



Rocky Mountains Cooperative Ecosystem Studies Unit

NEWSLETTER Fall 2022

RM-CESU NEWS & EVENTS

UM Alumnus Ready to Lead Glacier National Park

David (Dave) Roemer tapped as superintendent of Glacier National Park. In this position, he will provide oversight of the staff and resources needed to manage the over one million acres that make up the park. Roemer began working at Glacier in early July.

Roemer, who earned a master's degree in environmental studies at the University of Montana, is looking forward to exploring Glacier. After graduating, Roemer began a career with the National Parks Service, starting at Carlsbad Caverns and then moving to Bryce Canyon and Big Thicket. Most recently, he served as the deputy superintendent at Redwood National Park. Read more in [UM article](#).



RM-CESU Partners Contribute to the 2022 Virtual Science and History Week on Resource Issues at the Waterton-Glacier

Peace Park: From Monday, September 26 through Thursday, September 29, 2022, the U.S. and Canadian National Park Services will host a series of presentations via Webinar from noon to 12:50 p.m. (MST). The series will highlight current research and history topics related to Waterton-Glacier International Peace Park. Among the presenters are researchers from the RM-CESU partners: National Park Service, Washington State University, and University of Calgary. Go to the Science and History page for information about the on-line talks and instructions on how to register: https://www.nps.gov/r/c/crown/science_history_week.htm. If you need additional information, please contact the Crown of the Continent Research Learning Center, Glacier National Park at 406-888-7944.

RM-CESU Managers and Scientists Contribute to a Series of Articles on the Topic of Five-Needle Pine in Western North

America: The Forest Ecology and Management special journal issue "[Ecology and Restoration of High-Elevation, Five-Needle White Pines](#)" has now been published on-line. The issue features a collection of overview papers and invited contributions from the High Five II Conference presenters. Topic areas include health status, management practices, climate change, white pine blister rust resistance screening and restoration planning in five-needle pine communities. The articles were published from 2021 to 2022 and many were authored by scientists and managers from Rocky Mountains CESU partners, including NPS, USDA-FS, BLM, University of Montana, University Colorado Denver and Montana State University. To access the on-line articles, go to <https://www.sciencedirect.com/journal/forest-ecology-and-management/special-issue/10JN0Z5W6GX>

Water Policy Article Published in Science Journal, with Contributions from Utah State University and Colorado State

University: A "perspectives" article was published on July 22, 2022, in *Science* titled "What will it take to stabilize the Colorado River?", in light of the 23-year drought conditions in the southwest. The reservoir levels in both Lake Powell and Lake Mead, in the Lower Colorado Basin, are at the lowest levels ever recorded by the Bureau of Reclamation. The authors used hydrologic models and scenario testing to investigate constraints on water use into the future, especially if the "Millennium Drought" continues. For more information, go to science.org/doi/10.1126/science.abo4452

University of Colorado Boulder Receives Funding for Environmental Data Synthesis Center from the National Science

Foundation (NSF): The Environmental Data Science Innovation & Inclusion Lab (ESIIL) is a next-generation NSF synthesis center led by the University of Colorado Boulder in collaboration with NSF's CyVerse at the University of Arizona and the University of Oslo. ESIIL enables a global community of environmental data scientists to have access to environmental data and synthesis methods to help

solve challenges in biology and other environmental sciences. The 5-year Cooperative Agreement began in August 2022 and includes funding of \$20 million to be transferred to CU Boulder, PI Jennifer Balch, from the NSF, Division of Biological Infrastructure.

University of Montana, Montana State University and University of Colorado Denver Organize a Five-Needle White Pine

Webinar Series: There will be monthly webinars by university and agency researchers and managers from September 20, 2022 until May 16, 2023 on science and management topics related to high-elevation five-needle pines. Among the speakers will be researchers from University of Montana, Montana State University, University of Colorado Denver, the US Forest Service, and the Salish Kootenai tribes.

The “High-Elevation, Five-Needle White Pines: Science and Management Webinar Series” occurs the third Tuesday of each month from 12–1 p.m. Mountain Time during the academic year. All webinars are held by Zoom and are free and open to the public. These talks will cover a range of topics on high-five pines, including genetic resistance to white pine blister rust, restoration projects and treatments, trends in Clark’s nutcracker distribution, cultural significance of whitebark pine, and the use of advanced technologies to improve monitoring methods. You can [register for the entire monthly series](#), and the Zoom link will be the same each month. Webinar recordings are archived on our [Whitebark Flix YouTube channel](#). Register at https://umontana.zoom.us/webinar/register/WN_g_Yq7s3LQXeyy3wNyUkTIA

USGS and University of Wyoming Publish Results of a Study on Renewable Energy Development in Ungulate Habitat: The journal *Frontiers in Ecology and Environment* published a 2022 article on the results of a “before and after” study of how pronghorn populations were affected by the construction of a large solar energy project in southwestern Wyoming. There were a number of consultants and researchers from the University of Wyoming and the USGS Cooperative Fish and Wildlife Research Unit who participated in this study that followed radio-collared pronghorn response to a “utility-scale solar energy” (USSE) facility. Challenges identified were: (1) impermeable security fencing that block access to and reduces connectivity between formerly available habitats, and (2) the lack of guidelines for minimizing USSE impacts on ungulates, both resident and migratory. The open access journal citation is: Hall Sawyer, Nicole M Korfanta, Matthew J Kauffman, Benjamin S Robb, Andrew C Telander, and Todd Mattson, *Trade-offs between utility-scale solar development and ungulates on western rangelands*, *Front Ecol Environ* 2022; 20(6): 345–351, doi:10.1002/fee.2498

Montana State University Research Team Works with the NPS-Grand Teton National Park and the University of Wyoming-NPS

Research Station to Perform Climate Change Simulation Experiments: The journal *Ecosphere* published a recent article cited as J. Simone Durney, Arden Engel, Diane M. Debinski, and Laura A. Burkle, 2022, *Earlier Spring Snowmelt Drives Arrowleaf Balsamroot Phenology in Montane Meadows*. *Ecosphere* 13(8): e4198. <https://doi.org/10.1002/ecs2.4198>. The MSU researchers used passive warming structures and snow removal, to experimentally simulate increased temperatures, earlier spring snowmelt, and the interaction between warming and earlier spring snowmelt and how these ecological factors affect flower onset, flowering duration, and maximum floral display of the spring-flowering montane species, arrowleaf balsamroot (*Balsamorhiza sagittata*). This experiment extended over a 7-year period. This long-term research indicated that the arrowleaf balsamroot’s flowering onset responded more strongly to snow removal than to heating, but the combination of heating with snow removal allowed plants to bloom earlier, longer, and more profusely, providing more pollinator resources in spring.

USGS-Northern Rocky Mountain Science Center, USGS-Fort Collins Science Center Partner with Montana State University to

Analyze Monitoring of Rare Bats Species: As part of a USGS science program, known as “Bats and Stats,” cooperative researchers from the USGS and Montana State University used a series of different models to analyze acoustic data collected as part of the North American Bat Monitoring Program (NABat). These researchers and statisticians attempted to determine the best models to improve on surveys of cryptic, sparsely distributed bat taxa using automated recording units. The authors recommend that to improve rare bat species detection as part of the NABat that the survey design should include different habitat features within a study area. This would maximize the potential for detecting the full suite of species. This work is cited as: Kathryn M. Irvine, Katharine M. Banner, Christian

Stratton, William M. Ford, and Brian E. Reichert. 2022. *Statistical Assessment on Determining Local Presence of Rare Bat Species*. *Ecosphere* 13(6): e4142. <https://doi.org/10.1002/ecs2.4142>

JOB OPPORTUNITIES

Assistant Professor, Geospatial Science of Environment & Society, Utah State University, Logan, UT (review begins 11.14.2022)

Riverbend Ranch Endowed Assistant Professor in Wildlife-Livestock Health, University of Wyoming, Laramie, WY (review begins 11.6.2022)

Assistant Professor of Entomology/Insect Ecology, Montana State University, Bozeman, MT (review begins 11.1.2022)

Campus Stewardship Engagement Coordinator - UW Foundation, University of Wyoming, Laramie, WY (review begins 10.20.2022)

Assistant Professor-Sustainable Tourism Management, University of Wyoming, Laramie, WY (review begins 10.17.2022)

Assistant Professor Landscape Design, Montana State University, Bozeman, MT (review begins 10.15.2022)

Executive Director – Selway Bitterroot Frank Church Foundation, Boise, ID. The Selway Bitterroot Frank Church Foundation was founded in 2005 to assist the US Forest Service in providing stewardship for the 4-million-acre Selway-Bitterroot and Frank Church River of No Return Wilderness areas and surrounding wildlands through on the groundwork, public education, and partnerships. (Application deadline is 10.15.2022)

Postdoctoral Research Associate with the Group for Quantitative Study of Snow and Ice, Geosciences, University of Montana (closes 10.1.2022)

SER Professor of Environment and Natural Resources (Environmental and Energy Policy), University of Wyoming, Laramie, WY (review begins 10.1.2022)

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.