

## From the Director:



This promises to be a vibrant year for the MSU Institute on Ecosystems community of faculty and graduate students. Julia Haggerty strengthened and expanded the IoE over recent years. Paige Tolleson, Tamara Moe, and I are excited

about both continuing and starting new activities in the months ahead.

The aim of the IoE is to facilitate research and education in environmental fields and improve knowledge and communication on timely environmental topics. We try to achieve this by: facilitating successful interdisciplinary research across campus; helping to obtain financial resources; providing administrative assistance on grant accounting and reporting; enhancing the visibility of the IoE community; and engaging with the stakeholders across the state and region.

We invite each of you to help with these endeavors. The heart of IoE is the community of scholars who enjoy coming together to generate new ideas, develop new collaborations, and successfully tackle questions and issues that are vital to people and nature in our region. Our Rough Cuts weekly seminar series features faculty and scientists sharing their newest research directions. The theme for the fall semester is conservation science and practice in the Greater Yellowstone Ecosystem. The spring semester theme will be perspectives on fostering successful interdisciplinary research, particularly for early career scientists. Other activities to bring us together will include a monthly newsletter, bi-monthly coffee breaks, periodic “happy” hours, and possibly an annual field retreat.

Initiating new research collaborations often requires start-up resources. We are fortunate that the IoE budget can support 2-3 research teams to develop

proposals for large competitive funding solicitations. We are also working with the MSU foundation to secure philanthropic support for IoE programs.

The specific mission, activities, and programs of the IoE for the coming year will be vetted by our expanded MSU Advisory Board. The board includes Robert Peterson, Bruce Maxwell and Stephanie Ewing from LRES; Diane Debinski, Laura Burkle, and Christine Verhille from Ecology; Dave McWethy, Cathy Whitlock, and Jamie McEvoy from Earth Sciences; Lance McNew from Animal and Range Sciences; Joe Shaw from Engineering, Mari Eggers from Microbiology; and Claudia Regan from the Northern Rocky Mountain Science Center. Thus, we will be sharing details on IoE opportunities in the coming weeks and months.

In the meanwhile, please drop by our offices in Leon Johnson 617 and meet Paige, our program manager, Tamara, our administrative assistant, and me.

Andy Hansen, MSU IoE Director

## New Research

### Cathy Whitlock and Dave McWethy won NSF Award!

Cathy Whitlock and Dave McWethy (MSU Earth Sciences) have been awarded \$560,000 from NSF's Sedimentary Geology and Paleobiology Program to study the history of Yellowstone's Lower Geyser Basin. Over the next three years, members of the MSU Paleoecology Lab will collect and examine sediment cores from several freshwater lakes in the geyser basin to better understand the long-term connections between past hydrothermal activity, climate change, and ecosystem development. The interdisciplinary study will bring together collaborators from MSU and other universities, Yellowstone National Park, and the U.S. Geological Survey with the goal of increasing our understanding of hydrothermal dynamics—its history, drivers, and impacts.

# Recent Activities

## 150th Biennial Scientific Conference on the GYE May 2022



MSU hosted the 150th Biennial Scientific Conference on the Greater Yellowstone Ecosystem in May, 2022 at the Strand Union. The organizing committee for the conference included participants from Montana State University, Idaho State University, University of Wyoming, National Park Service, US Forest Service, Bureau of Land Management, and Yellowstone Forever. Over 250 people attended the conference which was entitled “Expanding the Scope of Science Together.” The conference celebrated Yellowstone’s 150th birthday as a time to reflect on the science and conservation accomplishments that have brought us to the present day, and the goal was to envision solutions for some of the grand challenges facing Greater Yellowstone’s future. The conference was attended by scientists and agency administrators, NGOs, and the interested public.

## NFWF America the Beautiful Proposal

With the collaboration of University of Wyoming, Future West, and the Eastern Yellowstone Collaborative, the IoE has submitted a proposal to National Fish and Wildlife Foundation’s America the Beautiful Challenge. With this funding we will be able to support and facilitate on the ground conservation efforts with the Centennial Valley Association, Madison Valley Ranchlands, the Common Grounds Project and the Ruby Valley Strategic Alliance. If funded, this project would implement conservation strategies on private lands in key locations in the Greater Yellowstone Ecosystem to sustain/restore: winter and migration habitats for grizzly bear, elk, pronghorn antelope, and mule deer;

increase resilience of sagebrush, grassland, and forest ecosystems to climate change, drought, and fire; and reduce wildlife/human conflicts. The expected outcome would be: establishment of the first public/private GYE-wide conservation network; implementations on private lands to reduce habitat fragmentation, enhance connectivity, increase ecosystem resilience, and reduce human conflicts with grizzly bear and elk; and ultimately improve the condition of ecological vital signs across the GYE, an ecosystem that is facing massive pressure from human pressures and climate change. Funding decisions are expected in October 2022.

## MSU’s Sustainability Summit April 2022



MSU’s first ever Sustainability Summit took place this past spring. The event will become an annual gathering that aims to increase awareness and engagement

with MSU’s sustainability and carbon neutrality goals. On Monday April 18th the summit was kicked off with a keynote speech from Chad Pregracke, 2013 CNN Hero of the Year and founder of the nonprofit Land and Living Waters. The next day was jam packed with a student poster session, presentations from MSU’s climate task forces, tours of MSU’s utility infrastructure, and Pecha Kucha style talks from students about their experiences with sustainability. This event will take place this upcoming Spring, so please message Paige Tolleson at ([paige.tolleson@montana.edu](mailto:paige.tolleson@montana.edu)) to learn more about how to get involved.



## Rough Cut Seminar Series

This semester's Rough Cut will be focused on sustaining nature and people within the Greater Yellowstone Ecosystem. Speakers from diverse perspectives will discuss science and management challenges and solutions in the GYE. Please see the attached calendar for speakers and topics. The Rough Cut will be held on Wednesdays in Barnard Hall 126 from 12-1pm. There will still be a WebEx option for those who are unable to attend in person.

Please join us at noon on Wednesday September, 14th for the first IoE Rough Cut seminar of the fall semester with IoE Director and Professor of Ecology at MSU Dr. Andy Hansen. Dr. Hansen will offer an Overview of the IoE and the Rough Cut series "Sustaining Nature and People in the Greater Yellowstone Ecosystem".

## Research Development Day *January 12, 2023*

The Office of Research Development is hosting Montana State University's first-ever Research Development Day on January 12, 2023. Research Development Day will highlight the current state of the research funding landscape; foster meaningful connections between MSU researchers, practitioners, sponsors, and industry representatives; and enhance the competitiveness, impact, and growth of MSU's research enterprise.

Research Development Day will bring together ~150 individuals from across the University's colleges, extension services, and dozens of research centers and institutes. In addition to a keynote speech from the Head of NSF's Office of Integrative Activities Dr. Alicia Knoedler, the event will feature informational sessions and meet-and-greets with program officers from federal, state, and private sponsors. It will also include facilitated discussions with industry representatives, a variety of expert workshops and panels, poster sessions, social mixers, and more. Planned workshops and panels range from "Broader Impacts 101 & Forming a Research Impact Identity" to "Looking Beyond Traditional Grants for Research Success."

Any faculty, postdoc, or student is welcome to attend, though space is limited. Registration for this free in-person event will open soon.

## NSF Partnership to Advance Conservation Science and Practice *October 11th*

The PACSP program aims to support projects that integrate three components: (1) basic research questions motivated by an urgent biodiversity conservation need, (2) the development and implementation of science-informed conservation actions specifically related to the biodiversity conservation need, and (3) a plan for on-going evaluation or assessment of the success of the conservation action to inform both the science and efficacy of the conservation action. Proposals that adopt a convergent approach between climate change, conservation, and the health of ecosystems and the organisms therein are especially encouraged. The due date for proposals is October 11, 2022.

## NSF LTER Network Request for Proposals *October 12th*

In the 2022 competition, the LNO expects to award 2-4 synthesis working groups at a funding level of up to \$110,000 for up to two years. The LTER Network aims to support projects that support the five core LTER thematic areas: primary production, population studies, movement of organic matter, movement of inorganic matter, disturbance patterns and processes or two social ecological thematic areas: land use and land cover changes, and human-environment interactions.

## MSU Field Station near Yellowstone National Park

There has long been interest on campus to have a MSU field station near Yellowstone National Park, one that would support field research, teaching, and workshops. To gauge faculty interest, IoE affiliates will soon receive an invitation to complete a short questionnaire about their interest in a Yellowstone field facility. Please take a few minutes to answer the questions so that we can get a better idea of the level of support for this initiative.