



Department of Natural Resources and Society

GRADUATE STUDENT POSITIONS

M.Sc. and Ph.D.

COHORT RECRUITMENT

The Department of Natural Resources and Society at the University of Idaho seeks exceptional M.S. and Ph.D. applicants to begin graduate study during the 2020-2021 academic year. Our students and faculty engage in integrative research exploring the coupling of human and natural systems, with projects spanning theory and application. Our department has an excellent track record of alumni gaining leadership positions across a wide spectrum of environmental and natural resource fields.

Please see below for our list of project opportunities. For some projects research assistantships are available, and for some projects financial support is available via teaching assistantships.

We encourage you to learn more by first visiting individual faculty webpages, then directly contacting faculty before applying. We look forward to hearing from you.

RESEARCH THEMES AND PROJECT OPPORTUNITIES

1. Wildland fire and resource management (*Faculty advisor: Travis Paveglio*)

Projects examine the interactions between wildfire planning, land management agency practices, and policy in fostering human adaptation to wildfire across the U.S. West. Examples include:

- Examining how human communities are organizing or partnering to plan for potential wildfire impacts or the reintroduction of prescribed fire on landscapes.
- Collaboration or conflict surrounding the planning for or implementation of fuels reduction treatments on public and private lands.
- Recovery from wildfire events and their effect on communities or land management practices.
- Emerging policies seeking to foster cross-boundary management of wildfire at landscape scales.

2. Investigating legacies of land use change (*Faculty advisor: Mary Engels*)

Projects seek to elucidate legacies of human caused land-use change on natural resources, including:

- Investigating the relationship between urbanization and plastic pollution of Inland Northwest waters.
- Examining coconut legacies in tropical island ecosystems using remote sensing techniques.

3. Recreation management and Wild and Scenic Rivers (WSRs) (*Faculty advisor: Travis Paveglio*)

Data collected for these projects are intended to inform recreation management on public lands and explore private-public partnerships surrounding Wild and Scenic River management. Examples include:

- Recreation surveys and other documentation of visitor use activities to adaptively plan for changing recreation needs or challenges.
- Public involvement in federal land management decisions surrounding outdoor recreation.
- Exploring successful and unsuccessful agency-private collaborations surrounding Wild and Scenic Rivers, including the exploration of how WSRs benefit local communities.

4. Drought data accessibility and usefulness to stakeholders (*Faculty advisor: Chloe Wardropper*):

Conduct co-produced social science research with landowners and landscape management organizations to make drought data more useful and salient. This work represents two simultaneous projects in the northern Rockies region, one focused on rangelands management, and the other on tourism and recreation.

5. **Human dimensions of fish and wildlife conservation (*Faculty advisor: Kenneth Wallen*):**

Use social and behavioral science theory and methods to examine (a) norms, rules, and institutions; (b) cognitive, social, and policy processes; (c) individual and group dynamics; or (d) behavior change and behavior-centered design in the context of game management and wildlife conservation (potentially in collaboration with the Idaho Department of Fish and Game).

6. **Services & tradeoffs in the human dimensions of agroecosystems (*Faculty advisor: J.D. Wulffhorst*)**

Projects examine the ecosystem service challenges to provision resources need for food and forage production while attending to resource conservation and sustainability needs. Research designs may have case sites as well as connectivity within LTAR - the Long-Term Agroecosystem Research network. Examples include:

- a. Investigating trends of rural community stability and cohesion in food production landscapes grappling with challenges of emigration, climate fluctuation, and new social risks (e.g., opioids).
- b. Examining core indicators of rural prosperity and community well-being tied to risks and sustainability within the U.S. food production system. Focal areas may concentrate on rangelands or crop production aspects of food and fiber demands.
- c. Design of secondary data analyses to construct an 'atlas' of human dimensions aspects within services and tradeoffs of agroecosystems. Outcomes of this approach will concentrate on measurable impacts within sustainable intensification as the long-term network evolves.

7. **Climate change and natural resource resilience (*Faculty advisor: Mary Engels*)**

Projects look at factors impacting of natural resource resilience to changing climate. Examples include:

- a. Investigating the resilience and vulnerability of island ecosystems (both physical and ecological islands, etc.) to climate change.
- b. Examining the saline soil remediation potential of coconut and date palms and their suitability for long-term soil salinity management.

8. **Climate change and community resilience (*Faculty advisors: Jaap Vos, Karla Eitel, Teresa Cohn*):**

Fifty years ago, Ian McHarg published "Design with Nature". In this book McHarg argued that communities should be developed based on an understanding of the local environment rather than the individual whims and desires of local property owners. According to McHarg planners needed a solid background in the natural sciences and use ecological knowledge as way of thinking and goal setting. According to McHarg, everything connected to everything. With the increasing impacts of climate change, McHarg's ideas are now even more relevant to planning but they are oddly enough still not at the center of either planning theory or education. In fact, most planning schools are still teaching comprehensive planning, permitting and zoning with sidelines in urban design or public policy.

We are looking for a student to do applied research to help us create a graduate certificate for planning professionals that is based on a strong foundation in ecology and connects natural resources and environmental change to community values, social needs and aspirations.

9. **Climate change, Whitebark pine ecophysiology, and science communication (*Faculty advisor team: Mark Wolfenden, Jan Eitel, Lee Vierling, Teresa Cohn, Karla Eitel*)**

We are seeking a motivated PhD student who is interested in studying climate change effects on ecosystems affected by Whitebark pine (*Pinus albicaulis*) functioning. Whitebark pine is considered a keystone species in the Northern Rockies, playing a critical role in the lifecycle of other plants, mammals and insects; it has also been identified as a candidate for listing as an endangered species. The PhD candidate will have access to a suite of chemical ecological, ecophysiological, and remote sensing tools and use these to study ecological communities impacted by Whitebark pine presence.

As part of this project, the student will be working at remote field sites near McCall, Idaho and the University of Idaho's (UI) Taylor Wilderness Research Station. The student will also work closely with UI's award-winning McCall Outdoor Science School (MOSS) to integrate and communicate research findings to a broader audience including K-12 students and teachers. The student will be advised by UI MOSS faculty who have expertise in chemical ecology, remote sensing and education.