

UNIVERSITY OF WYOMING BIODIVERSITY INSTITUTE ANNUAL REPORT 2024




Biodiversity
Institute



MISSION:

The Biodiversity Institute fosters the understanding, appreciation and conservation of biological diversity by engaging a broad audience in the scientific process. We work with scientists, resource managers, educators, and the public to offer a unique service to Wyoming, our nation, and the world by facilitating collaborative research projects, synthesizing and disseminating research, distributing grants, and providing educational, outreach, and community science programs for students and the public.

FOLLOW US:

 Facebook: @TheBiodiversityInstitute

 Instagram: @BiodiversityInstitute

 Website: www.wyobiodiversity.org

DONATIONS:

Donations accepted at www.wyobiodiversity.org

THE TEAM:

Brent Ewers, Director

Mason Lee, Senior Project Coordinator

Abbey Morales Eggener, Communications & Marketing Specialist

Associate Director position vacant

ON THE COVER:

A pair of friends enjoy a day snowshoeing. This year's Winter Moose Day was the 10th annual event. Read more on page 23.



2024 BY THE NUMBERS

- 9** Graduate student grants awarded
- 46** Public events hosted
- 8** Wyoming communities visited
- 85** Project and agency partners
- 27** New Wyoming Naturalists trained
- 3,800+** People engaged at in-person events



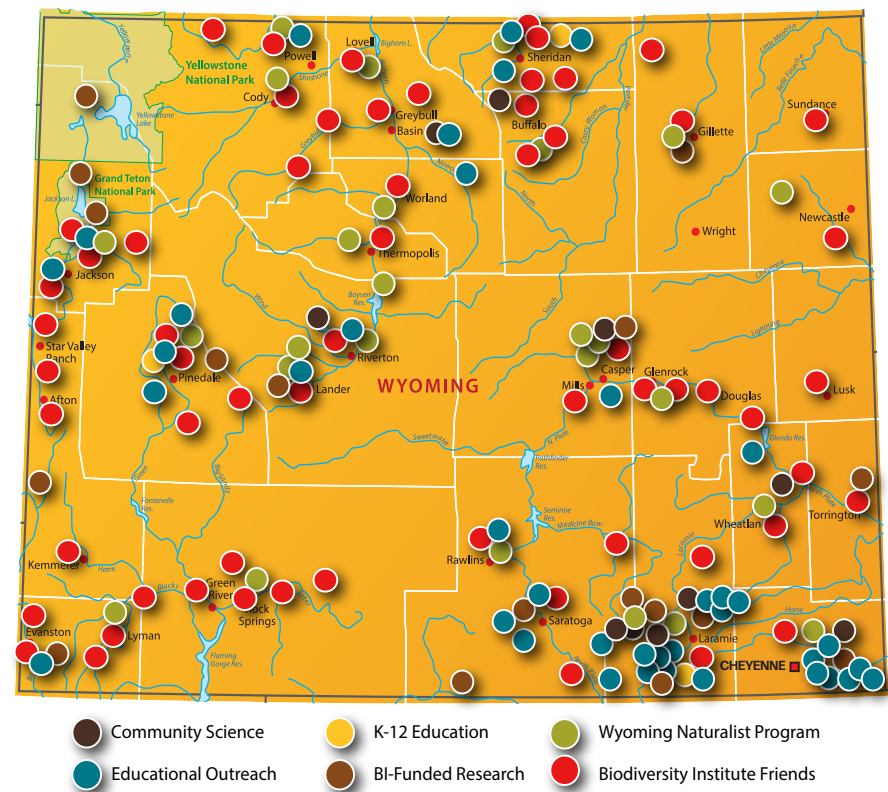
ONLINE GIFT SHOP

Visit our online store for books, field guides, original stickers, coloring books, plant flashcards, and more - each purchase supports Wyoming biodiversity research and outreach.

 www.wyobiodiversity.net

BIODIVERSITY IN ACTION: WYOMING'S 2024 OUTREACH

In 2024, we hosted and participated in nearly 50 events around Wyoming that attracted over 3,800 people. While our programs and events are rooted in Wyoming, they extend beyond state lines to national and global efforts. BI-funded research, partnerships, and educational outreach programs occur in Wyoming and around the world including the world's leading birding hotspot in Soberania National Park, Panama. Through these endeavors, we're building a diverse interconnected network of individuals dedicated to conserving and appreciating Wyoming and the world's biodiversity.



UW BIODIVERSITY INSTITUTE MERGES WITH HAUB SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES

“ We are excited to have the BI back in the Haub School, where our shared commitment to excellence in biodiversity research will enhance our ability to serve the state in the management of our wild and working lands in the communities that value them so dearly. ”

Dr. John Koprowski, Haub School Dean and Wyoming Excellence Chair

The University of Wyoming Biodiversity Institute (BI) has officially merged with the Haub School of Environment and Natural Resources, effective July 1. This move reunites the BI with its original home, aligning it with a department dedicated to addressing environmental challenges through education, research, and community engagement.

The merger brings new opportunities to expand the BI's existing programs while developing new academic certifications and courses for both UW students and the public. With the BI's mission closely aligned with the Haub School's interdisciplinary focus, this partnership will strengthen conservation efforts across Wyoming and beyond. Existing projects, staff, and events will continue, ensuring a seamless transition and greater collaboration in the years ahead.

SNOWY RANGE SCENIC BYWAY BIODIVERSITY IMPACT STUDY

This year we awarded nine UW Master's and Ph.D. students with the Biodiversity Graduate Student Research Enhancement Grants. The students' impactful projects occur all over the world, ranging from threatened birds in the tropics of Panama to 4mm long beetles which could help us better understand physiological limitations. Each student attended our Science Communication Training and has plans to communicate their work through public outreach and digital media to appropriate target audiences or impacted communities.

Among them, UW Master's student, Olivia Leviton, is assessing the impacts upon alpine areas along the Snowy Range Scenic Byway. With an unprecedented local and national rise in outdoor recreation, Olivia is utilizing physical and GIS-based assessments of landscape, vegetation, and wildlife impacts imposed by visitors to campgrounds, parking areas, trailheads, and trails, combined with qualitative surveys of recreationists' experiences.



Pictured: A trail in Medicine Bow National Forest has almost doubled in size and led to devegetation on the edges.



“
Inventorying and assessing the effects of recreation in the area is necessary to... ensure the integrity of the landscape and biodiversity for future generations.

”

- Olivia Leviton, UW Master's Student

This summer, Olivia deployed nine infrared trail counters, six magnetic vehicle counters, interviewed eight field-specific experts, and surveyed visitors to monitor recreation's impact on over 22 miles of alpine trails and popular off-road routes.

Preliminary data revealed heavier use than anticipated. One third of the trail counters registered over 200 visitors per day, while the rest averaged over 100 daily. Parking areas like West Lake Marie saw up to 285 vehicles per day, and road counters showed 740 vehicles passing through the east closure gate daily. Olivia also mapped several miles of social trails in hotspots like Lake Marie and Glacier Lakes, noting significant trail widening, devegetation, and braiding. Many social trails formed due to campsite, overlook, and fishing access. She hopes her results will lead to management adjustments such as increased signage, improved educational outreach, and adjusted tourism advertising agendas to maintain the integrity of the landscape and its biodiversity.

Since 2012, we've awarded 70 grants to UW graduate students conducting cutting-edge biodiversity research to elevate their projects further. To learn more about student projects and how you can support, visit our website today:



www.wyobiodiversity.org



BRIDGING BIODIVERSITY AND CULTURE AT THE 2024 WIND RIVER BIOBLITZ

This year's annual bioblitz was the first ever that took place on the Wind River Reservation! Co-hosted by the UW Biodiversity Institute, Audubon Rockies, and Wyoming State Parks, the event partnered with the Wind River Tribal Buffalo Initiative (WRTBI), along with various partners, to spotlight the unique connection between biodiversity and cultural restoration. The event brought together around 100 participants, including families, elders, biologists, and naturalists, to survey the area's biodiversity and collect data - all of which will stay on the Reservation to increase understanding of the effects of buffalo reintroduction on biodiversity. Throughout the weekend, bioblitzers identified 71 bird, 70 insect, 58 plant, 8 mammal, and 4 reptile species.

A unique highlight of this year's BioBlitz was the opportunity to learn about the buffalo's reintroduction and revitalizing the land and the species that rely on it. We learned about its transformative impact on Shoshone and Arapahoe members, ate traditional food, and

SAVE THE DATES:

June 27-29, 2025: Wyoming BioBlitz at Seminoe State Park.

TBA: Statewide BioBlitz everywhere in Wyoming.

joined in cultural activities. The Wind River BioBlitz exemplified the power of collaboration - bringing people together to build bridges between science, culture, and conservation. It was a moment to connect with the land, the buffalo, and the vibrant communities leading its stewardship into the future. Read more about Wind River Tribal Initiative and their leading efforts at their website: www.windriverbuffalo.org



Pictured: A large group wanders the buffalo pasture on an amphibian and invertebrate survey with UW graduate student experts. Over 100 people spent the weekend at the Wind River Tribal Buffalo Initiative for the annual bioblitz weekend.



CELEBRATING THE GROWTH OF THE WYOMING NATURALIST PROGRAM

The Wyoming Naturalist Program (WNP) continues to thrive, inspiring community members to deepen their connection to Wyoming’s incredible landscapes and biodiversity. Since its launch in 2021, the program has graduated four cohorts, including 27 passionate naturalists in 2024. In the last four years, the Wyoming Naturalists have contributed thousands of volunteer hours to conservation education and service projects across the state.

Coordinated by a collaborative team of state agencies and non-profits, including the Biodiversity Institute, Audubon Rockies, and Wyoming State Parks, the program equips participants with the knowledge and skills to become leaders in protecting Wyoming’s natural resources. With the next cohort set to begin in February 2025, the WNP continues to empower naturalists to make a difference in their communities and beyond.



Learn more about the Wyoming Naturalist Program at our website.

Pictured: Wyoming Naturalists participate in an insect survey with UW Extension Entomologist Scott Schell.

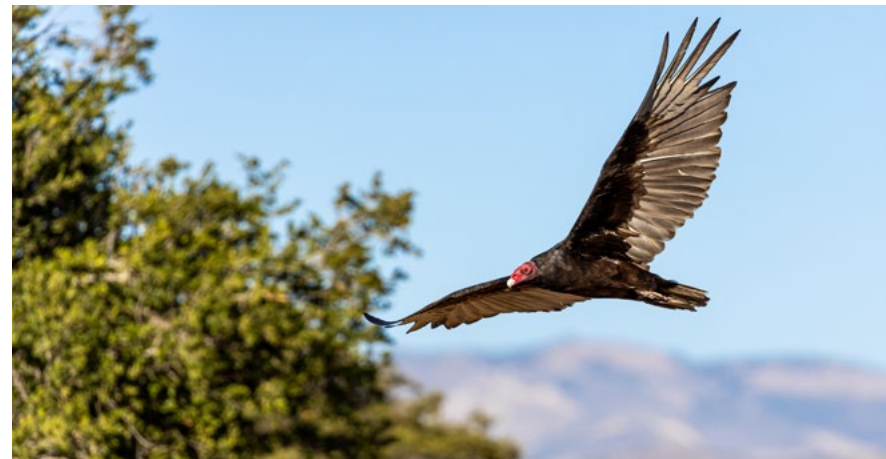
LAUNCHING A NEW STATEWIDE COMMUNITY SCIENCE PROJECT



Whether you’re strolling through the University of Wyoming campus, or venturing anywhere else in Wyoming, you can be part of our new community science project - Vulture Watch Wyoming! Launched this Spring

with the UW Museum of Vertebrates, the goal is to gather population numbers, age demographics, or even breeding habits. Turkey vultures serve a vital role in Wyoming and across the nation as nature’s recyclers by scavenging animal carcasses, keeping our plains, prairies, forests, and foothills clean. They are one of North America’s most widely distributed vultures. Yet despite their huge range, there is little known about them.

With numerous communal roosts scattered across campus and broader Laramie area, we have a unique opportunity to gather valuable data and fill in the gaps in our knowledge. Get involved in this new program from anywhere in the state and report your observation at our website.



DIRECTOR'S LETTER

Dear Friends of Biodiversity,

As Director of the Biodiversity Institute (BI), I am honored to share the highlights of our work over the past year. Our vision is to be a world-class resource for biodiversity research, education, and outreach for Wyoming, the Rocky Mountain region, and beyond. We've continued making significant strides toward this goal through a variety of successful initiatives, including the Wyoming Bioblitz, Wyoming Naturalist Program trainings, K-12 curriculum development, classroom visits, and outdoor biodiversity walks. We also engaged the community through animal conservation ambassador visits, art shows, citizen science programs, and support for student biodiversity research, including graduate student-led Science Cafés.

A major highlight of 2024 was the launch of Vulture Watch Wyoming, a new community science program in collaboration with the UW Vertebrate Museum. This initiative aims to better understand the potential conservation challenges faced by these vital recyclers in our ecosystem. Over the last year, the BI's activities have reached over 3,000 people in person, and our network of BI friends has grown to over 4,000 members.

We also remain committed to supporting student training in both the science of biodiversity conservation and its communication to the public. These students are the future leaders in conservation—whether in state and federal government, private industry, non-profits, or academic and research settings. Their work is vital to advancing our mission.

On July 1, 2024, The BI officially rejoined the UW Haub School of Environment and Natural Resources as our administrative home, after many productive years under the UW Research Economic

Development Division. I am deeply grateful for the leadership of Dean John Koprowski, whose guidance helped make this transition a reality and for the warm welcome we've received from the Haub School community. This strategic shift allows the BI to play a direct role in delivering both credit and non-credit education in the natural history of Wyoming and biodiversity conservation, while continuing to serve our broader mission of bringing UW's biodiversity research to the people of Wyoming, the region, and beyond.

We are excited to roll out new educational opportunities for professionals, volunteers, and current and future UW students over the next two years. Be sure to stay tuned to our BI friends list for updates on these exciting developments.



Brent Ewers
UW Biodiversity Institute Director



“
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FOR BIODIVERSITY
RESEARCH, EDUCATION,
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BEYOND.**
”



OPPORTUNITIES FOR PRIVATE SUPPORT

GIVING DAY

In October, over 60 Friends of Biodiversity from all over the country contributed over \$9,200 to our campaign during UW's Giving Day. Thanks to your generosity during this 24-hour campaign and your support throughout the year, ***we can support 100% of our events and projects through private donations!***

MAJOR GIVING

Major gifts secure a strategic role for excellence in the advancement of biodiversity research, along with naming rights. Donors receive exclusive invitations and contribute to our strategic vision.

DONATIONS

Gifts, of any size, improve our ability to solve grand societal challenges of how biodiversity is generated, maintained, restored, and its impact on ecosystem services and human well-being.

To learn more about donor opportunities, please email beewers@uwyo.edu. To make a gift, please visit our website at www.wyobiodiversity.org

SUPPORT OUR CORE PRIORITY AREAS:

COMMUNITY SCIENCE, EDUCATION & EVENTS:

- Wyoming BioBlitz
- Summer Bat Walks
- K-12 Programs and Tours
- Winter and Summer Moose Day
- Rocky Mountain Amphibian Project
- Wind River Reservation Outreach
- Laramie Salamander Migration Initiative
- Mullen Fire Initiative
- Art + Biodiversity Exhibitions
- Science Cafes and more

PUBLICATIONS:

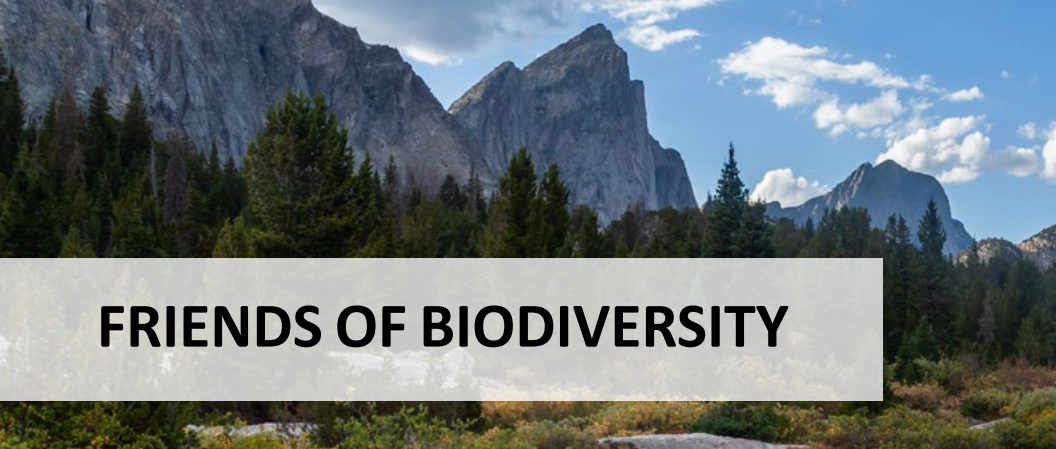
Publication grants provide funds to translate research into books, field guides, and other printed material that communicate the value of biodiversity and its positive societal impacts.

GRADUATE STUDENT RESEARCH ENHANCEMENT GRANT:

Competitive grants awarded annually to multiple UW graduate students who demonstrate excellence in student-driven biodiversity research and communicate their research to diverse audiences. Since 2012, we've awarded 70 grants for innovative communication of biodiversity science to the public.

EARLY CAREER RESEARCH:

This post-doctoral scholar and early career researcher program accelerates biodiversity discoveries, elevates the national and international reputation of UW, and contributes critical insights to solving grand challenges in Wyoming and beyond.



FRIENDS OF BIODIVERSITY

RECENT FUNDRAISING SUCCESS

Generous donors make it possible for us to maintain and grow our programs. We cannot say it enough - Thank you! Below are the donors from December 14, 2023 through December 18, 2024.

MAJOR GIFTS

Michael and Edith Allen
Richard and Ann Boelter
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Patrick and Nora Ivers
Michael Erpino
Donald and Judy Legerski

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Wyoming Interfaith Network

and several anonymous donors



CONNECTING KIDS WITH CONSERVATION

This Fall, the Empowering Youth in Herpetology program provided 9 Wyoming youth with an in-depth, hands-on experience focused on reptiles and amphibians (herps) and their habitats. Over eight weeks, participants engaged in workshops, field trips, and design projects, gaining knowledge and skills that fostered a deeper understanding of herps and their conservation challenges.



The program kicked off with an introduction to Wyoming's native herps and our ambassador species. During a field trip to Saratoga, participants observed 12 horned lizards in their natural habitat and analyzed environmental data to understand how herps interact with their surroundings. Subsequent workshops paired participants with experts like a landscape architect, a graduate student studying

Pictured top left: Senior Project Coordinator Mason Lee shows a participant a horned lizard during the Saratoga field trip. Bottom left: Mason shows off our ambassador animal, Cornelius Jr., a corn snake.

amphibian habitats, and the Wyoming Game and Fish Department's State Herpetologist.

The program ended with participants working extensively at UW Makerspace to design and create custom habitat elements for the ambassador animals housed in the UW Berry Center. They incorporated their research and field experience into designing enclosures, featuring native plants they propagated themselves. The students presented their designs to family and assembled the enclosures, fulfilling the program's goals of fostering conservation knowledge and empowering the next generation of advocates for Wyoming's biodiversity.

This program was made possible by the Wyoming Youth for Natural Resources Grant from the Wyoming Community



100% of our K-12 outreach, public events, and community science projects are funded by passionate donors like you. Visit our website to donate.



www.wyobiodiversity.org

ENGAGING COMMUNITIES THROUGH SCIENCE CAFES



10TH ANNUAL WINTER MOOSE DAY



At the Biodiversity Institute, we're passionate about bringing the world-class biodiversity research happening at the University of Wyoming to different communities across Wyoming through Science Cafes. In Lander, over 50 attendees gathered to hear from University of Wyoming graduate students about their latest findings. In Laramie, a bird-themed event in partnership with WYOBIRD drew a standing-room-only crowd at a local brewery. We hosted our third Spanish Science Cafe in Jackson Hole, creating a welcoming space for inclusive discussions about science and conservation.

These events are more than just talks—they're opportunities to connect with the local community, spark conversations, and deepen our understanding of the natural world. By making science more accessible to the public, we aim to inspire meaningful conservation efforts and foster a stronger connection between communities and the biodiversity they treasure.

Pictured top left: UW Masters student Maria Rodriguez speaks at a Spanish Science Cafe in Jackson Hole. Top right: An adult moose in the snow. Bottom right: A Winter Moose Day participant compares their hand size to the frozen hoofprint of a moose.

SAVE THE DATES:

Our next Science Cafes are on February 5, 2025 in Laramie, WY and on April 25, 2025 in Lander, WY.

This February marked the 10th annual Winter Moose Day, with 92 community scientists braving the snow on 26 survey routes in the Snowy Range, Pole Mountain, and Arlington areas. Volunteers strapped on their snowshoes or skis and tracked signs of moose, including hoofprints, scat, and browse on vegetation, and observed 12 adult moose. We've revamped the program so multiple groups can survey the same routes, and improved the quality of the distance sampling data collected. This data, which now also includes information about the proximity and orientation of volunteers to observed moose, is critical for understanding population densities, reproductive rates, and habitat use.

Over the past decade, Moose Day has grown into a valued community science program that supports UW biologists while increasing public engagement in wildlife conservation. As we celebrate 10 years of Moose Day surveys, we extend heartfelt thanks to the dedicated volunteers who have contributed to this effort and look forward to another decade of fostering community involvement in moose research.





Biodiversity Institute
1000 E. University Ave., Dept. 4304
Laramie, WY 82071