RM-CESU NEWS & EVENTS

RM-CESU Launches Public Lands Internship Collaborative
The Public Lands Internship Collaborative (PLIC) develops, supports, and simplifies meaningful, paid internship opportunities for students from varied degree programs across our partner campuses to support natural and cultural resource management, planning, data sciences, social and human dimensions, and countless other agency needs. As a fully integrated, cooperative internship program for academic credit, students receive supplemental university instruction and supervision in addition to experiential experience and direct mentoring from the host agency. Students integrate course material with practical contributions to agency assignments. Learn more about PLIC by clicking here or contact RM-CESU Executive Coordinator, Lisa Gerloff, lisa.gerloff@mso.umt.edu.

Glacier National Park Conservancy – Jerry O’Neal Student Research Fellowship - 2022 Call
Applications are now being accepted for the Glacier National Park Conservancy – Jerry O’Neal Research Fellowship for work in Glacier National Park. The fellowship aims to provide educational assistance for students seeking to understand natural and cultural resources issues and how these interact with human values. Special consideration will be given to proposals that address the following:

1. natural resource issues such as aquatic ecology, terrestrial ecology, fire ecology, invasive plants, and climate change
2. cultural resource issues, such as history and architectural studies, cultural landscape reports, ethnographic research, and archeology
3. social science that informs resource management about a natural or cultural topic and/or that addresses visitor impacts to park resources

Competition is open to graduate students or superior upper division undergraduate students at universities and colleges in the CESU Network. Awards range from $1000-5000. Applications must be submitted electronically by March 2, 2022. Application Process
Kicking off the RM-CESU 2022 Seminar Series

Each year the Rocky Mountains Cooperative Ecosystem Studies Unit (RM-CESU) recognizes the outstanding accomplishments by our students. Our RM-CESU Student Award recipients have contributed to wetland monitoring protocols, oral history at parks, grouse conservation, and citizen science. Many of our recipients have gone on to careers in federal service and academia. In this series we will be recognizing the work of our recent 2021 awardees as well as hearing from past recipients on their current contributions to science and scholarship.

**Thursday, January 27 at 2 PM: 2021 Award Recipients, Scarlett Engle and Jacob Oram**

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**2022 Seminar Series:**

**Celebrating the Scientific and Scholarship Contributions of the RM-CESU Student Award Recipient, 2007 to Present**

Join us January 27 at 2 PM as we recognize the exemplary contributions of the current two RM-CESU student award recipients. Scarlett will walk us through the culturally appropriate museum re-design for Chapin Mesa and the tribal outreach conducted to create it and Jacob will demonstrate how statistics is helping the effort in Whitebark Pine conservation.

Scarlett Engle, Ph.D. Candidate-Anthropology, University of Colorado Boulder
*The Power of Placemaking: Collaborating with Descendant Communities to Re-Imagine the Chapin Mesa Archeological Museum.*

Jacob Oram, MS Candidate-Statistics, Montana State University
*Ecological Statistics to Improve Whitebark Pine Monitoring in the Western U.S.*

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**Click here to sign up today**

Save the date…

**Thursday, February 24 at 2 PM:** 2017 Award Recipient, Jeremy Sueltenfuss, Assistant Professor & Restoration Ecologist, Colorado State University

**Thursday, March 10 at 2 PM:** 2016 Award Recipient, Greg Wann, Research Ecologist, USGS – Fort Collins Science Center

For more information, please visit the [RM-CESU Website](#).
RM-CESU Research Team Investigates How Invasive Fish Species in the Northern Rockies Affect Native Food Webs:

This study, published in *Proceedings of the National Academy of Sciences*, used long-term fisheries monitoring records to determine the timing of invasion by a nonnative fish predator, lake trout, in 10 northwestern Montana lakes. It also analyzed food webs from those lakes to determine how they changed native communities as the invasions progressed. This research was conducted in collaboration with the National Park Service, USGS, Montana Fish, Wildlife & Parks, USDA Forest Service, US Fish and Wildlife Service, and University of Montana, Flathead Lake Biological Station (FLBS).

The research team showed that lake trout disrupted food webs by forcing native fishes to feed on suboptimal food sources in different habitats, eventually causing the loss of the native predator, bull trout, a threatened species protected under the U.S. Endangered Species Act.

“Native bull trout populations have drastically declined in many lakes across western Montana due to competitive interactions with invasive lake trout,” said Clint Muhlfeld, a USGS aquatic ecologist and FLBS associate research professor. “For the first time, we show what happens not only to bull trout but entire food webs supporting them as lake trout invade and upset lake ecosystems over time.”

The journal citation for this work is: Charles A. Wainright, Clint Muhlfeld, James J. Elser, Samuel L. Bourret, and Shawn P. Devlin. 2021. Species invasion progressively disrupts the trophic structure of native food webs, PNAS November 9, 2021, 118 (45) e2102179118; https://doi.org/10.1073/pnas.2102179118

Black Bears Studied in Yellowstone by RM-CESU Partner Scientists: Researchers from Montana State University, University of Wyoming, Yellowstone National Park and USGS collaborated on a study and research report in the journal *Ecosphere*. The researchers followed the movements of seven black bears (*Ursus americanus*) in Yellowstone NP and detected specific foraging strategies when they come out of hibernation in the spring, with an emphasis on searching for high-quality vegetative forage. Citation: Bowersock, N. R., A. R. Litt, J. A. Merkle, K. A. Gunther, and F. T. van Manen. 2021. Responses of American black bears to spring resources. Ecosphere 12(11): e03773. 10.1002/ecs2.3773

RM-CESU Partners Plan Monthly Webinar Series on Whitebark Pine Ecology to be held in 2022:

In 2022 the Whitebark Pine Ecosystem Foundation (WPEF), working with partners will facilitate sharing of scientific findings and management initiatives on the “High Five” tree species in western North America. Speakers for the seminars will include investigators, former students, and non-profit researchers, many who have performed their research through RM-CESU partners, including the National Park Service, USDA Forest Service, USGS, the University of Montana and Montana State University. Webinars will be held on the 3rd Tuesday of each month, from 12 to 1 PM MST, January through May 2022. Videos will be available on the WPEF website and on YouTube for those not able to participate in the live sessions. The webinar will be organized this spring 2022 by four graduate students, all of whom are studying whitebark pine: Sean Hoy-Skubik, Montana State University, Vlad Kovalenko, University of Montana, Enzo Martelli, University of Montana, and Chloe Wasteneys, Montana State University.

Register for the webinar series at: https://umontana.zoom.us/webinar/register/WN_g_Yq7s3LQXeyy3wNyUkTIA . You only need to register once; the link to join is the same each month.

Contact the webinar organizers at wpef.webinar@gmail.com if you are interested in presenting in fall 2022 or winter 2023.

STUDENT OPPORTUNITIES

NEW NSF Program in Public Lands at Western Colorado University

Western Colorado University (WCU) is recruiting students for a new NSF-supported program to train students for ecology careers with public lands agencies. Thank you for sharing this opportunity with advanced undergraduates or early career professionals seeking applied, master’s-level training.

Students in the EMPLOYS (Ecological Management and Public Lands Opportunities for Young Scientists) Program will develop cutting-edge research capabilities and vital leadership skills to respond to the complex challenges facing public lands in an era of rapid social and environmental change.
EMPLOYS Trainees will:

--Earn a Master of Science in Ecology and Master of Environmental Management program in three years at Western Colorado University.

--Complete a research thesis using big data to study an ecological question, then apply research findings to help managers take action.


A limited number of full-tuition fellowships are available, and all EMPLOYS students will receive research and travel support. Early application deadline is February 15. More information can be found at Western's Center for Public Lands, and interested applicants may reach out to Melanie Armstrong; marmstrong@western.edu.

WCU has number of other fellowship opportunities available for students in their master's programs, including an Innovative Finance for Recreation Fellowship and a Justice, Equity, Diversity and Inclusivity Fellowship.

**JOB OPPORTUNITIES**

**Associate Director, Center for Public Lands**, Western Colorado University, Gunnison, CO (open until filled; posted 12.13.2021)

**Two Postdoctoral Research Associate for a three-year, collaborative NSF Division of Environmental Biology funded project: “Testing for nutrient limitation in alpine snow algae ecosystems,”** Flathead Lake Biological Station, University of Montana (screening begins 1/7/2022)

**Assistant or Associate Professor Environmental Design**, The Program in Environmental Design, University of Colorado Boulder, Boulder, CO (screening begins 1/10/2022)

**Director of the Institute for Tourism and Recreation Research**, W.A. Franke College of Forestry and Conservation, University of Montana, Missoula, MT (screening begins 1/17/2022)

**Assistant Professor of Plant Pathology - Mycology**, College of Agricultural, Human and Natural Resource Sciences, Washington State University, Pullman, WA (screening begins 2/1/2022)

**Assistant/Associate Professor of Agricultural and Natural Resources Communication**, College of Agricultural, Human and Natural Resource Sciences, Washington State University, Pullman, WA (screening begins 2/18/2022)

**Assistant Professor in Ecosystem Ecology - Climate Justice**, Colorado State University, Fort Collins, CO (screening begins 1/22/2022)

**Assistant Professor in Ecosystem Ecology - Land System Scientist**, Colorado State University, Fort Collins, CO (screening begins 1/22/2022)

**Natural Resources and GIS Technical Lead, Center for Environmental Management of Military Lands**, Colorado State University, Fort Collins, CO (screening begins 1/24/2022)

**Research Proposal Coordinator, The School of Global Environmental Sustainability**, Colorado State University, Fort Collins, CO (screening begins 1/24/2022)

**Research Associate - Plant Diagnostics Specialist**, Department of Entomology, Plant Pathology, and Nematology, University of Idaho, Moscow, ID (screening begins 1/27/2022)
Assistant Professor of Environmental Social Science, W.A. Franke College of Forestry and Conservation, University of Montana, Missoula, MT (screening begins 2/6/2022)

Assistant or Associate Professor of Native American Studies - Tribal Geographic Information Systems and Director of the Elouise Cobell Land and Culture Institute, University of Montana, Missoula, MT (screening begins 2/6/2022)

Assistant Professor of Quantitative Ecology, W.A. Franke College of Forestry and Conservation and the Wildlife Biology Program, University of Montana, Missoula, MT (screening begins 2/6/2022)

Assistant Director, Center for Environmental Management of Military Lands, Colorado State University, Fort Collins, CO (screening begins 2/15/2022)

Assistant Professor of Weed Science, College of Agricultural, Human and Natural Resource Sciences, Washington State University, Pullman, WA (screening begins 2/18/2022)

Rangeland Ecologist - Assistant or Associate Professor of Rangeland Ecology and Management, Montana State University, Bozeman, MT (screening begins 3/1/2022)

For details on these job opportunities, visit the Jobs Page

If you would like to post an announcement in the next RM-CESU Newsletter or on the website, please contact the RM-CESU Coordinator at rmcesu@cfc.umt.edu.