



Rocky Mountains Cooperative Ecosystem Studies Unit

NEWSLETTER Fall 2020

RM-CESU NEWS & EVENTS

Western Colorado University Student Recipient of the 2020 RM-CESU Student Award

Each year the RM-CESU recognizes the outstanding contribution of student(s) on a RM-CESU project. The recipient of the **2020 Student Award** is **Jennifer Fenwick**, Western Colorado University, for her contributions to the CESU project, **Digital Junior Ranger Research and Experiential Development (September 2018 to present)**. Jennifer played a key role in developing a digital Junior Ranger prototype that not only benefits National Historic Trails, but all NPS education programs.

Jennifer was nominated by Dr. Melanie Armstrong, Director of the Center for Public Lands at Western Colorado University and supported by Carole Wendler in the National Trail office of the National Park Service.

In her nomination, Armstrong noted that "Though no student was formally assigned the team lead, Fenwick's mentorship, preparation, focus and communication skills led to her being a de facto leader." Armstrong went on to report, "Coordinating 19 students, ranging from high school to graduate school, required tremendous capability, responsibility, patience and compassion. Fenwick has effectively performed traditional research and management roles, such as developing survey instruments and facilitating team meetings, but her leadership shines through in her interactions with other team members."



**Jennifer Fenwick, Western Colorado University, 2020
RM-CESU Student Award Recipient**

Congratulations Jennifer, this recognition is well deserved!

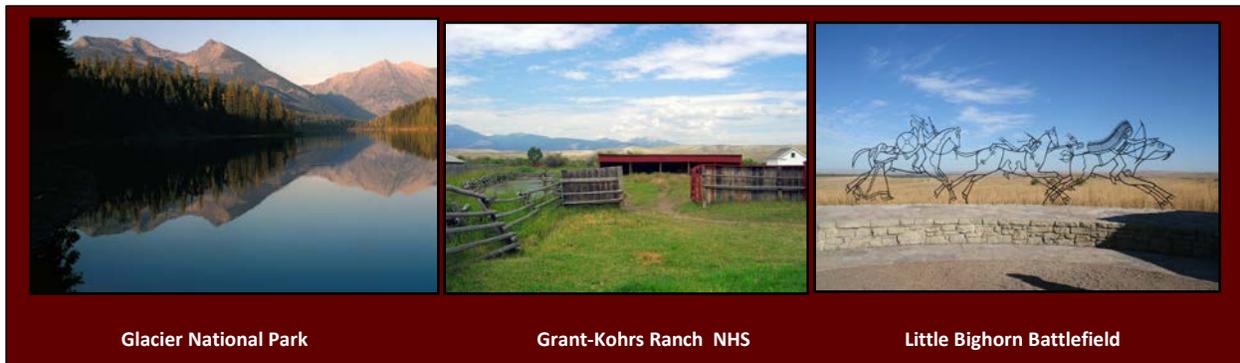
National Park Conservancy - Jerry O'Neal Student Research Fellowship -2021 Call



Applications are now being accepted for the **Glacier National Park Conservancy - Jerry O'Neal Research Fellowship** for work in Glacier National Park, Grant-Kohrs Ranch NHS, and Little Bighorn Battlefield NM. 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 RM-CESU universities and colleges only. Awards range from \$1000-5000. Applications must be submitted electronically by February 17, 2021. [Application Process](#)



Glacier National Park

Grant-Kohrs Ranch NHS

Little Bighorn Battlefield

RM-CESU Researchers Contribute to "Big Data" Compilation as Part of the Arctic Animal Movement Archive:

A recent article in *Science* journal highlights an international collaboration from the Arctic Animal tracking project (authors represent 118 institutes and agencies globally). This publically-available data set includes three decades of location information on many species, from soaring golden eagles to baby caribou taking their first steps. The early results from the [Arctic Animal Movement Archive](#) allow researchers to use the database as a baseline for future Arctic investigations and to examine the effects of climate on ecosystems in this key region. RM-CESU collaborators include: Wildlife Biology Program, Department of Ecosystem and Conservation Sciences, W.A. Franke College of Forestry and Conservation, University of Montana, Missoula, MT; Department of Natural Resources and Society, University of Idaho, Moscow, ID; School of the Environment, Washington State University, Pullman, WA; Boise State University, Raptor Research Center, Boise, ID; Department of Integrative Biology, University of Colorado, Denver, CO; US Geological Survey, National Park Service and US Fish and Wildlife Service. This sharing of migration and movement data for many Arctic species is particularly important in light of ecosystem changes

due to climate change. In this *Science* article the authors present the new Arctic Animal Movement Archive (AAMA), a growing collection of more than 200 standardized terrestrial and marine animal tracking studies from 1991 to the present. The journal citation is: **Davidson, S.C. et al., 2020, Ecological insights from three decades of animal movement tracking across a changing Arctic, Science 370, 712–715. Published November 6, 2020.**

Recent Article by RM-CESU Partners in Proceedings of the National Academy of Sciences Features Analyses of Climate and Postfire Forest Recovery: Researchers from University of Montana, Missoula and the USFS Aldo Leopold Wilderness Research Institute examined Forest Inventory and Analysis data from ponderosa pine plots located throughout the western US and correlated postfire recruitment with climate models extrapolated from the University of Idaho's TerraClimate site. The paper citation is: **Caitlin E. Littlefield, Solomon Z. Dobrowski, John T. Abatzoglou, Sean A. Parks, and Kimberley T. Davis, PNAS, November 9, 2020, A climatic dipole drives short- and long-term patterns of postfire forest recovery in the western United States, <https://doi.org/10.1073/pnas.2007434117>** The model analyses showed that drought severity "see-sawed" between the PNW and the SW about every four years, and that increasing temperatures and drought affected the forest's ability to recover from fire disturbance.

RM-CESU Partners Collaborate on Webinar Series, Conservation Conversations: The Salazar Center for North American Conservation at Colorado State University has hosted a number of webinars in concert with other RM-CESU partners on the topic of "Conservation Conversations". A number of university programs, which are partners in the Rocky Mountains CESU, are working to bring up-to-date information about conservation in the United States to practitioners and the general public through this webinar series. The RM-CESU university programs that participated in this collaboration include: University of Wyoming, [Ruckelshaus Institute for Environment and Natural Resources](#); University of Montana, O'Connor Center for the Rocky Mountain West; University of Colorado, [Getches-Wilkinson Center for Natural Resources, Energy, and the Environment at Colorado Law](#) School; and Andrus Center, Boise State University. The first webinar was shared on Wednesday, July 29, 2020 on the topic of **Climate Change and Conserving Biodiversity: the Convention on Biological Diversity's 30x30 goal**. View a [recording of the webinar](#)

On October 28, 2020 they recorded another panel discussion titled **Conservation and outdoor recreation: Challenges and solutions to keeping parks and public lands from being loved to death**, with panelists: **Jeff Mow** of Glacier National Park; **Michiko Martin** of the Forest Service's Recreation, Heritage & Volunteer Resources program; **Lewis Ledford** of National Association of State Park Directors; and **Chris Monz** from Utah State University. View the [one hour video](#).

Whitebark Pine Ecosystem Foundation Announces Two New Board Members, and Has Rescheduled the High Five Research Conference for October, 2021: Two new WPEF Board of Directors members come from two of our RM-CESU partners, Montana State University and the University of Montana. **Danielle Ulrich**, Ph.D. is on the faculty of Ecology at Montana State University, with a research program that focuses on whitebark pine and high-elevation conifer physiological responses to drought and high temperature. As a new Board member of the Foundation she would like to support WPEF's efforts to understand the linkages among science, management, and conservation to benefit high-elevation conifers. Another new Board member is **Cara Nelson**, Ph.D., who is a Professor of Restoration Ecology, Franke College of Forestry and Conservation, University of Montana. Cara and her students have an active program of research on the ecology and restoration of whitebark pine.

These two new Board of Directors members will be pressed into service to assist with the rescheduled **High Five Conference** to take place on October 5-7, 2021 at the Hilton Garden Inn, Missoula. Back-up plans are in the works, however, if we need to resort to an all virtual format due to the Corvid-19 pandemic. The [conference web site](#) describes the science, management and restoration objectives to protect high-elevation five-needle pines in western North America. The web site is now advertising 1) Call for Special Sessions (set of six presentations on a specific theme), (2) Call for Abstracts (oral 15 minute talks; posters for display at conference and online), (3) Call for Attached Meetings and Workshops (before or after the conference; meetings appealing to the audience attending the conference; or workshops to enhance the knowledge of conference attendees).

JOB OPPORTUNITIES

Assistant Fire Management Specialist Center for Integrated Research on the Environment, University of Montana, Missoula, MT (closes 12/9/2020)

Instructor of Renewable and Sustainable Energy, Masters of the Environment graduate program, University of Colorado, Boulder, CO (Application review begins 12/15/2020)

Instructor of Sustainable Agriculture and Food Systems, Masters of the Environment graduate program, University of Colorado, Boulder, CO (Application review begins 12/15/2020)

Assistant Professor of Geography, University of Colorado, Boulder, CO (Application review begins 12/18/2020)

Assistant Professor for Native American/Indigenous Linguistics, Department of Linguistics, University of Colorado, Boulder, CO (Application review begins 1/22/2021)

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.