FALL NEWSLETTER

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@RMCESU



Letter From the Executive Director:

My favorite newsletters are the ones we get to highlight students. The RM-CESU's Internship Collaborative had a fantastic 3rd year – read the stats and an intern experience (p. 2-3). If you want more intern stories from the summer, please check out our Instagram and look for 2027 opportunities to be posted there in December and January. Fall is the time we announce our annual student award recipient – meet Dr. Molly Caldwell and be inspired by her dissertation that merges the field of community ecology and movement ecology (p.4). Enjoy the newsletter!

Lisa Gerloff,
RM-CESU Executive Director

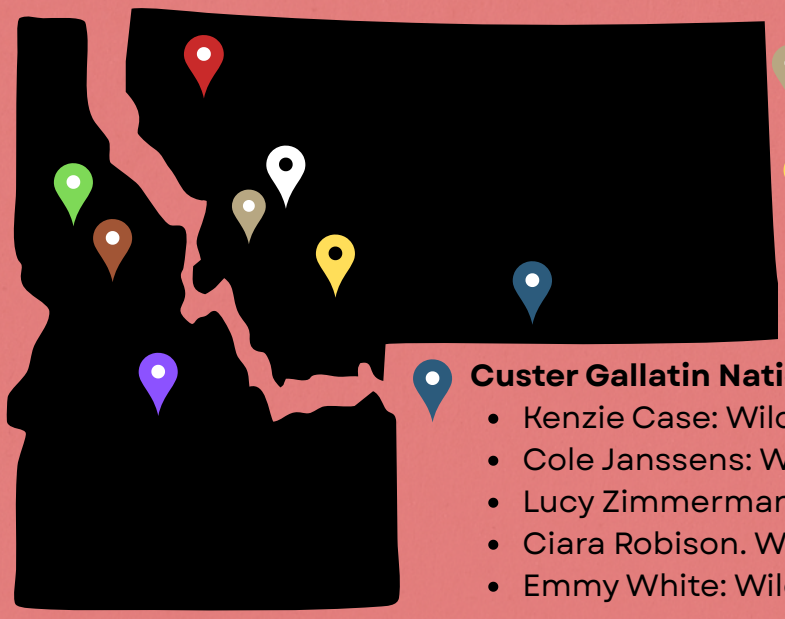
RM-CESU WELCOMES NEW MEDIA INTERN!



Claire Gallihugh joined our team this fall. Claire is a graduate student in the University of Montana's Journalism Program. One of her first assignments was to interview and write the student award winner article. Nice job, Claire! We are thrilled to have you aboard.

Northern Rockies Internship Collaborative 2026 Season Recap

This summer, through the Northern Rockies Internship Collaborative, **twenty one students** worked across national forests in Montana and Idaho, gaining hands-on experience in fields ranging from botany and wildlife biology to recreation management, hydrology and geology. The students came from the following partner institutions: **University of Montana, University of Montana Western, Montana State University, University of Idaho, and Boise State University.** Together, students contributed **10,613 hours of work** supporting public lands and natural resource management across the region.



U.S.F.S Northern Region

- Reese Gallinger: Forestry Resource Steward

Beaverhead-Deerlodge National Forest

- Joe Mateer: Botany Resource Steward

Kootenai National Forest

- Tom McDaniel, Botany Resource Steward

Custer Gallatin National Forest

- Kenzie Case: Wilderness Resource Steward, Bozeman District
- Cole Janssens: Wilderness Resource Steward, Hebgen Lake District
- Lucy Zimmerman: Wilderness Resource Steward, Hebgen Lake District
- Ciara Robison. Wilderness Weeds Inventory & Monitoring Steward
- Emmy White: Wilderness Weeds Inventory & Monitoring Steward

Lolo National Forest

- Abby Binder: Recreation Resource Steward
- Samantha Higgins: Recreation Resource Steward
- Francesca Spadafore: Botany Resource Steward

Idaho Panhandle / Nez Perce Clearwater National Forests

- Kadence Johnson: Botany Resource Steward

Coeur D' Alene Nursery

- Aila Dana, Native Plant and Conifer Nursery Resource Steward
- Jessica Harris, Native Plant and Conifer Nursery Resource Steward
- Kate Hernandez, Native Plant and Conifer Nursery Resource Steward
- Abby Johnson, Native Plant and Conifer Nursery Resource Steward

Nez Perce Clearwater National Forest

- Sofia Clancy, Hydrology Resource Steward
- Gabi Neely, Mineral/Geology Resource Steward
- Cray Silva, Mineral/Geology Resource Steward
- Cameron Akers, Recreation Resource Steward
- Finn Reiker, Recreation Resource Steward

NRIC INTERN BLOG: JOE MATEER, ENVIRONMENTAL SCIENCE MAJOR, UNIVERSITY OF MONTANA WESTERN

Being a botany resource steward for Beaverhead-Deerlodge National Forest in Dillon, Montana, employed by the University of Montana, has been a very rewarding experience. I have grown as a person and gained skills and experiences I never imagined I would possess. I have become great friends with my mentor and crew members and have formed unforgettable memories.



Joe Mateer collecting white-bark pine data near Discovery Ski Area, Montana

A meaningful experience I had during my time as an intern was planting native shrubs in a burn scar. The idea of planting these shrubs to positively impact the future of this landscape stands out to me. There have been countless devastating wildfires throughout the western United States, destroying many fragile ecosystems. Although wildfire is a natural and necessary component of healthy forest and shrub-steppe ecosystems, climate change and human-caused fires are putting increased stress on many forested and arid areas in states like Montana.

In efforts to limit damage to ecosystems, I joined the botany crew and several other Forest Service employees to plant hundreds of native antelope bitterbrush (Purshia tridentata) plants, cultivated by the Coeur d' Alene Nursery, in a burn scar on Forest Service-maintained land near Boulder, Montana. Antelope bitterbrush was chosen for this project because it is drought-resistant and native, promoting balanced ecosystems. The burn scar was on a steep slope near a rushing creek, where ash and rock made it very difficult to dig holes deep enough for the plants. We also hand-crafted and temporarily installed netting, held together with bamboo sticks, to keep deer and other wildlife from eating the young plants. This work was tedious and exhausting, and the weather was not on our side, dropping hailstones on us each afternoon.

Despite the challenges this project presented, it was incredibly rewarding to know that this work will have positive impacts on the landscape and ecosystems in this burned area. Eventually, these shrubs will provide a food source for wildlife to survive in the area, and vegetation will begin reclaiming the landscape. It was especially encouraging to see the difference we made as a team, planting more than 1,000 shrubs in this area over just a couple of days. Each of the nets and plants within them was planted and placed by someone on our crew, representing strong work ethic and dedication to improving the health of native ecosystems.

This is one of many projects that have positively impacted me during my time as a member of the botany crew on the Beaverhead-Deerlodge National Forest. I am incredibly thankful for the opportunity to have been a part of so many restorative projects and will forever cherish the friendships and memories made.

2026 RM-CESU ANNUAL STUDENT AWARD WINNER
MOLLY CALDWELL (PHD IN ECOLOGY AND EVOLUTION)



University of Wyoming Ecology and Evolutionary Ecology alum Dr. Molly Caldwell is the 2026 RM-CESU Student Award Winner. She is being recognized for her work studying the behavior of five species of large herbivores in Yellowstone and how they interact across the landscape. Inspired by a childhood in Southwestern Colorado, where she worked as a Backcountry Horse guide, Caldwell has long been interested in how different natural systems work together.

"I remember just a lot of days being out in the backcountry with horses and seeing wildlife like moose and elk move across the landscape. I was always fascinated with why these species are here in this environment, and what helps support them here," says Caldwell.

That fascination led her to California, where she studied Biology at the University of California, Berkeley, and began her career in wildlife research with California Fish and Wildlife. After browsing online postings for PhD opportunities, Caldwell took a chance on a Yellowstone Community Ecology position and ended up in Wyoming just a few months later.

She completed her PhD research on the migrations of five ungulate species in the Greater Yellowstone Ecosystem (bison, elk, mule deer, pronghorn, and bighorn sheep) in three chapters over the course of five years. Caldwell went above and beyond while pursuing her PhD, collecting field data though she wasn't expected to, and raising funds to buy trail cameras and hire field technicians.

The first chapter of her research focused on how different animals of different species form social groups. They looked specifically at how environmental factors drove group formation and found that mixed-species groups were very common. "We found that this wasn't random. It wasn't just animals coming across each other because of where they were, but it was actually determined by animals weighing these different costs and benefits of being in groups, such as food access or predator protection," explains Caldwell.

The second chapter examined how bison grazing influences other species' migratory movements. Using GPS collar and trail camera data, Caldwell examined the spring migrations of the four species and found that they closely followed areas bison had recently grazed.



Molly Caldwell posing next to a trail camera in Yellowstone, National Park

Her third chapter looked into how the five species shared space and resources across the landscape.She found that plant phenology, the life cycles and seasonal activity of plants, played a significant role in how the five species overlapped in sharing space and resources, with differing snow conditions driving ungulate movement in spring and summer.

According to Chris Geremia, Yellowstone National Park's Bison Program Manager, Caldwell's research offered insight into bison's broader ecological role and revealed ecological relationships between bison and other ungulates that were previously unknown. Her work will profoundly impact the management of the Park's resources.

Caldwell graduated with her PhD on August 14, 2026, and is looking forward to beginning her postdoctoral fellowship at the University of Washington in January. She will study orca energetics and how fishery release times affect orca populations. Caldwell aspires to continue studying ecology and wildlife, and one day become a professor. "I really like mentoring students and teaching. So, I'm currently on the trajectory to stay in academia and potentially be a professor in the future."

Partner Publications

RM-CESU Partners Investigate Wildfire and Forest Resilience in Northwestern Canada: Researchers from the USFS Rocky Mountain Research Station and Western Colorado University are among the authors of a study examining wildfire and vegetation dynamics in protected areas of Canada's Northwest Territories. Using paired burned and unburned plots across 24 sites in Nahanni and Naats'įhch'oh National Park Reserves, the authors investigated how postfire vegetation recovers and how tree growth responds to a warming climate. The findings suggest that northern forests have the potential to return to prefire conditions when fire-free intervals are sufficiently long. However, researchers caution that increasing fire activity could threaten the resilience of these forests and lead to more significant changes in vegetation composition and structure.

Citation: Zhao, S. Violet, Ellen Whitman, Denyse A. Dawe, Jonathan D. Coop, Sean A. Parks and Marc-André Parisien, 2026, Resilience or Reassembly: Wildfire–Vegetation Dynamics in Rapidly Warming Subarctic Forests of Northwestern Canada. Ecosphere, 17(9), e70760. https://doi.org/10.1002/ecs2.70760



American Pika

UM Researchers Investigate How Climate and Microhabitat Shape Pika and Marmot Distributions in Denali National Park: University of Montana researchers used an integrated modeling framework to examine how climate and local environmental conditions influence the distribution of collared pikas and hoary marmots in Denali National Park and Preserve, Alaska. The authors found that both species were less likely to occur in areas with warmer summers, while marmot occurrence was also negatively associated with shrub encroachment. Pikas were more likely to occur in areas with stable snowpack insulation, suggesting that large, rocky talus may provide important refuge from climate pressures. The findings highlight the importance of incorporating local habitat conditions into broad-scale climate models to better understand how alpine species may respond to environmental change.

Citation: Wall, J.L. and J.F. Brodie, 2026, From peaks to patches: Hierarchical climate filtering in collared pikas and hoary marmots. Ecology, 107(10), e70503. https://doi.org/10.1002/ecy.70503

Partner Publications

RM-CESU Researchers Investigate Nitrogen Recovery 35 Years After Wildfire in Yellowstone National Park: Researchers from the University of Montana and University of Wisconsin resampled lodgepole pine (Pinus contorta var. latifolia) forests in Yellowstone National Park to examine how nitrogen pools and cycling change during long-term postfire recovery. The team found that average aboveground nitrogen pools increased from 252 to 405 kilograms per hectare between 25 and 35 years after fire, while surface soil nitrogen pools remained unchanged. Soil nitrogen availability remained low, and silvery lupine, a nitrogen-fixing plant, was sparse across study sites. The findings highlight the complexity of nutrient recovery following wildfire and the need for long-term research to understand how nitrogen cycles respond to forest recovery.

Citation: Keller, T.T., C.C. Cleveland, R.E. Heumann, A.C. McGuire, L.T. Turner and M.G. Turner, 2026, Nitrogen dynamics 35 years after stand-replacing fire: Aboveground pools grow as surface soil pools remain unchanged. Ecology, 107(10), e70546. https://doi.org/10.1002/ecy.70546



Student collecting data in Tuolumne Meadows, Yosemite National Park

CSU Researchers Investigate Meadow Restoration and Carbon Storage in Yosemite National Park: Researchers from Colorado State University collaborated with the National Park Service to study whether restoring native vegetation could reverse the impacts of historical livestock grazing in Tuolumne Meadows. The team planted native Carex scopulorum sedges and monitored ecosystem carbon dynamics over three years. Plantings showed high survival and a gradual increase in belowground biomass, but four years after planting, the meadow continued to lose soil organic carbon annually. The findings highlight the challenges of restoring degraded mountain wet meadows and the need for long-term research to understand conditions that limit vegetation recovery and the reestablishment of healthy meadow ecosystems.

Citation: Cooper, D.J., A.W. Swift, E.C. Wolf, K. Miller, L. Baldwin, M. Booher and J.A. Hribljan, 2026, Can the carbon storage function of a degraded mountain wet meadow be restored? Journal of Geophysical Research: Biogeosciences, 131, e2026JG009823. https://doi.org/10.1029/2026JG009823

Upcoming Meetings

- November 16–20, 2026: Forest Mortality Trends Webinar Series (exploring forest mortality trends, stressors, resilience and management strategies), USDA Forest Service Research and Development, Online. Daily sessions from 11 a.m. to 12:30 p.m. Mountain Time.

Job Opportunities

- Montana Conservation Corps, Big Sky Watershed Corps Member, Montana. Corps members support watershed restoration, water-quality monitoring and community conservation projects while gaining hands-on natural-resource experience. Includes a living allowance, health insurance and an education award. (Apply by November 30, 2026)
- Colorado State Forest Service, Forester, Multiple locations across Colorado. Foresters support forest management, wildfire mitigation, forest health and community forestry through technical assistance, grant programs and public outreach. Salary is $50,000-$55,000. (Apply by December 31, 2026, for full consideration)
- Colorado State Forest Service, Forestry Technician, Multiple locations across Colorado. Forestry technicians contribute to field-based forestry and natural-resource management projects across the state. The open recruitment pool supports hiring as positions become available. Salary is $45,000-$50,000. (Apply by December 31, 2026, for full consideration)
- Montana Department of Agriculture, AgCorps Member, Montana. Corps members support environmental stewardship, agricultural education and community outreach through hands-on service projects. Pays approximately $23,000 annually. (Apply by December 21, 2026)
- University of Idaho, Tenure-Track Assistant Professor in Health Geography and Geographic Information Science and Systems, Moscow, ID. Faculty position developing an interdisciplinary research program focused on human and environmental health, teaching undergraduate and graduate courses, mentoring students and pursuing external research funding. Expected start date is Aug. 16, 2027.
- Idaho Department of Parks and Recreation, Regional Trails Specialist, Idaho Falls, ID. Regional position supporting motorized recreation and trail management through recreation planning, fieldwork, public outreach, compliance monitoring and partnerships with agencies and communities. Includes regional travel and off-highway vehicle operation.

For more job opportunities and upcoming events, check outy our website!