



HAUB SCHOOL UPDATE

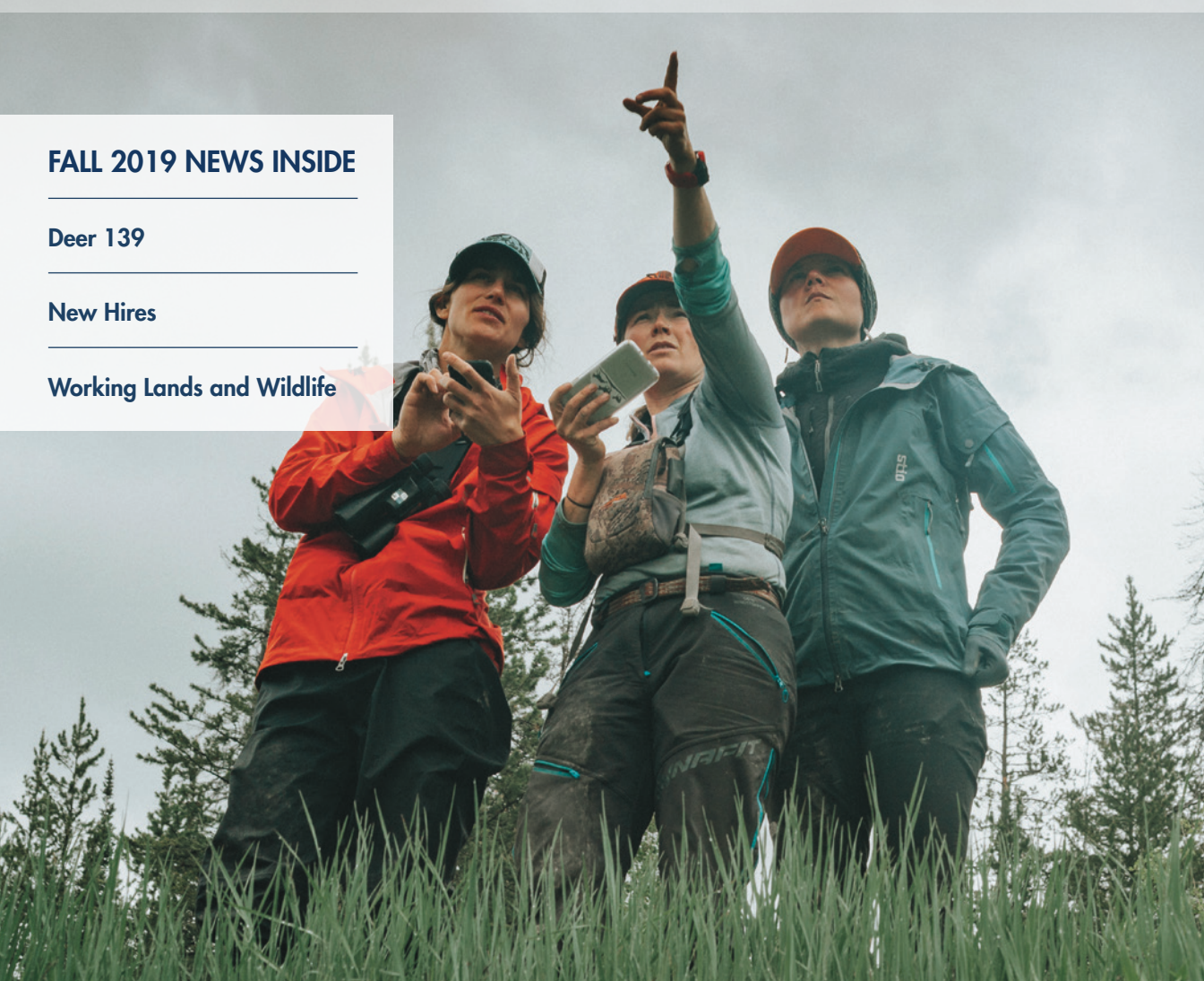
NEWS FROM OUR ACADEMIC PROGRAMS AND RUCKELSHAUS INSTITUTE

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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: Haub School research scientist Sam Dwinnell (center) and the ladies of *Deer 139* take a minute to route find on their expedition in 2018.



LETTER FROM THE DEAN

Dear Friend of the Haub School,

As the fall semester winds down, my tenure as dean of the Haub School of Environment and Natural Resources is coming to an end. It's been an honor to lead this team of extraordinary people. In the time that I've served as dean, the Haub School has experienced tremendous growth and change. Among our many achievements, we:

- Launched a new degree in Outdoor Recreation and Tourism Management, which in its second year has 75 majors;
- More than doubled the number of students enrolled in Haub School degrees, nearing 450; and
- Dramatically increased the number of core faculty at the Haub School from 13 to 22. This included an increase of tenure-track faculty from six to 11.

No one person can take credit for any of these accomplishments. Our ability to achieve all this has been made possible through collective efforts on several fronts. This includes the university leadership at UW, who have increased support for the school and helped us build new connections and relationships on campus. Our incredible team of Haub School donors and advisory board members also graciously stepped up to ensure we can continue to offer our students the kind of life-changing educational experiences for which we are known. And, of course, our accomplishments are due in part to the hard work of our dedicated faculty and staff, who endeavor each day to better serve our students and citizens of the state in pursuit of sustainable futures for Wyoming and the West.

It's an exciting time to be part of the Haub School. As you'll read in the following pages, we have been busy conducting new research; communicating our work to audiences through innovative projects such as the film *Deer 139*; convening collaborative processes that assist the state in navigating challenging issues like chronic wasting disease; building strong, meaningful relationships with private landowners; and so much more.

On January 1, 2020, my dear friend and colleague, Haub School academic programs director Doug Wachob, will become the Interim Dean. Though it's bittersweet to say good bye, I leave my post knowing that the future of the Haub School is brighter than ever.

Sincerely,

Melinda Harm Benson
 Dean, Haub School of Environment and Natural Resources, University of Wyoming





DEER 139

The Ruckelshaus Institute and the Monteith Shop recently completed production of a feature-length documentary titled *Deer 139*. The film follows Haub School research scientist Samantha Dwinell and two friends as they hike, ski, and pack raft the 85-mile-long migration corridor of a GPS-collared mule deer in search of deeper understanding about the connection these animals have to the landscapes where they make their living.

The 53-minute-long film follows the three adventurers as they travel on foot from Deer 139's winter range in the Green River Basin, through the foothills of the Wyoming Range, over a high mountain pass to the Greys River, to summer range in the Salt River Range. In between twisted ankles, David Attenborough impressions, and mountaintop dance parties, the women experience the challenges to long-distance migration in the modern world



and gain new perspective about the value of interconnected landscapes. By considering the story of one specific animal, the doe known as Deer 139, they learn to see Wyoming's backyard as more than a source of natural resources or a recreational playground, but also a place where wild animals have honed their existence over millennia to perfectly synchronize with a rugged and unforgiving landscape. The purpose of the film is to share new scientific understanding with a broad audience.

The film premiered at the Banff Mountain Film Festival in Alberta, Canada, on November 3, and was selected to hit the road as part of the Banff World Tour. The film also screened in Laramie, Etina, Lander, Cody, and Big Horn and will show in other Wyoming communities over the coming months.



NEW HIRES

Chicory Bechtel, Advising Manager

Chicory Bechtel joined the Haub School this fall as manager of academic advising. She brings 15 years of professional experience in higher education, including advising, student leadership development, and designing educational programs and services to promote student access and success.

Rachael Budowle, Assistant Professor

This fall, long-time Haub School instructor, Rachael Budowle, officially joined the Haub School faculty as assistant professor. A cultural anthropologist by training, Rachael's research program sits at the intersection of environment and society. Her areas of focus range from social-ecological community resilience to food systems and justice to bioenergy, primarily through interdisciplinary research projects within communities in Wyoming and the Mountain West.

Matt Henry, Scholar in Residence

This fall we welcomed Matt Henry to the Haub School as scholar in residence. Matt's research focuses broadly on the environmental humanities, dealing with topics such as energy, environmental justice, and the human dimensions of climate change. He is teaching a range of interdisciplinary undergraduate courses, working in Wyoming communities to understand citizen relationships to the environment, and working on a book that explores cultural representations of and narratives around energy and landscape.

Corrie Knapp, Assistant Professor

Corrie Knapp joined the Haub School this fall as assistant professor. She came to the University of Wyoming from Western Colorado University in Gunnison where she had been a faculty member in the School of Environment & Sustainability and a founding member of the Masters of Environmental Management Program. Her training and practice span interdisciplinary boundaries and she enjoys researching with communities in a transdisciplinary approach. She has a deep commitment and passion for western landscapes, rangelands, and the human and ecological communities that depend on them.

Amiee Reese, Development Director

Last summer, Amiee Reese joined the Haub School team as director of development with the UW Foundation. Prior to joining the UW Foundation, Amiee served as executive director for the Cheyenne Frontier Days Old West Museum, where she worked for 15 years. In her role as development director, Amiee will focus on growing private support for the Haub School.

Richard Vercoe, Associate Lecturer

Richard Vercoe joined the Haub School faculty this fall as associate professional lecturer. A geographer by training, his work focuses on the dynamic interaction of conserving heritage agricultural systems and traditional ecological knowledge in globally important biodiversity hotspots. Previously, Richard worked on community-based conservation and sustainable development projects in Patagonian Chile.

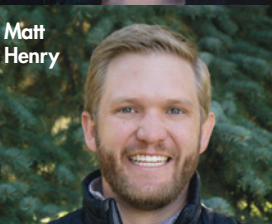
Chicory Bechtel



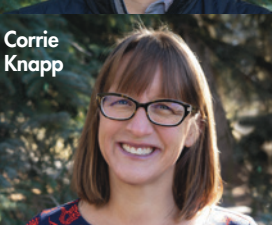
Rachael Budowle



Matt Henry



Corrie Knapp



Amiee Reese



Richard Vercoe





ACADEMIC PROGRAMS

International Field Courses: Exploring Queensland’s Human and Physical Landscapes

Last summer, 15 University of Wyoming graduate and undergraduate students traveled to southeast Queensland, Australia, for a 21-day field course to explore the heart of the complex physical environments and cultural landscapes of Brisbane, the Sunshine Coast, Noosa, Fraser Island, and Lady Elliot Island.

Co-taught by WYGISC director Jeff Hamerlinck and Haub School lecturer Maggie Bourque, the students engaged in high-impact practices that have become the hallmark of the Haub School’s approach to field-based and international education: experiential, place-based, and relational learning in unique environments; field journaling; individualized research topics and student-led discussions; interaction with local experts and residents; exploring perceptions and challenging biases; learning about natural resources; and building lasting relationships with fellow students and faculty.

The course explored a range of challenges and characteristics of the region, including sustainable agriculture in Maleny, neighborhood identities in the inner-urban suburbs of Brisbane, coastal development in Mooloolaba, surf culture in Noosa, UNESCO Biosphere Reserves and World Heritage Sites of Noosa and Fraser Island, and the realities of loss and resilience on the Great Barrier Reef on Lady Elliot Island.



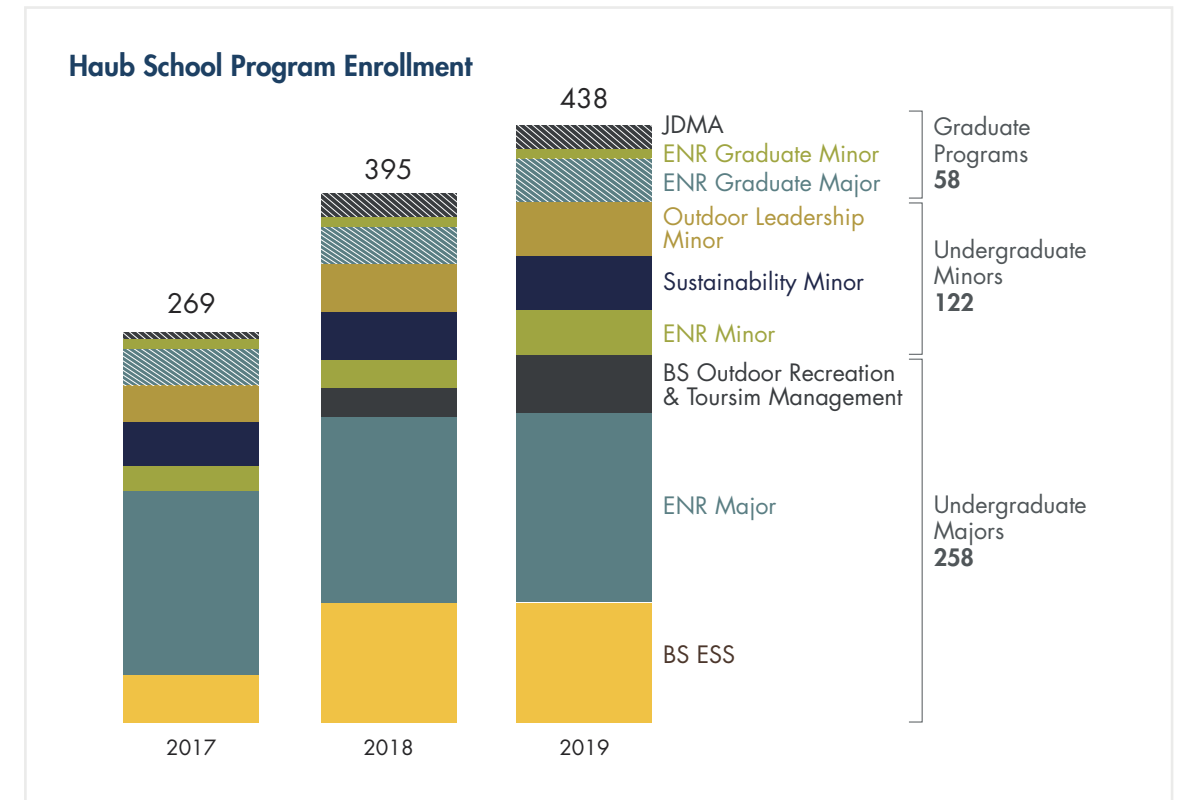
The power of these field and international learning experiences is best described directly by our students. Here are two notable excerpts from final reflection papers:

- “ This field course has allowed me to think more deeply and ask more questions about the world around me. Through guided discussions and journal entries, and relationships with other students and my professors, I have really been able to analyze the landscapes of Australia and take that knowledge with me for future places that I visit, and even the places I consider home.”
- “ It was interesting to see how pre-trip curriculum transferred into the field. During our stay in Australia I got to experience how a city is not just a city, or farmland not just a farm. There is so much thought and history behind a landscape. Landscapes are constantly being shaped to satisfy the demands of humans and nature.”

August Field Weeks: *Thinking Like a Mountain and Environmental Science*

Once again made possible by Bruce and Beth White’s generous donation of use of the Staddle Camp at Brush Creek Ranch, 41 UW students spent five days exploring the landscapes and ecosystems of southeastern Wyoming during our August Field Weeks. Students in the First Year Seminar, *Thinking Like a Mountain*, explored conservation, recreation, agricultural production, and environmental challenges on public and private lands, and the unique wildlife habitats of the Snowy Range, Little Snake River Valley, and Saratoga–Riverside/Encampment communities. Students in the introductory science course, *Environment*, studied bark beetle impacts, horned lizards, glaciers, pikas, and more, as they conducted field-based lab exercises over the week.

Haub School Program Enrollment





RUCKELSHAUS INSTITUTE

Working Lands and Wildlife Project

Last summer, Drew Bennett and Joe Holbrook launched the Working Lands and Wildlife Project—a collaboration between the MacMillan Private Lands Stewardship Program and the Holbrook Team to document the diversity of wildlife living on private lands in the West. Project intern and Haub School student, Megan Andersen, spent the summer setting up wildlife camera traps on four participating ranches in western Wyoming to better understand how animals use working landscapes. The project exceeded all expectations and relationships with participating land managers have led to the development of other research and outreach partnerships. Given the success of the pilot field season, the team is planning to expand the project for summer 2020.

Institute for Ingenuity and Entrepreneurship Grant

Earlier this year, the Ruckelshaus Institute was awarded a \$50,000 grant from the University of Wyoming's Institute for Innovation and Entrepreneurship for the purpose of expanding the Institute's Collaborative Solutions Program to support entrepreneurial ecosystems in Wyoming communities. Two pilot projects are currently underway, including one in Dubois in cooperation with Dubois DRIVE and another in Laramie focused around Pilot Hill. The effort is being led by Steve Smutko with assistance from Kit Freedman in collaboration with the Haub School's Outdoor Recreation and Tourism Management program, the Wyoming Office of Outdoor Recreation, and Wyoming State Parks.

WAFWA Report Update

This fall, the Ruckelshaus Institute completed final reporting for a research project funded by the Western Association of Fish and Wildlife Agencies (WAFWA) focused on developing a social science research agenda to guide managers in sagebrush ecosystems. The project consisted of several research activities, including an extensive review of the existing literature, a Q-sort study, online survey, and focus groups in four western states (Wyoming, Colorado, Idaho, and Oregon). The project was led by principal investigators Jessica Western and Drew Bennett and included research by Steve Smutko and Kit Freedman with assistance from graduate students Claire Barnwell and Tessa Wittman. The purpose of the project was to assist WAFWA with identifying the social science research needs and priorities to help natural resource managers integrate social and ecological perspectives into more comprehensive sagebrush management strategies.

Chronic Wasting Disease Collaborative Process

For the past several months, the Ruckelshaus Institute's Jessica Western has been facilitating the collaborative process of a Chronic Wasting Disease (CWD) Working Group convened by the Wyoming Game and Fish Department. The purpose of the working group is to make recommendations that the department can use to update its CWD management plan. The 32-member group held five public meetings throughout the state in 2019 to receive public input on recommendations to consider, and is set to release a final report in February 2020.



Above: Motion-sensor camera images of several wildlife species on private lands in Wyoming. The images were taken as part of the Working Lands and Wildlife project led by Haub School professors Drew Bennett and Joe Holbrook.



NEW PUBLICATIONS

Public Opinion on Wildlife and Migration Corridors in Wyoming

Last spring, the Ruckelshaus Institute's Private Lands Stewardship Program organized an online focus group and statewide poll of 400 registered voters in Wyoming to gauge public attitudes on wildlife and issues related to wildlife migration corridors. The project was completed in partnership with the Nicholas Institute for Environmental Policy Solutions at Duke University. Results from the focus group and survey were compiled and summarized in a new bulletin from the Wyoming Open Spaces Initiative, "Public Opinion on Wildlife and Migration Corridors in Wyoming." Overall results showed general support among voters for a range of policies to conserve big game migration corridors, but the intensity of support declined for policies perceived to negatively impact the state's economy. The bulletin is available to view on the Ruckelshaus Institute website.



Landowner Perspectives on Big Game Migration Corridor Conservation in Wyoming

This summer, the Ruckelshaus Institute's Private Lands Stewardship Program conducted a series of interviews with landowners and agency personnel with a stake in migration corridor conservation to observe local attitudes and opinions related to the specific concerns and opportunities presented by corridor identification and designation. The project elicited a diversity of perspectives, including both support for and opposition to corridor designation. Findings from this research are summarized in a new report from the Whitney MacMillan Private Lands Stewardship Program, "Landowner Perspectives of Big Game Migration Corridor Conservation in Wyoming."



Western Confluence Magazine

We are currently wrapping up edits on the next issue of *Western Confluence* magazine covering invasive species. Out later this winter, the magazine will tell captivating stories about species from cheatgrass, dalmatian toadflax, and medusahead to mussels, European honeybees, mountain goats, and northern pike along with the innovative approaches managers are taking to combat and adapt to these species on our landscapes. We delve into how invasive species change soil microbiology and whether that can be harnessed to help native species resist invasion, new thinking on developing seed mixes that will stand a better chance of persisting in areas invaded by cheatgrass, and using both specially trained dogs and genome modification in the fight against invasive mussels.

SELECT RESEARCH PUBLICATIONS

Budowle, R., Arthur, M. L., & Porter, C.M. (2019). Growing intergenerational resilience for Indigenous food sovereignty through home gardening. *Journal of Agriculture, Food Systems, and Community Development and Journal of American Indian Education*, 9(B), 1–21.

Courkamp, J., **C.N. Knapp**, and B. Allen. (2019). Immersive Co-production to Inform Ranch Management in Gunnison, Colorado, USA. *Rangelands*.

Henry, Matthew S. "Extractive Fictions and Postextraction Futurisms: Energy and Environmental Injustice in Appalachia." *Environmental Humanities* 11.2 (Nov. 2019): 402–426.

Jensen-Ryan, D., **Budowle, R.**, Strauss, S., Durbin, T.J., Beeton, T.A., & Galvin, K.A. (2019). A cultural consensus of fire and futility: Harvesting beetle-kill for wood-based bioenergy in Wyoming and Colorado. *Energy Research and Social Science*. 58.

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Knapp, C.N., R. Reid, M.E. Fernandez-Gimenez, J. Klein and K. Galvin. (2019). Placing Transdisciplinarity in Context: A Review of Approaches to Connect Scholars, Society, and Action. *Sustainability*. 11: 4899.

Monz, C., Mitrovich, M., D'Antonio, & **Sisneros-Kidd, A.** (2019). Using mobile device data to estimate visitation in parks and protected areas: An example from the Nature Reserve of Orange County, California. *Journal of Park and Recreation Administration*.

Dwinnell, S. P. H., H. Sawyer, J. E. Randall, J. L. Beck, J. S. Forbey, G. L. Fralick, and **K. L. Monteith**. (2019). Where to forage when afraid: Does perceived risk impair use of the foodscape? *Ecological Applications*, 29(7): e01972.

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LaSharr, T. N., R. A. Long, J. R. Heffelfinger, V. C. Bleich, P. R. Krausman, R. T. Bowyer, J. M. Shannon, E. M. Rominger, C. P. Lehman, M. Cox, and **K. L. Monteith**. (2019). Biological relevance of antler, horn, and pronghorn size in records programs. *Journal of Mammalogy*, 100(5): 1447–1458.

Merkle, J. A., H. Sawyer, **K. L. Monteith**, **S. P. H. Dwinnell**, G. L. Fralick, and M. J. Kauffman. (2019). Spatial memory shapes migration and its benefits: Evidence from a large herbivore. *Ecology Letters*, 22(11): 1797–1805.

WHO WE ARE

Faculty and Staff

Melinda Harm Benson, Dean

Chicory Bechtel, Advising Manager

Drew Bennett, Whitney MacMillan Private Lands Stewardship Professor of Practice

Colleen Bourque, Administrative Associate

Maggie Bourque, Associate Lecturer

Domenic Bravo, Professor of Practice, Outdoor Recreation and Tourism

Rachael Budowle, Assistant Professor, Environment and Society

Samantha Dwinnell, Wildlife Research Scientist

Kit Freedman, Project and Outreach Coordinator

Nicole Gautier, Assistant Research Scientist

Matt Henry, Scholar in Residence

Joe Holbrook, Assistant Professor, Carnivore and Habitat Ecology

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Amiee Reese, Director of Development

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Steve Smutko, Spicer Chair in Collaborative Practice

Temple Stoellinger, Assistant Professor, Law and Environment and Natural Resources

Justine Sulia, Research Assistant

Richard Vercoe, Associate Lecturer

Doug Wachob, Academic Programs Director

Jessica Western, Collaboration Program Director



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Alumnus Spotlight: Joe Evers

JD/MA Law and Environment and Natural Resources, UW, 2013

Since he graduated in 2013 with a joint degree in law and master's in environment and natural resources, former Wyoming Cowboy football tight-end and Haub School alum Joe Evers has been working for law firms focused on energy development and regulatory compliance in the Rockies. Most recently, he served as corporate counsel at a mining company. Originally from Sheridan, and a fourth-generation member of the energy industry, Joe is the newest, and first alumnus, member of the Haub School Advisory Board. Currently, Joe serves as a senior landman with Occidental Petroleum overseeing the company's southern Wyoming land assets.

Joe says his education at the Haub School has helped him be more impactful in his career as a lawyer. "The Haub School really gave me the broad strokes of a good technical and scientific background that enables me to sit at the table with engineers, geologists, water scientists, landowners, and business people, and be able to follow the conversation in meaningful way while also addressing legal issues that dovetail across all of those areas. I'm excited to be a part of the Haub School's future and look forward to working with the excellent faculty and staff to support our students in the years to come."