



HAUB SCHOOL OF ENVIRONMENT
AND NATURAL RESOURCES

HAUB SCHOOL UPDATE

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SPRING 2017 NEWS INSIDE

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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.

Haub School students explored the coast of Queensland, Australia, on a new January term course. Learn more on page 7. Photo by Courtney Carlson.



LETTER FROM THE INTERIM DEAN

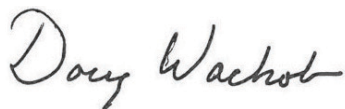
Dear Friend of the Haub School,

I've been honored to lead the Haub School for the last 10 months as interim dean. During that time, we carried forward the momentum created by our previous dean, Indy Burke. For example, we made significant progress toward the anticipated launch of a new degree in natural resources recreation and tourism, had a very successful fundraising year, offered a new international field course to Australia, and facilitated collaborative processes to help Wyoming citizens build strong solutions for natural resource challenges. And much more.

Most importantly, we participated in a search, led by University of Wyoming Provost Kate Miller, to hire a new Haub School dean. Melinda Harm Benson will take leadership of the Haub School on August 1. Mindy has a very clear vision for the Haub School, innovative ideas about environmental and natural resource issues, and a proven record of leadership and scholarly accomplishments. We are very excited to launch a new era under her direction. And I look forward to passing on the dean responsibilities as I return to the very rewarding work of directing our academic programs.

As always, thank you for your interest in and support of our programs.

Sincerely,



Doug Wachob
Academic Programs Director



Academic Programs
Director Doug Wachob
served as Haub School
Interim Dean.

Cover: UW student Justin Perry, majoring in zoology, attended the Haub School Field Week in the Tetons to learn environmental science approaches.



WELCOMING A NEW DEAN

Melinda Harm Benson will begin as the new dean of the Haub School of Environment and Natural Resources on August 1. She is a legal scholar, educator, and social scientist with research interests in environmental governance, geography, and other subjects. She has been a faculty member in the University of New Mexico Department of Geography and Environmental Studies since 2008.

At the University of New Mexico, Benson held affiliations with the College of Law, the Water Resources Program, and the Sustainability Studies Program. She teaches a range of undergraduate and graduate courses in water resources, environmental management, nature and society, law, geography, and other areas.

As a member of SESYNC, the National Socio-Environmental Synthesis Center, she works with an interdisciplinary team to develop approaches for sustaining water for both human and ecological needs in the face of climate change. In addition to her many peer-reviewed and popular articles on such topics as adaptive governance, resilience theory, interdisciplinary scholarship, and water management, she co-authored a book, *The End of Sustainability: Resilience, Narrative, and Environmental Governance in the Anthropocene*, to be released in November 2017.

Prior to her professorship at the University of New Mexico, Benson worked at the Haub School and Ruckelshaus Institute for four years, researching and writing about ground and surface water management, conservation easements, and coalbed methane production, among other topics. She holds a JD from the University of Idaho College of Law and an MS in community counseling from the University of Wyoming College of Education. She brings deep expertise in her fields of study, appreciation for interdisciplinary approaches to environmental issues, leadership and administrative experience, and thoughtful vision to the Haub School. We look forward to her leading our team.

Melinda Harm Benson, associate professor of geography and environmental studies at the University of New Mexico, will be the new Haub School dean starting August 1.



NEW PROGRAM

Private Lands Management

Drew Bennett has accepted a position with the Ruckelshaus Institute as the Whitney MacMillan Private Lands Management Professor of Practice, to begin February 2018. Emeritus board member Whitney MacMillan endowed this program to generate the research, outreach, and interdisciplinary collaborations necessary to help landowners sustain economic, cultural, and ecological benefits on private working lands into the future. The Professor of Practice will conduct research and information synthesis, outreach, and teaching to advance those goals.

Bennett comes to UW from Colorado State University where he is a postdoctoral fellow in the Department of Fish, Wildlife, and Conservation, and is developing a new Initiative for Conservation on Private Lands. He holds a PhD in geography from Oregon State University, an MS in geography from the University of Texas at Austin, an MBA from the University of Denver, and a BS in environmental science from the University of Denver. His professional experience includes four years with the Mesa Land Trust in Grand Junction, Colorado, and he has conducted research on payment for ecosystem services and other conservation strategies for private lands.

Bison on a private ranch in Wyoming's Upper Green River Basin.



CONTACT US

University of Wyoming
Bim Kendall House
804 E Fremont St
Laramie, WY 82072

(307) 766-5080
haub.school@uwyo.edu
ruckelshaus@uwyo.edu
uwyo.edu/haub
haubschool.org

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ACADEMIC PROGRAMS

Academic Offerings

Program	Students Enrolled as of Spring 2017
UNDERGRADUATE	
 BS in Environmental Systems Science	34
 Major in ENR	108
 Minor in ENR	14
 Minor in Outdoor Leadership	29
 Minor in Sustainability	34
GRADUATE	
 Major in ENR	32
 JD/MA in Law and ENR	7
 Minor in ENR	10
TOTAL	268

Natural Resources Recreation and Tourism Degree Program

The Haub School and the UW College of Business are developing a Bachelor of Science degree program in natural resource recreation and tourism. Throughout 2016, we assessed the needs, interests, and existing opportunities in the field through direct surveying, interviews, and focus groups with students, industry leaders across Wyoming, and government agencies. This proposed program has strong support from UW leadership, Governor Matt Mead, and industry professionals. This year, the Haub School has convened a faculty committee with representation from seven colleges and programs across campus to develop the curriculum. We expect to propose the degree to the university in fall 2017, with the goal of launching the degree in the fall of 2018.



UW graduate student Michael Hague mountain biking at Curt Gowdy State Park.

FIELD LEARNING EXPERIENCES

Environmental Solutions in Jackson Hole

This summer course gave students hands-on experience in project development, collaboration, and leadership. Student teams were paired with community leaders, businesses, non-profits, resource managers, and agencies to create solutions for real environmental problems. They spent four weeks at the Murie Ranch in Grand Teton National Park where they completed team projects under the guidance of Haub School faculty, a project mentor from the sponsor organization, and a community mentor.

Gannet Peak Expedition

This summer, 10 students will join UW Writer-in-Residence and National Geographic Contributing Writer Mark Jenkins in climbing Wyoming's highest mountain, Gannett Peak (13,801'). Students will develop the skills, knowledge, and competency to camp and travel safely and swiftly in mountainous terrain, entirely self-supported. This course will provide the next level of academic and field training for students interested in increasing their wilderness, outdoor leadership, and expedition skills.

Field Guide: Plants and Animals of the CL Bar Ranch

As part of this unique, hands-on field experience, UW students will inventory, document, illustrate, and write about the suite of plant and animal species occupying a single private working ranch in Wyoming's Upper Green River Basin. Selected students will interact with the ranch manager and other partners to track down, identify, and document species, with emphasis on scientific illustration completed in the field. The final objective is a published field guide highlighting the biodiversity sustained on this working ranch.

Summer Field Week at Brush Creek Ranch

This summer we will for the first time hold our Summer Field Week on the Medicine Bow National Forest and adjacent Brush Creek Ranch. Students will explore core biological principles such as nutrient flow and cycling, population and community ecology, and ecosystem structure and function, as well as social and cultural dimensions of ENR issues. Participants will be immersed in full days of outdoor laboratory work, lab write-ups, and evening project work.

Sam Richins, majoring in Environmental Systems Science and ENR with a minor in Outdoor Leadership, is ready for a hike on a Haub School field course. Photo by Kit Freedman.





STUDENT AWARDS

Meghann Cranford 2017 Haub School Outstanding Graduate

Meghann Cranford, majoring in energy resource management and environment and natural resources with minors in sustainability and business, was our 2017 Outstanding Graduate.

Elizabeth Dalyn Grindle National Science Foundation Graduate Research Fellowship

Dalyn Grindle, who earned her BA in anthropology and ENR from UW in December 2016, won a competitive 2017 National Science Foundation Graduate Research Fellowship. She will attend Harvard University beginning this fall, earning a PhD in anthropology.

Thao Nguyen Fulbright US Student Program Grant

Thao Nguyen, who earned her MA in political science and ENR in spring 2017, won a Fulbright US Student Program Grant to conduct research on biodiversity and sustainable resource consumption in marine protected areas in Indonesia.

Jeremy Goldsmith Boren Fellowship

The prestigious Boren Fellowship will support Jeremy Goldsmith, master's candidate in international studies and ENR, for a year overseas to improve his fluency of the

Wolof language and continue research of the migration crisis in Senegal and Gambia, West Africa.

Meghann Cranford, Ellen Hughes, Meghan Kent, Phil Klebba, and Sam Wiswell Finalists for the Spitaleri and Tobin Awards

The Rosemarie Martha Spitaleri Award recognizes UW's top graduating female undergraduate student. The Tobin Memorial Award recognizes UW's top graduating male undergraduate student. Five of the fourteen finalists for the awards this spring were Haub School students.

Yara Thomas and Lukas Lindquist Nielson Graduate Excellence Fellowship and Nielson Undergraduate Scholarship

The Nielson awards are the most prestigious recognitions given out by the UW Center for Global Studies. Yara Thomas is a MS candidate in architectural engineering and ENR. Lukas Lindquist studies geology and ENR.

Casey Terrell UW College of Law Brimmer Scholarship and Salt Creek Energy Excellence Scholarship

The \$10,000 Judge Clarence A. Brimmer Scholarship rewards UW College of Law students who demonstrate a commitment to excellence. The Salt Creek Energy Excellence Scholarship is awarded to students demonstrating academic achievement and a commitment to the study and practice of energy law.

SCHOLARSHIPS AND STUDENT SUPPORT

Haub School scholarships support field course and study abroad fees and general academic expenses. These funds also reward student excellence in environment and natural resources studies, interdisciplinary work, and more. For the 2016–17 and 2017–18 academic years, we distributed over \$100,000 to deserving students through seven scholarship programs, all supported by private gifts or endowments. These awards help us attract and retain top-performing students, and help our students make the most of UW’s academic opportunities. Contact us at haub.school@uwyo.edu to learn how you can contribute to Haub School scholarships.

Tessa Wittman, Jennet Nedirmammedova, and Casey Terrell
Plummer Interdisciplinary Excellence Scholarship Winners

The Haub School awarded three \$5,000 Plummer Interdisciplinary Excellence Scholarships for the 2017-18 academic year. The awards went to Tessa Wittman, double majoring in ENR and wildlife and fisheries biology and management, with honors; Jennet Nedirmammedova, studying environmental systems science and religious studies with minors in sustainability and GIS; and Casey Terrell, a second-year law student pursuing a joint degree in ENR.

NEW INTERNATIONAL COURSE IN QUEENSLAND

Courtney Carlson, Haub School Assistant Professor, and Jeff Hamerlinck, Director of UW’s Wyoming Geographic Information Science Center, led a new course titled *Exploring Queensland’s Human and Physical Landscapes* over the January term. This international field course explored the environmental, economic, political, and sociocultural issues that shape space, place, and society in one of Australia’s most populated and environmentally threatened coastal regions. Thirteen UW students experienced Brisbane, the Sunshine Coast, and the Lady Elliot Island Great Barrier Reef Coral Cay. They presented final projects at the University of Wyoming in March. This is just the latest addition to the Haub School’s extensive suite of international course offerings, which provide transformative learning experiences to our students and help them understand the world from diverse perspectives.

uwyo.edu/haub/academics



Zoe Sherman snorkeling at the Great Barrier Reef on the Haub School’s new Australia course. Photo by Hunter Rowe.



SUSTAINABILITY

Energy Efficient Lighting for the UW Campus

Two UW students, Tyler Carroll and Zach Millett, met in a *Campus Sustainability* class and teamed up to replace energy-hungry metal halide lights on Prexy's Pasture with efficient LEDs. They developed a proposal for the LED upgrade as a pilot project for the UW Campus Sustainability Committee's Conservation and Efficiency Revolving Fund, or CERF. In the future, the CERF will revolve savings from efficiency projects back to the fund to support new projects. This spring, UW Operations installed the new energy-saving lights. The retrofit is expected to pay back in less than eight years, and plans are in the works to expand the project to more areas of campus.

Conservation Cowboys Waste-Less Game

The UW Athletics Department and Campus Sustainability Committee launched the Conservation Cowboys initiative with a successful "waste-less" event at the UW men's basketball game against New Mexico on February 25. "Trash Talkers"—student, staff and faculty volunteers—helped fans sort recyclables from waste. They diverted 266 pounds of the total 659 pounds of waste, or 40 percent, from the landfill. "The game is just the latest demonstration of student enthusiasm for waste reduction efforts across UW," said Meghann Cranford, a student sustainability leader.

Campus Sustainability Capstone Course Projects

In ENR 4600/5600, Campus Sustainability, student teams completed sustainability projects to improve the UW campus.



Haub School Greenhouse Gas Emissions Inventory and Offset Policy

Students assessed the Haub School's building and travel emissions. Using that data, they developed a pilot program for Haub School faculty, staff, and students to voluntarily support projects that improve energy efficiency on the UW campus as a way of offsetting their carbon emissions.



Tree Campus USA

In response to a request from President Laurie Nichols, students explored the feasibility of and prepared an application to the Arbor Day Foundation's Tree Campus USA program.



UW Bike Plan

Students outlined a bike plan for the UW Bicycle and Pedestrian Safety Committee to make bicycling on campus easier and safer for all.

RESEARCH HIGHLIGHTS

Wildlife Issues Are Local—So Why Isn't ESA Implementation?

Temple Stoellinger, Haub School Assistant Professor, had a paper accepted for publication by *Ecology Law Quarterly* at the UC Berkeley School of Law. In this publication, she explores ways to empower states to take a stronger role in conservation for species listed under the Endangered Species Act. She argues that, in crafting the act in the 1970s, Congress's original intent was to give states authority to oversee implementation of the act following a species being listed, and she outlines a process that could be used to clarify and enforce that intent without legislatively reforming the act itself.

Optimal Spatial-Dynamic Management of Stochastic Species Invasions

Jo Albers, Knobloch Chair for Conservation Economics, co-authored a paper that was published in *Environmental and Resource Economics* earlier this year. The researchers modeled how an invasive plant species disperses through a stream ecosystem, and, given the differing costs of various treatments, generated recommendations managers could follow to make the best use of limited treatment resources in combating the spread of the invasive species.

Mule Deer and Energy Development: Long-Term Trends of Habituation and Abundance

Nicole Korfanta, Ruckelshaus Institute Director, and Kevin Monteith, Haub School Assistant Professor, are co-authors on a paper to come out in *Global Change Biology* later this year. The research, led by Hall Sawyer of Western Ecosystems Technology, Inc., compiles 17 years of data from mule deer using a winter range overlapped by natural gas development. The researchers found that, contrary to common assumptions, mule deer did not habituate to the energy infrastructure over time, and rather, mule deer avoided well pads by more than a kilometer even after drilling was complete and reclamation had begun. These findings could have implications for assessing the environmental impacts of future energy development on mule deer populations in the West.



Sage grouse, once a candidate for the Endangered Species List, strut in Wyoming. Photo by Joe Riis/USFS.



RUCKELSHAUS INSTITUTE

Collaborative Solutions Program



Wyoming Public Lands Initiative

The Ruckelshaus Institute is providing collaborative support to Wyoming Public Lands Initiative working groups in Carbon, Sublette, and Teton Counties. In 2015 the Wyoming County Commissioners Association launched this initiative, which is a collaborative, county-led process to address wilderness designation, release, or other management for Wyoming's 45 wilderness study areas. The core goal is to create a broadly supported, state-wide legislative lands package that will culminate in proposed legislation for Wyoming's congressional delegation to consider.

Forest Collaboratives

The Ruckelshaus Institute is facilitating the Sublette County Forest Collaborative and the Greys River Forest Collaborative in Lincoln County. These efforts will generate recommendations for local, state, and federal land managers to enhance forest health, wildlife, and recreation in collaboration with the US Forest Service. The groups have identified the issues they wish to address, and are fine tuning their objectives. We expect to wrap up initial collaborative processes with these groups in July 2017.

Thunder Basin

The Ruckelshaus Institute is facilitating two collaborative efforts in the Thunder Basin National Grassland. Following last year's collaborative-learning workshops, we recommended the US Forest Service continue collaborative learning in the grassland and start a governmental working group. This year, ongoing collaborative learning workshops, open to the public, allow participants to find solutions and draft options in a collaborative setting. A new Cooperative Working Group will use the options identified in the workshops to develop an implementation plan for prairie dog management on the Thunder Basin National Grassland.

uwyo.edu/haub/ruckelshaus-institute

Outdoor Recreation Task Force

The Ruckelshaus Institute Collaborative Solutions Program is facilitating Governor Matt Mead's Outdoor Recreation Task Force, which will generate policy recommendations for the state. The report will identify the benefits of outdoor recreation, outline efforts to expand business opportunities, and make recommendations to improve recreation infrastructure in Wyoming.

Collaboration Program in Natural Resources

The Ruckelshaus Institute just graduated its fourth cohort of the Collaboration Program in Natural Resources (CPNR) with final presentations and a graduation ceremony in Jackson. This year's class included representatives from Wyoming Game and Fish, Wyoming State Parks, State Forestry Division, US Forest Service, Bureau of Land Management, conservation organizations, and private companies, among others. Our fifth cohort in the program begins July 2017.



Jessica Western leads a Collaboration Program in Natural Resources training session in Lander, Wyoming. Photo by Kit Freedman.

NEW PUBLICATION



Western Confluence Magazine

Our latest issue explored energy development in the West. We covered Wyoming's leadership on carbon capture and storage research, the potential for changes to the energy grid to bring new wind energy development to Wyoming, new ideas for reducing energy consumption in buildings, and many other subjects. This was the seventh issue of the magazine, and the publication continues to expand in reach and influence. Our next issue, out in the fall, will cover endangered species management.



STUDENT SPOTLIGHT

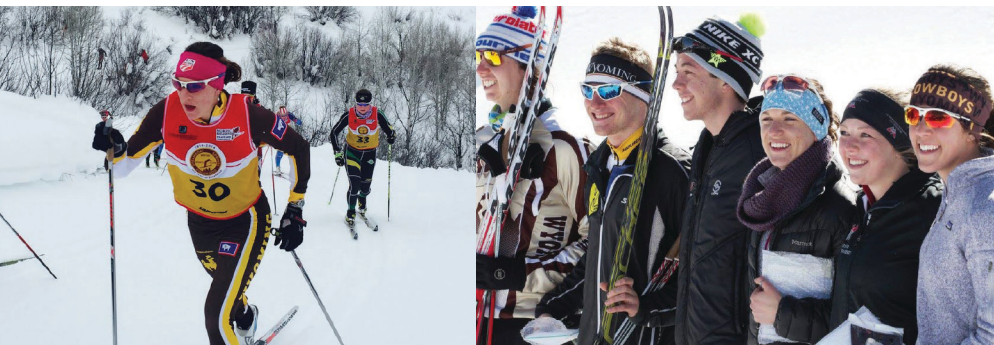
Elise Sulser, BS in Microbiology and Environment and Natural Resources, '17

This June, Haub School graduate Elise Sulser presented her environmental justice research at a conference in Cartagena, Columbia. Funded in part by a Haub School Creative Activities Grant, Elise interviewed people living in mountain communities from Bozeman to Kazakhstan about how climate change affects their lives and livelihoods. That's just one example of the impressive scholarship Elise engaged in during her time at the Haub School.

While at UW she had a leading role at the student farm, conducted field wildlife research in Wyoming, collected soil and water data in Nepal, and interned at the United Nations Environment office in Bonn, Germany, on the conservation of migratory species. On top of all of that, Elise competed on the UW Nordic Ski Team, racing all over

the western US and at the World University Games in Italy, Slovakia, and Kazakhstan. In 2016, she was named Overall National Champion by the United States Collegiate Ski and Snowboard Association.

Following her conference presentation this summer, Elise will travel in South America before returning to the Rocky Mountain West. She plans to spend a year gaining more real world experience, before attending graduate school in an environmental science or resource management field. She says the Haub School prepared her to address real-world environmental challenges. "There is no easy way to come to a decision. There is always compromise," she says. "The Haub School forces you to take a look at the other side and listen. It's about problem solving, not just skills."



Elise Sulser, skiing and in blue headband, is a champion Nordic skier for the UW team among her many other accomplishments.

WHO WE ARE

Faculty and Staff

Melinda Harm Benson, Dean

Jo Albers, Knobloch Chair in Conservation Economics

Maggie Bourque, Academic Program Coordinator

Courtney Carlson, Assistant Professor

Kit Freedman, Project and Outreach Coordinator

Mandy Gifford, Administrative Manager

Nicole Korfanta, Ruckelshaus Institute Director

Melanie Matthews, Project Coordinator

Kimberly Messersmith, Business Manager

Kevin Monteith, Assistant Professor

Fred Ogden, Cline Chair in Engineering and ENR

Emilene Ostlind, Editor and Communications Coordinator

Steve Smutko, Spicer Chair in Collaborative Practice

Temple Stoellinger, Assistant Professor

Doug Wachob, Academic Programs Director

Jessica Western, Collaboration Program Director

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Yes, I support the Haub School's mission to advance collaborative, informed solutions to complex environmental and natural resource challenges.

Pledge/gift amount: \$100 \$250 \$500 \$1,000 Other

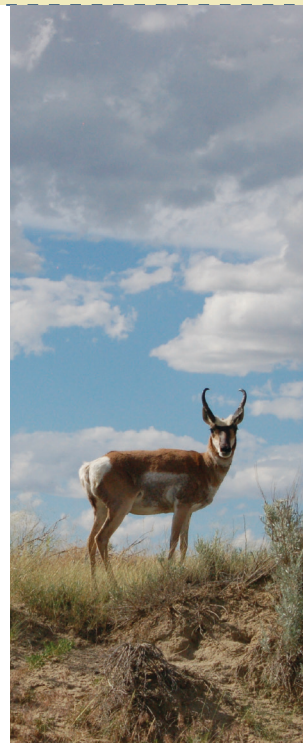
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HAUB SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES

University of Wyoming
Bim Kendall House
804 E Fremont St
Laramie, WY 82072

Alumna Spotlight

Alyssa Wechsler, Program Manager, Growing Resilience

BS in Zoology/Physiology and Environment and Natural Resources, UW, 2007
MPhil in Geography and the Environment, Oxford University, 2010

After studying sustainability on a Marshall Scholarship to Oxford, Alyssa Wechsler now manages a multifaceted, community-based, participatory research project assessing the health benefits of home gardens on the Wind River Indian Reservation. Growing Resilience is a five-year National Institute of Health-funded project. The research will quantify how gardens improve health, which could justify support for home gardens, giving tribal members better control over their food systems and health and helping them resurrect traditional practices.

“You usually don’t think of randomized control trials, a western idea, and tribal research going together,” Alyssa says. “I’m trying to navigate spaces between worlds. I started thinking about that and honing those skills—as far as communication and how to work with diverse groups of people—through ENR.”

