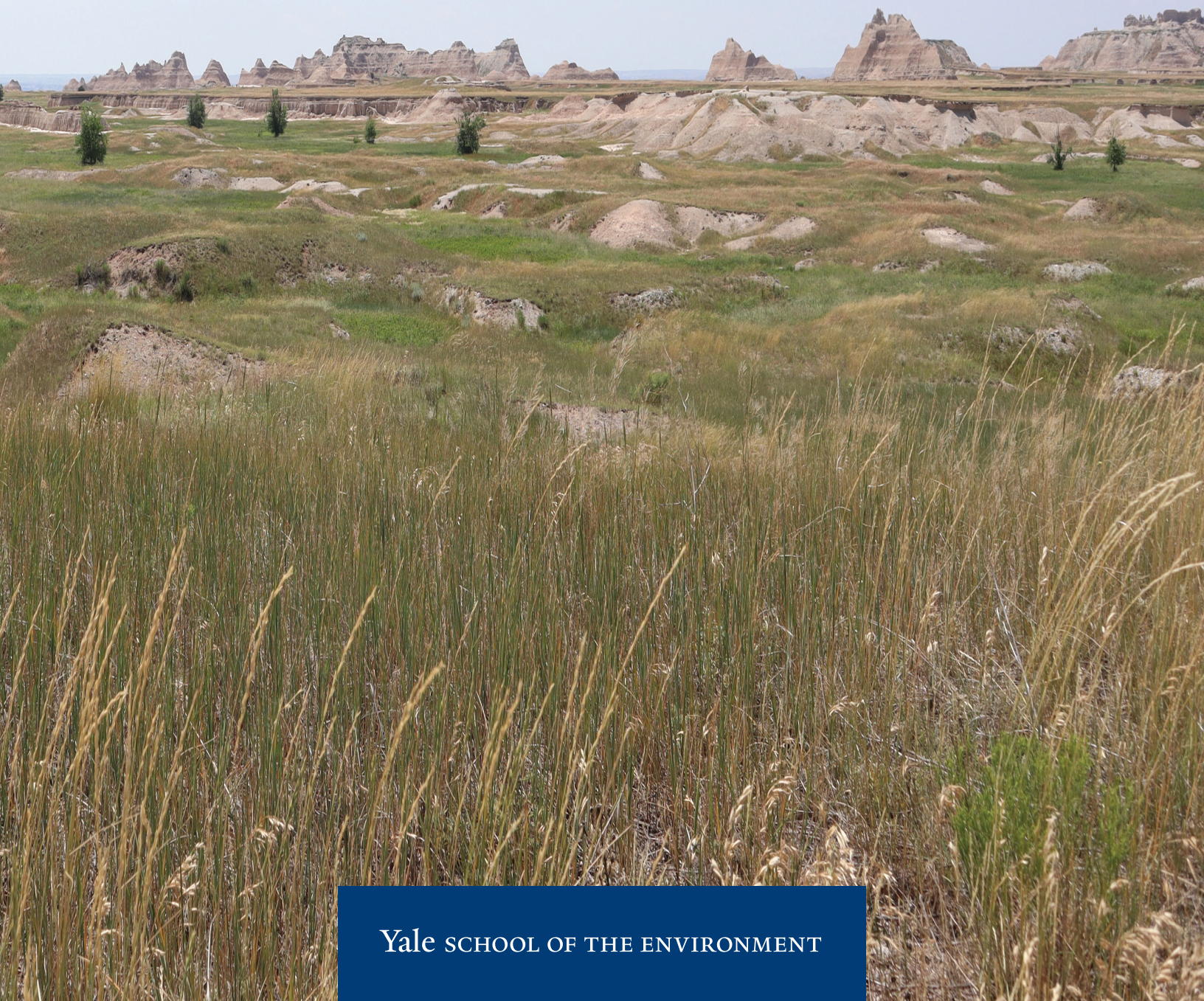




2022 ANNUAL REPORT



IMPACT SUMMARY



Partners engaged



Students involved

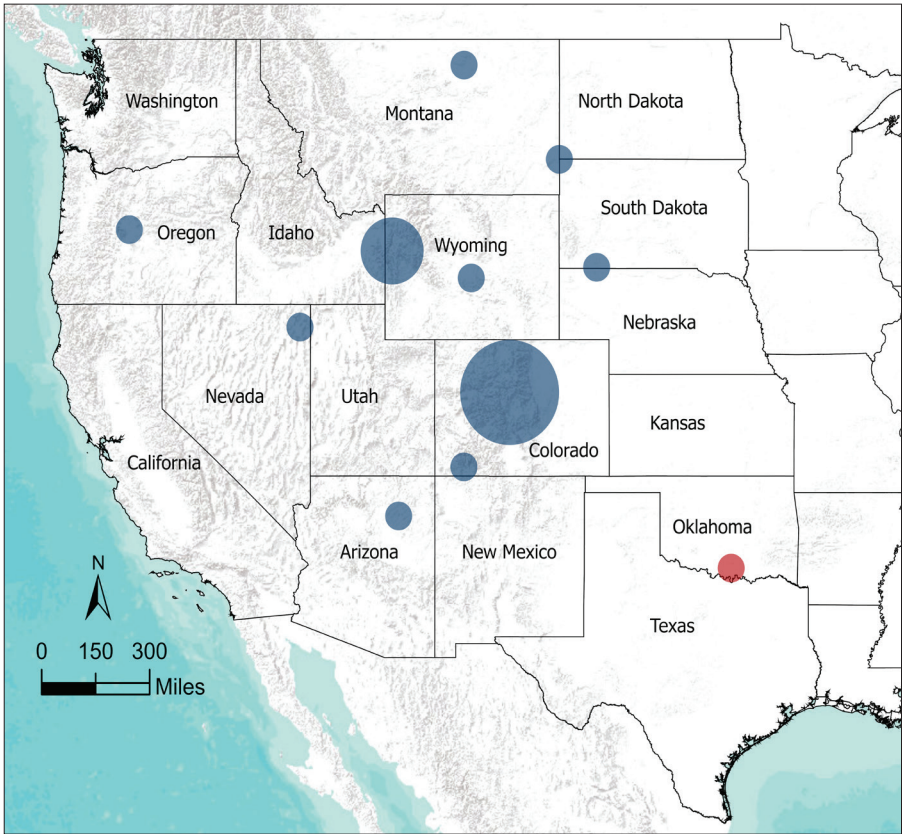
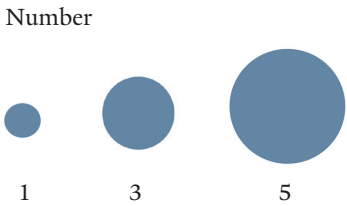


Stewardship and conservation deliverables completed

IMPACT AREA

We provide students opportunities to develop the skills needed to be leaders in land stewardship and conservation. Students collaborate with western partners and our staff to complete applied research and management projects throughout the American West. This map illustrates where our student projects impacted conservation during 2022.

- Project Type
- Field Practicum
 - Student Project



OUR MISSION

Fostering land stewardship and conservation in the American West through teaching, research, outreach, and leadership.

It's been an exciting year for our students. They've taken the bottled-up energy from the pandemic and hit the ground running, conducting research across the West on a number of issues important to local communities. As you'll see in our report, they've applied their classroom learning to on-the-ground issues ranging from agricultural resiliency funds in Colorado, to forest management in Wyoming, to the impact of rural gentrification on livability, agriculture, and recreation.

All of this would not be possible without your help. I want to send a special thanks to our network of alumni across the West and to our professional partners who allow our students to depart the ivory tower and get their hands dirty on the complex issues facing western communities. Our current moment requires leaders who can engage across boundaries, have difficult conversations, and find common ground to support community-based land stewardship. I hope you'll take a look at some of the projects we've included in this report and take hope in the leadership and creativity these future leaders represent, and share my optimism for the future of land stewardship in the West.



Dr. Justin Farrell, Faculty Director



PROJECT HIGHLIGHTS

Immersive Learning in Land Management and Stewardship

This spring, students traveled to Oklahoma and Texas and visited the Noble Research Institute, an agricultural research organization focused on regenerative land stewardship. Students visited a diversity of operations, met with land managers, and gained hands-on experience in soil health, adaptive grazing, wildlife management, silvopasture, and the economics of livestock production. Below, a Texas rancher is explaining her grazing strategy to students and to the left, students are practicing how to estimate forage quantity. Students engaged directly with the complexities of land management and the decisions-making it requires, better preparing them to address complex stewardship and conservation issues in the West.



Exploring the Balance Between Shrubs and Grasses across the West

In drylands, plants compete for water and other resources belowground while contending with harsh environmental conditions aboveground, like the hot sun and wind, that can desiccate plants. Although the shade of a shrub may be an inviting refuge for grasses, growing closer to a shrub could mean having to fight for water. Rachel Renne, a PhD candidate and summer fellow, traveled across the West measuring grasses that were growing near-to and far-from big sagebrush to explore how shrubs and grasses interact in different parts of the big sagebrush region. Rachel’s research clarifies how the amount and depth of water in the soil influences the relative importance of shrubs and grasses in different parts of the region.



STUDENT IMPACTS

Funding for the Stewardship of Working Lands in Colorado

Our student team identified finance strategies and structures that Colorado Cattlemen’s Agricultural Land Trust could use to implement their new Agricultural Resiliency Fund. This fund will support landowner-initiated projects that enhance conservation values, ecosystem services, and agricultural viability on ranches with CCALT conservation easements. Students studied conservation finance models, the successes and failures of other funds, and spoke with experts in the field in order to develop recommendations for sustainable funding options and models. These recommendations will assist CCALT in creating a fund that supports private land stewardship throughout Colorado and serves as a model for other land trusts in the West.



ROB MATTHEWSON/NOBLE RESEARCH INSTITUTE

ALUMNI CONNECTIONS



“After graduating from YSE, I joined The Nature Conservancy to focus on developing solutions to the West’s wildfire crisis. My work is really about relationships – creating new ways for people to relate to one another and to their environment. From my first experience with Ucross in the high plains of Montana and Wyoming to an applied research project in our newly remote world of work, I’ve learned from dozens of conservation practitioners who elevate the human components of environmental degradation and push me to envision new ways of practicing conservation in the West’s iconic landscapes.”

KATIE POFAHL, MEM ’21

FOREST PROJECT MANAGER
THE NATURE CONSERVANCY IN
CALIFORNIA

Systems Thinking Approach to Forest Health

Two student research assistants collaborated with The Nature Conservancy in Wyoming to study strategies to improve forest



MARK DOMEK

health and management. The team created a conceptual model using systems thinking that describes the connections between ecological, economic, and social factors impacting forest management and wood processing in Wyoming. By understanding the big picture and

relatedness of factors, TNC can implement needed policy changes and address barriers that prevent targeted forest management.

Implications of Outdoor Recreation

Mara MacDonell, a summer fellow, studied how the outdoor recreation industry impacts rural communities, public lands, and cultural perspectives. She interviewed industry insiders, county and town officials, recreational employees, and environmental professionals and completed over 100 hours of participant observation. Her findings describe the unintended consequences of the growing outdoor recreation industry, including population growth and natural resource use, pushing the industry to consider their impact and raising awareness.



MARA MACDONELL

Bison Grazing on Native Lands

One of our summer fellows, Ross Martin, worked with the Tanka Fund to create a storytelling campaign featuring Indigenous



ROSS MARTIN

ranchers who are grazing bison on their native lands. The Tanka Fund, a native-led nonprofit, will use Ross’s work to tell their stories, exemplify social and conservation benefits of bison grazing, and to build collaborative partnerships. Ross developed conservation plans and sustainable finance models for bison ranching to contribute to the

Tanka Fund’s mission of returning bison to native land, lives, and economies.

ADDITIONAL PROJECTS

Read more about these projects at highplainsstewardship.com

- Understanding the Impacts and Implications of Rural Gentrification in the American West
- Energy Use and Access on the Hopi Reservation
- Impact of Climate Change on Plant Community Composition in Western Wyoming and Implications for Wildlife Migration
- Clay, Silt, Sand, and Data: Revealing Soil Organic Carbon on Native Lands
- Evaluating Mesic Restoration Efforts in Montana with Geospatial Tools
- A Strategic Framework for Deploying CCALT's Agricultural Resiliency Fund on Conserved Working Lands

