors to early-career professionals and students, regardless of where they were conducting research. This is a long-standing tradition that continues to this day with the Directors and Assistant Directors of the Foundation.

After finishing his research, John returned to Auburn and began working on his thesis while also teaching a Principles of Wildlife Biology course. Not long after the quarter's end, a position at Forestry Suppliers, Inc. in Jackson, MS, for a product manager became available – this would be the start of an extensive career of providing so much for so many. The position was to find new products for the company to offer, and to help customers decide what products could best assist them with their work, oftentimes, the beloved fieldwork we know all too well. The position entailed, sometimes, simply moving products across professional disciplines – introducing a familiar product in one profession to another.

Although not a traditional job in “wildlife” per se, it still allowed John to stay connected with others in the field of natural resource conservation and to serve many other disciplines as well. The educational and field experiences gained during his master’s research prepared him for his position, and he was introduced to other field biologists, where he found it most rewarding to help find their fieldwork solutions. As many of us know, fieldwork is usually the most difficult part of the job, and without the right equipment, it can become nearly impossible to complete. The support provided in the background is the reason for the overall success of a project, yet is often overlooked. John’s work done behind-the-scenes was crucial to the success of many natural resource professionals and students.

Now, almost 50 years later, John is still with Forestry Suppliers, Inc., currently as Chief Executive Officer (CEO). His hobbies include working on a website he and his wife started in 2006 – SoutheasternFlora.com. This is a free website for the identification of native and naturalized plants in the Southeastern US. The site is intended to be another tool, in addition to floristic keys and field guides, to help professional and non-professional plant enthusiasts. An impressive resource, the site currently has over 2,700 species and over 65,000 photographs. John also likes to spend his time keeping busy with activities like woodworking and metalworking. We are incredibly honored to have John Gwaltney as our Welder Fellow spotlight this year. There is no one right path in the field of conservation. Everyone’s journey looks a little different, but the goal is still the same – to conserve our natural resources for generations to come, and John demonstrates just that. The number of individuals that John has helped in this field through the products he has provided over the years, and the amount of research he has lent a hand to, is quite remarkable and will continue to have a lasting, positive impact on our field. It is amazing to see all the wonderful things our Fellows, both past and current, continue to achieve. We are incredibly proud of the stories they tell and the legacies they leave. John’s story is just one of many that Mr. Robert Hughes Welder hoped would be told through the establishment of this Foundation. Rob’s work, and the work of our founders, continues to live on through all our Fellows, so thank you, Welder Fellows, and thank you, John, for all you have done to support conservation.

DUSTON R. DUFFIE

Texas A&M University-Kingsville, Ph.D.
Scott E. Henke, Ph.D., Major Co-Advisor,
Cord B. Eversole, Ph.D., Major Co-Advisor

RESEARCH FELLOW

Invasive Vegetation Impacts on Herpetofauna and Mammal Populations and Communities

Nonnative and invasive plants are considered a conservation threat to native ecosystems. As ecosystems are invaded, invasive plants can replace native plant species, resulting in changes in the vegetative structure and biodiversity of an area. The objectives of our study are to determine if vegetative invasion and subsequent changes in vegetation structure influence community composition, abundance, and habitat associations of herpetofauna and mammals. To meet these objectives, we surveyed the herpetofauna and small mammal communities at the Welder Wildlife Refuge across three levels of plant invasion (non-invaded, intermediate, and invaded). Additionally, we monitored medium- and large-sized mammal communities at 24 camera stations across the refuge. We documented 31 reptile species, 12 amphibian species, and 11 small mammal species in our six survey plots, while our cameras detected 22 mammal species. For small mammals, our results indicate that relative abundances of grassland-associated species were negatively impacted by increasing woody cover and vegetation height. Similarly, species in both amphibian and reptile communities tended to be more abundant in native and intermediate plots across years, with a greater difference in abundance for grassland-associated species. For small vertebrates, habitat generalist species appeared to be less impacted by vegetation invasion. For species in medium- and large-mammal communities, increasing grass cover negatively impacted habitat use, a result of invasive grasses replacing native bunch grasses. Overall, these results indicate that invasive grasses and encroaching woody shrubs cause bottom-up trophic cascades by altering the habitat use of primary and secondary consumers and impacting higher trophic-level predators.

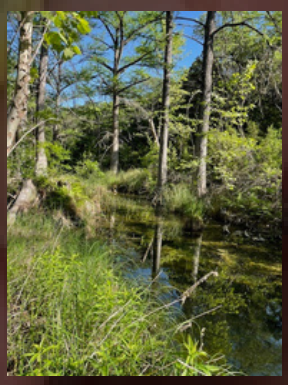
DAWN R. HOUSTON

Texas State University, Ph.D.
Joseph A. Veech, Ph.D., Major Advisor
Completed

RESEARCH FELLOW

Analysis of Stopover Habitat for Migrating Songbirds in Central Texas

Migration is the period of greatest mortality throughout migratory songbirds' annual cycle and has profound effects on breeding success and survivorship. High-quality stopover sites, with abundant food resources, allow for rapid refueling of fat stores, enabling a songbird to continue the next portion of its journey. Identifying where high-quality stopover sites are located along migratory pathways, and how habitat characteristics affect the physiological condition of migratory birds, has implications for the conservation of these species. Central Texas lies squarely in the Central Flyway, yet no research to date has investigated stopover habitat in this region. Our study aims to assess the relative stopover habitat quality of riparian and upland habitats in central Texas by comparing refueling performance, physiological condition, and chronic stress of migratory songbirds using plasma metabolite profiling and other laboratory techniques. Utilizing remote sensing methods, we will also compare fine-scale habitat characteristics between habitat types with regard to migratory songbird abundance. Additionally, we will develop predictive models to assess whether NDVI values, a proxy for vegetation productivity, are strong indicators of high-quality habitat. Finally, we will evaluate arthropod abundance to identify which habitat type may be more useful as a food resource for migrating songbirds. Preliminary results show refueling performance was similar between habitat types; however, fat deposition differed among years and taxa. Variation of fat deposition may be due to the fluctuation of environmental factors affecting food resources. This research will strengthen our knowledge of stopover habitat use and contribute to the overarching goal of facilitating avian conservation.

CAMRYN M. KIEL

Texas A&M University, Ph.D.
Toby J. Hibbitts, Ph.D., Co-Advisor
Andrea Montalvo, Ph.D., Co-Advisor
Completed

RESEARCH FELLOW

Effects of Prescribed Fire on the Texas Tortoise *(Gopherus Berlandieri)*

Prescribed fire has become a popular land management tool to create variety in vegetation, which may benefit wildlife species that utilize multiple cover types. One such wildlife species is the state-threatened Texas tortoise (Gopherus berlandieri), a slow-moving, long-lived ectotherm in southern Texas. The body of literature examining the effects of fire on herpetofauna is growing; however, we found no such data for Texas tortoises. This study assesses the vegetation tortoises' use in southern Texas coastal rangelands, as well as the effects of prescribed fire on their movement, thermal ecology, and survival through fires. On the East Foundation's El Sauz Ranch in Willacy County, we affixed tortoises with GPS loggers, radio transmitters, and temperature loggers to monitor these variables through prescribed fires from 2022 to 2024. This property employs a prescribed fire regime with pastures assigned to summer burns, winter burns, or no burns (control) at varying burn frequencies. We also monitored tortoises before and after fires to quantify fire-induced mortality. We collected data across seasons to determine if the season of fire plays a role. Preliminary analyses show that Texas tortoises use a variety of vegetation types throughout the year, which denotes the importance of heterogeneity for their conservation. Additionally, winter fires may also have a lower risk of fire-caused mortality. This study was designed to inform land managers of prescribed fire practices that mitigate tortoise mortality through maintaining vegetation structure that suits their activity and thermal needs.

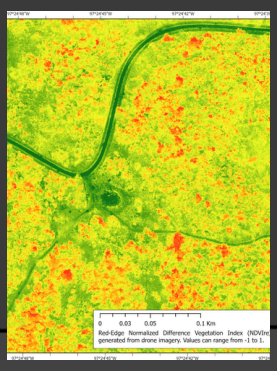
MIRANDA R. PETERSON

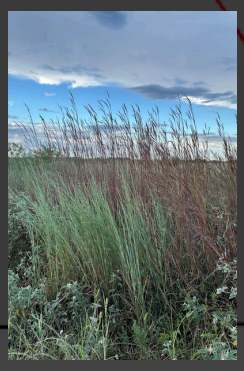
Texas A&M University, Ph.D.
William E. Grant, Ph.D., Major Co-Advisor
Hsiao-Hsuan Wang, Ph.D., Major Co-Advisor

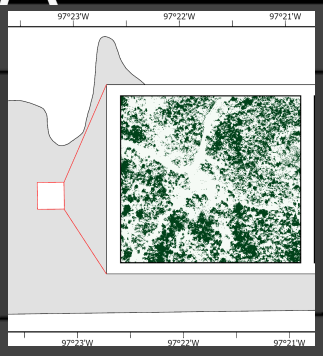
RESEARCH FELLOW

Spatially Explicit Modeling of Woody Plant Encroachment: A Review of Work Published During the Period 2013-2022

Grasslands cover about 40% of the Earth's land and are vital for wildlife, livestock, carbon and water storage, plant genetic conservation, and other ecosystem services. Despite their importance, grasslands are the most threatened and least protected biome. For over a century, woody plant encroachment (WPE) has increasingly threatened grasslands worldwide, leading to significant impacts on biodiversity and ecosystem services. Woody plant encroachment (WPE) has increasingly endangered grasslands for over a century, impacting biodiversity and ecosystem services. Factors driving WPE include fire suppression, overgrazing, elevated CO2 levels, climate change, and altered hydrology. These factors often interact in complex ways to influence encroachment, and their relative importance remains debated. Simulation modeling is a valuable tool for understanding and addressing WPE, as it allows for the separation, identification, and exploration of influencing factors. Given the global threat of WPE in grassland ecosystems, our goal was to simulate potential future WPE dynamics on the WWR in response to different grazing and prescribed fire schemes under different projected climate change scenarios. To explore WPE dynamics on the WWR, we simulated various grazing and prescribed fire strategies under baseline and future climate scenarios, accounting for moderate and worst-case CO2 emissions. Preliminary results show that heavy stocking rates and summer burns consistently reduce grass biomass. However, heavy stocking rates with winter burns decrease biomass only in current climates, while future climates maintain biomass. This model provides a tool to evaluate grassland management practices in the face of WPE.







AMARIS D. SHAMMAA

Texas Tech University, M.S.
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Completed

RESEARCH FELLOW

Community Structure Among Owls on the Texas Coastal Bend Region

Understanding community structure is critical for monitoring owls in rapidly developing landscapes like the Texas Coastal Bend. Four resident species occur in this region, including the Eastern Screech-Owl, American Barn Owl, Barred Owl, and Great Horned Owl; yet they remain among the least studied avian taxa due to their nocturnal and cryptic behavior. We surveyed owls at Welder Wildlife Refuge during the 2024 and 2025 breeding seasons using active call-playback surveys and passive acoustic monitoring (PAM). Occupancy modeling detected no significant relationships between owl species and land cover types. Co-occurrence analyses revealed a positive association between Barred and Great Horned Owls and a negative association between Eastern Screech-Owls and Barred Owls in 2024, with no significant associations in 2025. Active and passive methods showed similar overall efficacy, though species-specific differences in occupancy probability emphasized the importance of method selection. We also screened liver samples from 72 raptors across 24 Texas counties for anticoagulant rodenticides and detected no residues, suggesting minimal current exposure risk. Together, these findings provide baseline ecological and conservation insights for coastal Texas owls.

Photo by Jeff and Angie Birmingham

JONATHAN J. CHOI, J.D.

Duke University, Ph.D.
Patrick N. Halpin, Ph.D., Major Advisor

RESEARCH FELLOW

Offshore Wind Energy Development & Migratory Shorebird Conservation

U.S. federal agencies are accelerating offshore wind energy development in the Gulf of Mexico. Concurrently, researchers are rapidly deploying satellite tracking technology to understand shorebird migration in the face of global population declines. My dissertation uses shorebird tracking data to understand how new offshore wind leases in the Gulf of Mexico may affect migratory shorebird conservation. Working with researchers at the Smithsonian Shorebird Collective, I will create a network model to identify critical stopover sites along the Gulf and their connections to breeding sites in the Arctic and non-breeding sites in Latin America. I will also use my legal background to understand how different management regimes have addressed the problem of industrial use of the ocean and wildlife conservation, beginning with a comparison between British and U.S. approaches to bird conservation and offshore wind development. Thus, my dissertation aims not only to improve our understanding of shorebird ecology but also to directly inform offshore wind energy siting and future legislative and regulatory efforts.

ELLE A. HANCOCK

Sul Ross State University, M.S.
Justin T. French, Ph.D., Major Advisor
Completed

RESEARCH FELLOW

Niche Plasticity of Desert Bighorn Sheep in the Trans-Pecos, Texas

Desert bighorn sheep (Ovis canadensis nelsoni) co-occur with invasive aoudad (Ammotragus lervia) in Trans-Pecos, Texas. Previous work demonstrated that aoudad and desert bighorn niches overlap, raising concern about disease transmission risk and potential for competition. It is essential to understand whether desert bighorn niches can shift to compensate for competition, or if strong niche conservatism gives desert bighorn little capacity to cope with pressures from aoudad. This is particularly important as we seek to manage populations in a drought-prone environment in the face of a novel pathogen, Mycoplasma ovipnuemoniae. I explored variation in niche breadth, position, and configuration among five desert bighorn populations and 12 population years in the Trans-Pecos to determine whether desert bighorn exhibit niche plasticity. I found variation in niche size and position between populations and years. These niche differences exhibited across differing environments indicate a degree of niche plasticity that could help desert bighorn shift their niche to compensate for competition with aoudad. However, individuals with more marginal niches had a higher risk of death, indicating that plasticity is constrained.

ELIZABETH EVERETT

Texas A&M University-Corpus Christi, M.S.
Frauke Seemann, Ph.D., Major Co-Advisor
Adam Mitchell, Ph.D., Major Co-Advisor
Completed

RESEARCH FELLOW

Microplastics as a Disturbance to Food Web Dynamics in Texas Gulf Coastal Bays

Microplastic (MP) bioaccumulation and biomagnification in marine food webs remain poorly understood, particularly regarding trophic transfer from primary consumers to higher trophic levels. While MP trophic transfer has been studied in various marine organisms, including fish, crustaceans, and gelatinous zooplankton, existing research primarily consists of short-term laboratory experiments or field studies that lack longitudinal data. This study addresses this knowledge gap by investigating MP ingestion and transfer in the Gulf of Mexico using the calanoid copepod Acartia tonsa and the scyphozoan jellyfish Stomolophus meleagris. Field samples were collected from 7 bays along the Matagorda Bay region during the months of August 2023, February 2024, June 2024, and October 2024, where seasonal and spatial variability in MP concentrations were observed. Lavaca Bay and East Matagorda Bay exhibited the highest MP levels, particularly in June and October, while Keller, Carancahua, and Tres Palacios Bays had lower and more stable MP concentrations. Copepod ingestion mirrored these trends, with adult A. tonsa displaying higher MP body burdens than nauplii, and peak MP ingestion occurring in East and West Matagorda Bays during October. Laboratory toxicity assessments confirmed the trophic transfer of MPs from A. tonsa to jellyfish, with the body burden of jellyfish increasing over time, and the body burden in copepods increasing with concentration. Additionally, A. tonsa survival declined under sustained MP exposure in the highest concentration. These findings highlight the ecological risks of MP contamination, emphasizing the need for long-term monitoring and mitigation strategies to protect estuarine ecosystems and the species dependent on them.




JAMES N. HELFERICH

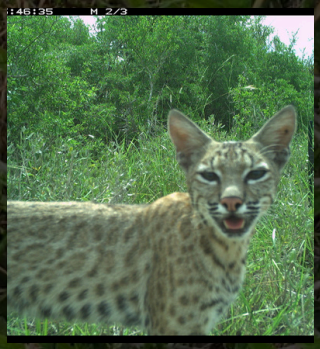
Texas A&M University- Kingsville, Ph.D.

Lisanne S. Petracca, Ph.D. , Major Advisor

RESEARCH FELLOW

Applying Spatially Explicit and Genetic Capture-Recapture for Ocelot Density Estimation

Robust and accurate estimates of population parameters are crucial for effectively managing endangered species. Estimates of abundance and density are needed to monitor populations over time, make comparisons among sites, and assess extinction risk. While analytical advancements such as spatially explicit capture-recapture (SECR) models have generally improved our ability to estimate abundance, there is still a need to identify the most effective methods for monitoring elusive, low-abundance populations over time. We will use SECR to answer questions related to the last remaining populations of the federally listed ocelot (Leopardus pardalis) in the United States while evaluating the efficacy of field and analytic techniques. First, we will use simulations to determine the ideal detector array design under multiple movement strategies, giving researchers insight into how to design trap arrays when movement models are known and unknown. We will utilize camera traps and scat detection dogs to estimate ocelot and bobcat (Lynx rufus) densities for the South Texas ocelot populations. This effort will provide the first multi-site estimate of abundance and allow for the evaluation of camera trap versus scat detection dog methodologies. We will then extrapolate potential density to a region-wide scale using remotely sensed landscape characteristics. Finally, we will use a combined Integrated Population Model-Population Viability Analysis to jointly estimate parameters of Texas ocelot populations and predict future population size and extinction risk under climate and land cover change scenarios. An IPM-PVA will give us insights into the dynamics of ocelot populations through the end of the 21st century and beyond.



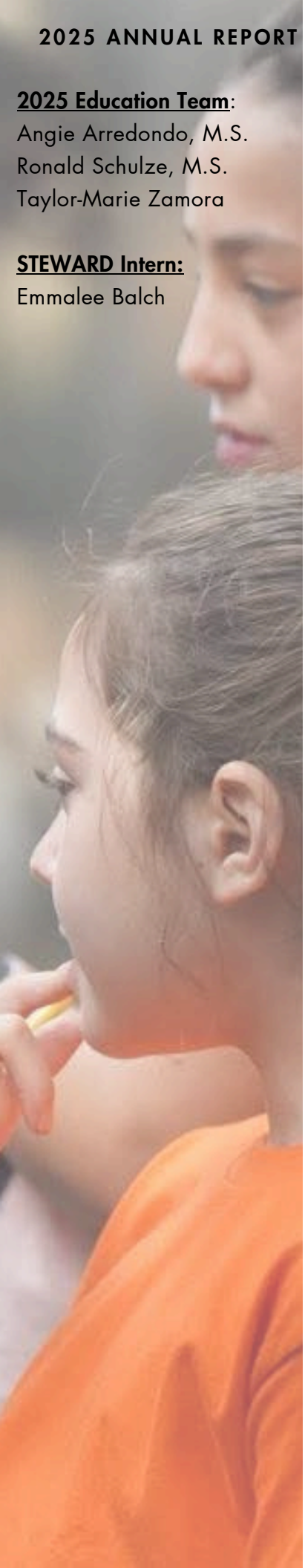
EDUCATION REPORT

ANGIE ARREDONDO, M.S.

Another year has come and gone for the Foundation, and the Education Team is happy to report another successful year. With multiple successful programs under our belts, new programs on the horizon, and many changes throughout year, we're excited for what is to come in 2026. Here's a review of 2025!

The education team sets a goal of reaching 5,000 people annually. With the expansion of our team in mid-2024, we've been able to reach this goal and surpass it- something that had not been achieved since 2016. We once again achieved this goal and surpassed it, reaching 5,031 people in 2025. These numbers are comprised of K-12 on-site education, as well as multiple outreach events, FFA and 4-H competitions, Girl and Boy Scout troops, and many more. In years prior, when only one educator was present, this goal was rarely reached- it's intuitive that with the expansion of our team to two or more, we can certainly cover more ground, visit different communities, complete more projects, and share our mission of wildlife and habitat conservation, good land stewardship practices, and an appreciation for all of our wonderful natural resources.

In addition to our efforts to create fun and engaging opportunities for our community, our education team has also been working tirelessly to create a free and engaging online resource for formal educators in the classroom. Originally, our Rangeland Curriculum, created in 2010, was only available to teachers through in-person teacher workshops. However, with the help of PocketLab, our curriculum is now available nationwide. Working with the PocketLab team, and with so much effort from our educators to our interns, the curriculum will now also feature student-facing activities and is 2024 Science TEKS-aligned. Another fun project our team completed this past year was installing a small pollinator garden at our Education Center.



2025 Education Team:
Angie Arredondo, M.S.
Ronald Schulze, M.S.
Taylor-Marie Zamora

STEWARD Intern:
Emmalee Balch

The garden will be used to demonstrate the important roles pollinators play within our ecosystems and the agricultural industry. They can also show how students can provide important resources for these critical species, right in their own backyards!

Our most exciting project, which began in 2025 and will continue into April of 2026, was working Sinton High School's Aquatic Science class under the direction of Mrs. Cheyanne Garcia-Weir. Classes monitor and survey the health of an ecosystem on-site, utilizing Hughes Lake on the Portilla Ranch, thanks to Mr. Chris Ulrich for access. With the help of the Land Stewardship team and our wonderful volunteers, we have worked with students once a month to collect weather data, complete bird and vegetation surveys, and aquatic and micro invertebrate sampling. Students then analyze the data in class, and over time, should be able to see population trends forming, and evaluate the overall ecosystem health as everything works together. Working with Mrs. Garcia-Weir and Sinton ISD administration, we hope this project will be a successful one that we can continue for years to come.

Our Education Team is constantly working to provide and explore new opportunities to support Rob Welder's vision and mission of the Foundation and his love of the Sinton community. Through our Monthly Newsletter, *Welder Now!,* our activity books, *The Nature Nook*, and more, we are always striving to keep our community and audiences engaged with everything happening around the Refuge.

With 2026 upon us, we are excited to see the changes that come and the opportunities that allow us to uphold Mr. Welder's vision of the Refuge. We'd like to thank our amazing volunteers who help with our educational programming. Without their help, we would not have been able to reach as many students and adults these past few years. Thank you!

VOLUNTEER PROGRAM

Our amazing Welder Volunteers are the reason we can accomplish so much throughout the very busy year. Being such a small staff, we heavily rely upon the efforts dedicated by these amazing individuals. From large field days with 200 students enjoying the refuge, summer camps, prescribed burns, to our Hunting Heritage Program, we would be lost without them.

Because of these amazing individuals, we were able to complete a number of projects in 2025, that have long been overdue. For instance, students from Texas A&M University-Kingsville, joined us and installed two new benches on the Hackberry Motte Trail. With plans to expand on the accessibility of our educational pportunities, this is a task that will continue on to many of our trails in the furture. Another exciting, large-scale project that was also completed this year was the reorganization of our Historical LibraryBooks were rearranged, scientific journals combined, and rare books were added to our Roy Quillin Collection Wing to ensure they stay with us for another 70 years.

Lastly, our Land Stewardship, as mentioned previously has big plans to prescribe burn a number of acres, and several were completed in 2025.o Several volunteers were instrumental in conducting these burns, and maintaing the safety of those involved, and those around us.

Now that the Education Department has expanded, we intend to dedicate more time to keeping volunteers engaged in 2025. This means monthly volunteer workdays to help prepare for upcoming events, updating existing trails, or establishing new things for visitors to enjoy; there is always something to do here on the Refuge. If you would like to become a Welder Volunteer, please visit our website and submit an application or sign up for our monthly newsletter. “Welder Now!

We cannot thank our Welder Volunteers enough for all of their efforts over the years, but a particular thank you to individuals who assisted us with all programs in 2025. Here are just a few of our wonderful volunteers:

Philip Woods
Greg Simmons
Sally Scroggs
Chad Huckabee
Grace Lopez
Sara Jose
Yvette Stewart
Mike Stewart
John Failla
Randy Bissell
Dawn Bissell
Michael Tewes
Chrisita Tewes
Scandra Musalem
Taylor Abshier

Albert Flores
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Colton Allen

Serenity Arredondo
Madison Garvin
Kris Kirkwood
Ray Kirkwood
Clayton Curl
George Chaney
Ryan Gonzalez
Steven “Boot” Chumbley
Brittany Arredondo
Jorge Barrera
Nathaly Garza
Ryan Gonzalez
Kayla Garza
Brock Minton

2025
588
VOLUNTEER HOURS SERVED!

MUSEUM & COLLECTIONS

The term conservation is often extended to resources other than land and wildlife. The Foundation has also been entrusted to conserve a number of other special items including an extensive research library and collection of scientific specimens to be used for educational and research purposes. These collections include:

The Donald Bowman Exhibit
405 Taxidermied Birds
170 species represented

The Roy Quillin Egg Collection
10,000 eggs
400 species represented

Francis Lee Jaques Art Collections
Wildlife murals and dioramas of native flora and fauna

Specimen Collections
Herbarium- 1,400 pressed plants
Avian- 545 species represented
Amphibians and Reptiles- 104 species represented
Mammalian- 61 species represented

Historical Library
24,000 Volumes of Books
Rare text dating back to the 1600s

2025 SUPPORT

Private donations, contributions, and sponsorships are a driving force behind the Welder Wildlife Foundation and our ability to deliver conservation programs. We are grateful for our supporters who give generously through general gifts and/or project-specific contributions. This support develops tomorrow's leaders in conservation science and educates future generations toward growing good stewards of our natural resources. We are thankful to our many partners and friends of the Foundation who make our work possible. ⋀

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Simone Spiess
Dr. Michael Tewes
Hughes Thomas
John Welder V and Family
Jane Wicker
Dr. Marshall and Janna Wiener
Dr. Michael and Lind Vickers
Heath Weaver and Julie Young

Thank you!

Photo by Jeff and Angie Birmingham

GIFTS IN RECOGNITION

In Memory Of:

Charlie Fuller
Dr. Marshall White (Welder Research Fellow)
Marion E. Williams

In Honor Of:

Mac McAndrew
John Welder V
Jane Wicker


Photo by Jeri and Angel Birmingham

RESEARCH & CONSERVATION PROGRAM PARTNERS

The Welder Wildlife Foundation would not be as effective and efficient in delivering our research and education programs without the collaboration and support of our many partners. We aim to engage with public and private conservation professionals whose goals align with our conservation mission and those collaborative partnerships that advance conservation research and education.

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