

Haub School of Environment and Natural Resources



# HAUB SCHOOL UPDATE

HAPPENINGS AND ACCOMPLISHMENTS FROM STUDENTS, STAFF, AND FACULTY 2022

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**New Research Endeavors** 

Student Experience in Namibia



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The Haub School of Environment and Natural Resources advances the understanding and resolution of complex natural resource challenges through interdisciplinary education, creation and dissemination of new information and understanding, and collaborative decision-making.

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On the cover: Courtney Carlson, Kayla Matlock (MS ENRS '23), and Steve Smutko discuss the challenges of Colorado River management while guides Katie Linton and Emily Dale steer the raft.



# LETTER FROM THE DEAN

#### Dear Friends:

I cannot believe that two years have elapsed since I joined the Haub School. Despite the challenges of the pandemic and the uncertainty of the future, good things have continued to happen here and my outlook on our work and what lies ahead remains rosy.

The last year was filled with numerous successes. First and foremost, we graduated record numbers of students, our enrollments remain strong, and we continue to serve campus by delivering more credit hours to students each year. Indeed, the Haub School is leading the university in student retention, which our surveys indicate is because of our strong commitment to building community for all Haubies. A key part of this is investing heavily in student advising, so that student-to-advisor ratios remain low enough for the student services team to build strong relationships with each of their advisees. Those relationships are fundamental to students' timely progression throughout their academic career, as well as creating a sense of belonging.

I am also excited to report that our signature place-based and experiential learning courses are back! In 2022, eighteen students traveled amongst Colorado River communities to learn more about the challenges of water management in the West. The course culminated in a rafting trip through the Grand Canyon that provided an unforgettable learning opportunity. In late December, our students will head to Chilean Patagonia to compare and contrast the conservation and development issues in Chile to those at home in Wyoming. A second group will visit the Canary Islands to examine the environmental challenges of oceanic island life and conduct projects on sustainable tourism. Finally, over spring break, another student course is headed to Belize to examine conservation and sustainability, and I will lead a course in Uzbekistan for friends and alumni of the Haub School. You, dear reader, could be one of those headed to Tashkent and beyond with me. If you are interested, do not hesitate to contact the UW Global Engagement office or me to learn more.

I hope the following pages have you as excited about the future of the Haub School as I am. If you can, please consider an end-of-the-year gift that would enable us to continue providing great opportunities for our students and service to our region. Thank you again for your continued support and have a happy New Year! I hope that our paths cross in 2023.

Sincerely,

Hey Kopoule

John L. Koprowski Dean, Haub School of Environment and Natural Resources



# FIELD, INTERNATIONAL, AND COMMUNITY-ENGAGED LEARNING



#### What the River Says: Canyonlands, Culture & Climate

As the nation turned its attention to record water shortages, eighteen Haub School students in a new experiential field course witnessed how communities in and around Moab, Lake Powell and Lake Mead, the Navajo Nation, and Grand Canyon National Park are reckoning with declining fresh water supply. The course investigated the histories and cultures of the Colorado River, emphasizing collaborative opportunities to sustain the river and the 40 million people who depend upon it.

A hybrid offering, the course combined the best of both online and experiential learning, commencing in May with a series of virtual activities exploring public lands tourism and recreation, economic development in gateway communities, environmental justice, and Indigenous stewardship. In July, students journeyed by train, bus, and paddle board from the river's headwaters to the Grand Canyon, which they explored over the course of an eight-day, 277-mile guided river trip. The course combined the depth, breadth, and progressive iteration of knowledge that have become hallmarks of the Haub School's approach to environmental and natural resource education.

# FIELD, INTERNATIONAL, AND COMMUNITY-ENGAGED LEARNING

#### From the Students: Reflections on Past Field Courses

It was the first time in my educational experience where I felt like what I was learning could actually benefit the world and it was amazing to work with communities to support them through sustainability work. — *Environmental Solutions, Jackson Hole, WY* 

It introduced me to the world of international environmental research and pushed me both mentally and physically. I still look back on the course as some of my fondest memories from my undergrad degree. — *Alpine Climate & Culture, French & Italian Alps* 

The Haub School made these trips possible for me through funding and excellent advising. Otherwise, I would have never traveled to these places. I think the most valuable aspect of these experiences was the Haub focus of people and place...I learned about myself, my classmates, and the places we went and the people we met. — *Human & Physical Landscapes, Queensland, Australia and Environmental Assessment, Tenerife, Canary Islands, Spain* 

#### **Place-Based Environmental Education**

Today's dynamic and shifting educational landscape includes a range of learning environments such as blended classrooms, field laboratories, and digital spaces. Haub School faculty Maggie Bourque and Courtney Carlson recently partnered to study the school's approach to place-based and place-informed environmental education in diverse contexts. They demonstrate how principles of contextuality, relevance, experience, and relationality allow students to learn from their own communities, regardless of students' physical locations. At November's Innovations in Learning conference, Bourque and Carlson shared evidence-based practices, lessons learned, and strategies to magnify student learning using these key principles.



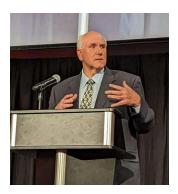
Students in the Alpine Climate & Culture Course set up camera traps in the Alps.

# RESEARCH

#### Preparing for Climate's Impact on Water

Dr. Corrie Knapp is a lead on the \$20 million, NSF-funded, Wyoming Anticipating Climate Transitions (WY-ACT) Project, which will quantify how a changing climate in one of the nation's key headwater regions is likely to affect stream flows, aquatic ecosystems, and the communities that depend upon them.





#### Koprowski Earns Top Wildlife Award

The Wildlife Society awarded Haub School Dean John Koprowski the 2022 Aldo Leopold Memorial Award, the highest award given by the 11,000-member organization of professional wildlife scientists. The award recognizes Koprowski's lifetime of achievement in wildlife conservation, which applies community-based approaches to the ecology, conservation, and management of biodiversity in the United States and abroad. The self-styled "squirrel doctor" has built a lasting legacy in the field and continues to heap praise and gratitude on partners who he says have helped make his success possible.

#### **Environmental Justice in Energy Transition**

With an \$800,000 Department of Energy grant, Dr. Rachael Budowle will lead an interdisciplinary team to develop an adaptable, environmental justice-based, community-engaged process for nuclear energy technology siting using the Kemmerer, Wyoming, advanced nuclear demonstration project as a case study.





#### Agricultural Perspectives on Colorado River Water Conservation

The MacMillan Private Lands Stewardship program, led by Dr. Drew Bennett, is conducting focus groups and a representative survey of agricultural water users to understand their concerns and management preferences for water conservation in the Colorado River Basin.

## **Mitigating Human-Wildlife Conflict**

The Holbrook team is using the seasonal fluctuation of visitors to Grand Teton National Park as a natural experiment to assess the impacts of increased availability of human food on the Rocky Mountain red fox's diet and habitat use. The results—informed by GPS data, hair and whisker samples, and stable isotope analysis—could help park and recreation managers limit human-wildlife conflict in the park.





#### **Competition between Mule Deer and Elk**

The Monteith Shop is nearing completion of the Deer-Elk Ecology Research (DEER) Project, a stakeholder-driven project with core funding from the Muley Fanatic Foundation that investigates how elk and mule deer co-occur on the Wyoming landscape. Between these two culturally and economically important species, evidence from the project indicates elk tend to make it more difficult for mule deer to acquire the resources necessary to survive and reproduce.

#### Beer for Wildlife Conservation

Dr. Jake Hochard's Knobloch Conservation Economics program—in partnership with the WYIdlife Fund's Wildlife Tourism for Tomorrow (WTFT) initiative—wrapped up its first summer ambassadors program. Haubies Emma Vandenberg and Kayla Matlock worked with Altitude Chophouse & Brewery to craft a new beer. Once completed and released, proceeds will support WTFT projects like wildlife crossings and habitat restoration.





#### **Investigating Outdoor Recreation Development**

Dr. Curt Davidson and Dr. Wes Eaton are teaming up to study placebased responses to outdoor recreation development through interviews and observational methods. The two will focus on Lander, WY, as a case study exploring the proposal of, and ensuing controversy around, via ferrata in Sinks Canyon State Park, with an aim to identify lessons for improving public engagement around outdoor recreation development.



## **NEW HIRES**



**Melanie Armstrong**, Associate Professor, Ruckelshaus Institute Director



**Anastasia Brady**, Special Events Coordinator



**Wes Eaton**, Visiting Assistant Professor



**Aaron Freland**, Academic Advising Manager



**Ben Regan**, Assistant Research Scientist, Monteith Shop



Tara Righetti, Occidental Chair in Energy and Environmental Policies



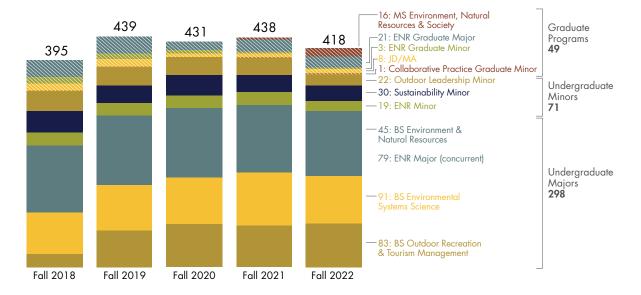
**Tarissa Spoonhunter**, Assistant Professor, Director of High Plains American Indian Research Institute



**Brittany Wagler**, Assistant Research Scientist, Monteith Shop



**Taylor Wagstaff**, Assistant Research Scientist and Lab Coordinator, Monteith Shop



# ENROLLMENT

## UNDERGRADUATE PROGRAMS

#### **First Year Programming**

The Haub School continues to lead the way on first-year programming, using research-based best practices while aligning with UW's new Saddle Up program. This August we welcomed twenty two first-time, first-year students for a week-long program that blended academic sessions, field-based experiences (including to Brush Creek Ranch's Staddle Camp), a service project, introductions to campus resources, and engagement with over thirty Haub School faculty, staff, and student leaders. The program emphasized, with great success, skills development and relationships to people, place, and communities.





## UNDERGRADUATE PROGRAMS

#### Student Profile: Lindsay Buckhout

By Helena Bryant

Cheetahs were Lindsay Buckhout's favorite animal growing up. Her family would "adopt" a cheetah for her as a birthday gift. Today, Buckhout is a senior majoring in zoology and environment and natural resources with a minor in honors at the University of Wyoming. She decided to attend UW and the Haub School because she saw a close-knit community that could offer her resources, opportunities, and a great education at an affordable price.

When a professor recommended Buckhout apply to work with the Cheetah Conservation Fund (CCF), she leaped at the opportunity. CCF studies, conserves, and educates the public on cheetahs. This past summer—with support from a generous donation to the UW Global Engagement Office and a partnership with the Honors College—Buckhout traveled to Namibia to work with CCF in their education department and with the Livestock Guarding Dog Team. While working in Namibia, she would go on sunrise horseback rides to check the boundaries of the CCF farm where the main facilities were housed with Laurie Marker, CCF's founder. Buckhout describes Marker as "the Jane Goodall of cheetahs."

"She's incredible," Buckhout says. "She's intimidating. She is a powerful, strong, independent woman in conservation. She is a great role model."



Lindsay Buckhout with one of the Anatolian shepherd dogs in the Livestock Guarding Dog Team she worked with in Namibia.

After her work with CCF, Buckhout decided to focus on connecting zoology with people. While many zoologists focus on the science aspect of conservation, she sees a need to bridge this research with society. Buckhout plans to attend graduate school to study education, which she believes is the key to conservation.

"We can't conserve animals without getting human support behind it," says Buckhout.

# GRADUATE PROGRAM



## **Graduate Orientation Field Experience**

Haub School graduate students kicked off the year with a field experience exploring the Saratoga Valley and Snowy Range and investigating the implications of climate change in Wyoming. They visited the Mullen burn, spoke with a retired Encampment fishing guide, explored the Ladder Ranch, and met other stakeholders including a scientist studying algae blooms.

## **Student Profile: Ashley Quick**

MPA/ENR graduate student Ashley Quick is the Community Engagement Manager for Laramie Public Art and the second Haub School graduate student to receive a Conservation Connect Fellowship with the National Forest Foundation (NFF). Ashley will work with NFF to support locally-operating youth programs around the country. Her responsibilities include strategically expanding NFF's youth engagement in order to grow opportunities for young people to experience national forests and grasslands; inspire a love of the outdoors; develop an interest in natural resource professions; and provide ongoing and new opportunities for BIPOC youth in communities, schools, and partner organizations. Ashley recently completed a mural for the Laramie Visitor Center's new location. See more of Ashley's work at ashleyranaequick.com

# HAPPENINGS

## WCC Wraps Up Its Season

The Wyoming Conservation Corps wrapped up its sixteenth season, completing high priority conservation projects with more than twenty partners across state and federal agencies, Americorps, the University of Wyoming, non-profit organizations, and tribes. Projects ranged from



maintaining, building, and armoring more than 60 miles of trail to installing wildlife-friendly fencing, managing invasive species, and building and repairing artificial beaver dams for habitat restoration.

## **Energy Law Conference**

The Haub School's Temple Stoellinger was a key organizer for the annual Landscape Discussion on Energy Law and Policy in the Rockies, co-hosted by the School of Energy Resources and the Center for Law and Energy Resources in the Rockies. The one-day symposium brought together stakeholders to engage in thought-provoking discussion on current energy topics like federal energy development in Wyoming; carbon capture, utilization, and storage law and policy; hydrogen energy; and renewable energy.

#### Mountainfilm on Tour

Over two evenings, more than three hundred attendees turned out to watch documentaries from the Telluride Mountainfilm Festival in a program curated specifically for our local audience. The independent films celebrated nature, culture, and adventure and showcased stories of global conservation, outdoor recreation, and resilience from Wyoming and around the world.

#### **GIVING DAY**

During UW's annual giving day, the Haub School raised \$42,868 from 102 donors, surpassing our goals. Thank you friends!



Tayler LaSharr

#### **Mullen Days**

Two years after the Mullen Fire burned more than 170,000 acres in the mountains just west of Laramie, a documentary film, interactive open house, panel discussion, storytelling event, and field trip helped Laramie community members reflect on what the transformative power of fire means for our human and natural communities. Birch Malotky with the Ruckelshaus Institute and Rhiannon Jakopak with the Monteith Shop hosted the three-day, interdisciplinary event, which created a space to process, grieve, learn, and re-imagine what living with fire means.

# OUTREACH

## **Senior Conservation Fellow**

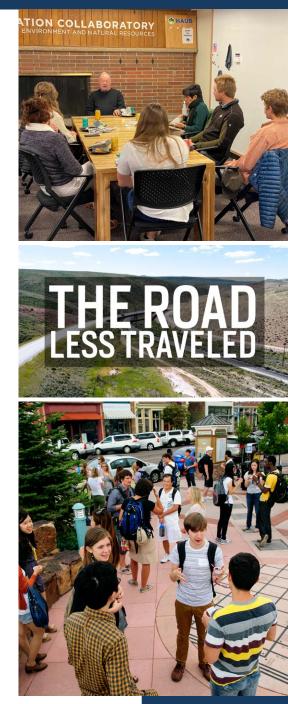
Robert Dreher is the Ruckelshaus Institute's inaugural Visiting Senior Conservation Fellow. Dreher—whose long career includes senior leadership positions with the US Fish and Wildlife Service, Environment and Natural Resources Division of the US Department of Justice, and Defenders of Wildlife—will guest lecture in classes, meet with students, give a public talk, and engage with faculty research projects to help grow the relevance of Haub School scholarship to decision making, policy, and practice.

## Mule Deer on the Big Screen

A short film produced by the Monteith Shop chronicles the struggle of mule deer F014 in raising her young, drawing attention to the costly impact of wildlife-vehicle collisions to deer and people alike. The ten-minute short film, *The Road Less Traveled*, also features the researchers who study F014 and the conservation organizations working to make her world safer through proven, ready-to-implement strategies like installing wildlife crossing structures over dangerous roads.

## Ambassador Training for Local Tourism

Through a partnership with the WORTH Initiative and the Albany County Tourism Board, graduate student Taylor Kruger is building an online course to train Laramie Tourism Ambassadors. The course will help hospitality workers serve tourists and guests by providing lessons in customer service and a comprehensive overview of Laramie—from outdoor recreation opportunities to arts, food, and history.





# SELECT RESEARCH PUBLICATIONS

Batcheller, G.R., P. Schmidt, D. Caveny, and J.L. Koprowski. "The Responsibilities of Men in Supporting Women." In *Women in Wildlife Science: Building Equity, Diversity, and Inclusion*, edited by C. Chambers and K. Nicholson. Johns Hopkins University Press, 2022.

Bennett, D.E., and T. Wittman. "Cows or Condos: Rancher and Land-Use Outcomes Following Compensated Federal Grazing Permit Waivers." Ruckelshaus Institute of Environment and Natural Resources, University of Wyoming, 2022.

Blais, B.R., S.A. Wells, B.M. Poynter, **J.L. Koprowski**, M.M. Garner, and R.A. Allard. "Adaptive Management in a Conservation Breeding Program: Mimicking Habitat Complexities Facilitates Reproductive Success in Narrow-Headed Gartersnakes (*Thamnophis rufipunctatus*)." *Zoo Biology* 41, no. 4 (2022): 346-353.

Brammer, T.A. and Bennett, D.E. "Arriving at a Natural Solution: Bundling Credits to Access Rangeland Carbon Markets." *Rangelands* 44, no. 4 (2022): 281-290.

Fisher, R. and **M. Bourque**. "Stories for Change: Solastalgia, Climate Grief, and Re-storying Ourselves." *Journal of Folklore and Education* 9, (2022): 161-171.

Hochard, J., Y. Li, and N. Abashidze. "Associations of Hurricane Exposure and Forecasting with Impaired Birth Outcomes." *Nature Communications* 13, no. 1 (2022): 6746.

Huggler, K.S., J.D. Holbrook, M.M. Hayes, P.W. Burke, M.P. Zornes, D. Thompson, J. Clapp, P. Lionberger, M. Valdez, and K.L. Monteith. "Risky Business: How an Herbivore Balances Spatiotemporal Dimensions of Risk from Competitors and Predators." *Ecological Applications* 32, no. 7 (2022): e2648.

Jakopak, R.P., H. Sawyer, T.N. LaSharr, S.P.H. Dwinnell, J. Randall, G. Fralick, and K. Monteith. "Diel Timing of Migration is Not Plastic in a Migratory Ungulate." *Animal Behaviour* 192, (2022): 51-62.

Middleton, A., **T. Stoellinger**, **D. Bennett**, L. Giglotti, S. Maher, **T. Brammer**, **H. Byerly**, and B. Leonard. "The Role of Private Lands in Conserving Yellowstone's Wildlife in the 21st Century." *Wyo. L. Review* 22, no. 2 (2022): 237.

Paudel, S., **J.L. Koprowski**, U. Thakuri, Y. Sasaki-Yamamoto, and S. Kohshima. "Behavioral Responses to Spatial Heterogeneity in Endangered Ganges River Dolphins (*Platanista gangetica gangetica*)." *Water Biology and Security* 1, no. 3 (2022): 100058.

Regan, S., **T. Stoellinger**, and J. Wood. "Opening the Range: Reforms to Allow Markets for Non-Use of Federal Grazing Permits." *Utah Law Review* (2022).

Schinkel, K., **R. Budowle**, C. Porter, B. Dai, C. Gifford, and J. Keith. "Service, Scholarship, and Sacrifice: A Qualitative Analysis of Food Security Barriers & Strategies Among Military-Connected Students." *Journal of the Academy of Nutrition and Dietetics* (2022).

Smiley, R.A., B.L. Wagler, T.N. LaSharr, K.A. Denryter, T.R. Stephenson, A.B. Courtemanch, T.W. Mong, D. Lutz, D. McWhirter, D. Brimeyer, P. Hnilicka, B. Lowrey, and K.L. Monteith. "Heterogeneity in Risk-Sensitive Allocation of Somatic Reserves in an Alpine Ungulate." *Ecosphere* 13, no. 7 (2022): e4161.

Smith, A., J. Vogeler, N. Bjornlie, J. Squires, N. Swayze, and J. Holbrook. "Spaceborne LiDAR and Animal-Environment Relationships: An Assessment for Forest Carnivores and Their Prey in the Greater Yellowstone Ecosystem." *Forest Ecology and Management* 520 (2022): 120343.

Veals, A., J. Holbrook, A. Blackburn, M. Tewes, C.J. Anderson, R. DeYoung, T. Campbell, and J. Young. "Multiscale Habitat Relationships of a Habitat Specialist Over Time: the Case of Ocelots (*Leopardus pardalis*) in Texas from 1982 to 2017." *Ecosphere* no 13 (2022): e4204.

Watson, R. and T. Stoellinger. "NEPA: A Comprehensive Guide and Resources." *The Foundation for Natural Resources and Energy Law* (2022).

# WHO WE ARE

### **Faculty and Staff**

John Koprowski, Dean and Wyoming Excellence Chair Steve Smutko, Associate Dean, Wyoming Excellence Chair, and Spicer Chair of Collaborative Practice

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Maggie Bourque, Associate Lecturer

Anastasia Brady, Special Events Coordinator

Travis Brammer, MacMillan Program Conservation Fellow and Assistant Research Scientist

Rachael Budowle, Assistant Professor, Community Resilience and Sustainability

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3.



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The Ruckelshaus Institute will hold an Emerging Issue Forum on the growth of outdoor recreation in Wyoming on April 26-27th, 2023, in partnership with the Wyoming Outdoor Recreation, Tourism, and Hospitality (WORTH) Initiative and the Wyoming Outdoor Recreation Office. The forum will bring together diverse stakeholders for a statewide conversation on how Wyoming communities can balance the benefits and impacts of growing outdoor recreation and tourism economically, culturally, and environmentally.