

VALENTINE RESERVE FUND

2026 SUMMER NEWSLETTER



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DIRECTOR'S MESSAGE

This year marks my 10th Anniversary as Director of the Valentine Eastern Sierra Reserves. As I reflect the last 10 years I am honored and humbled to have the opportunity of waking up every day living in such an amazing place, meeting passionate people and doing work that is so meaningful. It is truly the people and the places that make this work so fulfilling. Our community of researchers, students, volunteers and staff continues to inspire me to protect and conserve these special places. Every time I walk into Valentine and past the Grandfather Tree, I am reminded of how fortunate we are to have these natural areas of solitude and beauty in the midst of our increasingly busy world.

This year has been particularly busy at the Reserves. Outdoor Science Education programs introduced young students to our local ecosystems, university field courses trained the next generation of scientists, and researchers pursued long-term projects across the region. That steady flow of people and ideas underscores the true value of these reserves as communities of knowledge and shared purpose, not just field sites.

The legacy of the Valentine Eastern Sierra Reserves lies as much in the connections we foster, as in the landscapes we steward. We are deeply grateful for the Valentine Reserve Fund's continued dedication to supporting excellence in conservation, education, and research. Your generosity makes this work possible, and we thank you for all the ways you contribute to these extraordinary places.

- Carol Blanchette

CO-STEWARDSHIP

BISHOP PAIUTE TRIBE & VALENTINE RESERVE



This summer, we celebrate an important partnership. Valentine Reserve is the first of the UC Natural Reserve System (UCNRS) sites to engage in a co-stewardship agreement with a tribal partner. The passage of California state legislation (A.B. 1284) encourages California Trustee agencies, including the UCNRS, to engage in co-management initiatives with tribal partners. In July, a Memorandum of Understanding (MOU) was officially signed by UCSB Chancellor Dennis Assanis and Bishop Paiute Tribe Chairwoman Emma Williams to capture the essential elements of our shared vision for enhanced tribal inclusion at Valentine Reserve.

The Bishop Paiute Tribe is a federally recognized Native Nation on whose ancestral lands the Valentine Reserve is located. Over the last several years, research teams from UCSB, UCI and Valentine Reserve have been meeting with the Tribe as part of an NSF-funded research project to collaborate on wildfire co-management procedures and policies for use by tribal, non-tribal, public and private stakeholders in the region and beyond. This work led us to the creation of a co-stewardship agreement between the Bishop Paiute Tribe and the UCSB Valentine Reserve as a test case to understand how to best model and approach a collaboration between an Indigenous group and a non-Indigenous organization focused on co-stewardship in the realm of wildfire resilience. The co-stewardship agreement also includes fostering cultural education opportunities, related research initiatives, and general educational programs for tribal youth in an effort to increase their access to the University of California.

Through this project, we seek to model best practices for implementation of this new legislation for the UC Natural Reserve System and other organizations across the state. With forty-two campuses statewide, the UC NRS connects communities across the state to the University. This project aims to facilitate enhanced outreach and engagement between rural and tribal communities and the UC. This fall we aim to begin planning cultural, educational and stewardship activities that will lie at the heart of this new partnership.

VESR GRADUATE STUDENT AWARDEES

Each year we award research fellowships from the Valentine Reserve Fund to select graduate students pursuing their graduate research at SNARL or Valentine Reserve. This year we awarded 5 VESR Graduate Student Fellowships. Two additional graduate students were awarded fellowships from other funding sources to pursue their research projects at Valentine Reserve.



VESR GRAD STUDENT FELLOW
Emily Martin - UC Irvine

**Fish Reduce Secondary
Productivity of Zooplankton in
Mountain Lakes**



VESR GRAD STUDENT FELLOW
Ashlyn Foster - UC Irvine

**Investigating the ecological role
of the plastisphere in mountain
lakes**



VESR GRAD STUDENT FELLOW
Charlie Thrift- UC Santa Barbara

**Using bee and hoverfly thermal tolerance shifts
across elevation to better understand pollinator
health in a changing Sierra Nevada**



VESR GRAD STUDENT FELLOW
Jordan Rose - Cal State
Northridge

**From Fire to Flow: Post-Wildfire
Channel and Water Quality
Change in McGee Creek**



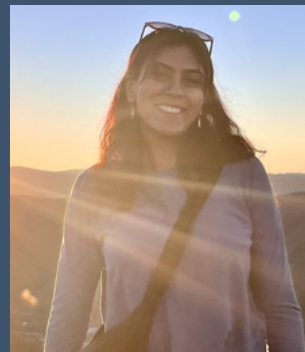
VESR GRAD STUDENT FELLOW
Bryan Sanchez - Cal State
Northridge

**Pool and riffle sediment analysis:
key hydrologic indicators of channel
patterns, McGee Creek, eastern
Sierra Nevada, California**



**MAXWELL HANRAHAN
STUDENT FELLOW**
Mike Mahoney - UC Davis

**Do Clark's Nutcracker
(*Nucifraga columbiana*) life
history traits predict the
efficacy of their seed
dispersal services?**



**UC NATURE MATHIAS
STUDENT FELLOW**
Sachi Srivastava - UC Davis

**Leapfrog at Record Heights:
Investigating the spread, drivers,
and spatial dynamics of Jeffrey
pine (*P. jeffreyi*) population
establishment at timberline in
the Sierra Nevada, CA, USA**

STUDENT SPOTLIGHT

ASHLYN FOSTER

UNIVERSITY OF CALIFORNIA, IRVINE

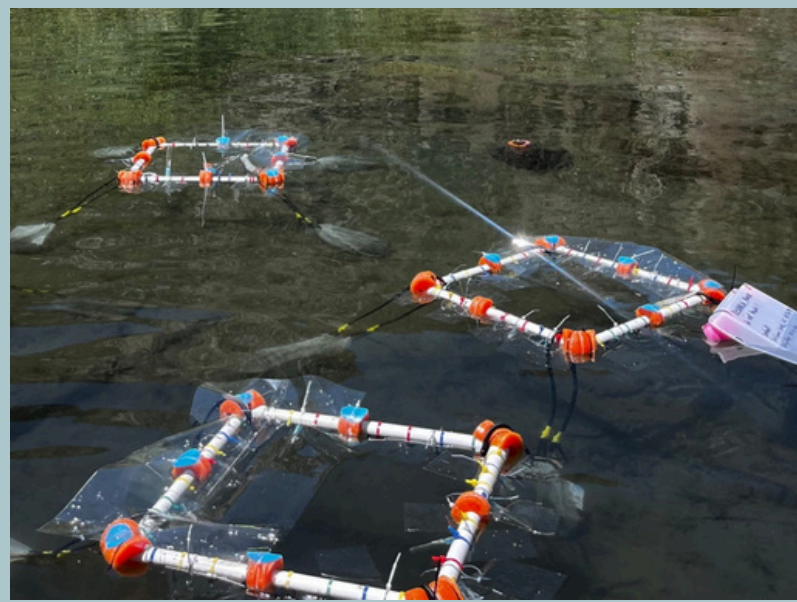
Perilous Plastics:

What are the consequences of plastic pollution in Mammoth Lakes?

The town of Mammoth Lakes and its surroundings are teeming with lively outdoor opportunities from hiking to skiing to recreational fishing. While these beloved activities are what characterize Mammoth as the ultimate outdoor destination, there may be a hidden cost. With increasing human activities in nature, there is often an increase in pollution as well. In lakes, high-volume tourism and outdoor recreation is the main cause of plastic pollution. Unfortunately, the consequences of macroplastic pollution in mountain lakes is severely understudied.



This summer, my lab (Symons Lab at University of California, Irvine) and I are participating in a global experiment that is investigating the effects of plastic pollution on lake biological communities. The Sierra Nevada Aquatic Research Lab is our home base while we have been conducting a 30 day incubation of plastics in Convict Lake. During this incubation, algae, bacteria and other critters grow on the plastics. These organisms make up what is known as the “plastisphere,” the unique ecosystem of living things that form a film on plastic surfaces. This plastic ecosystem can impact lake characteristics by behaving in fundamentally different ways than an ecosystem on a natural material. At the end of the 30 day incubation, we will look at the differences between the community on plastics versus the community on natural material and the ways in which they may be interacting with their environment differently. This experiment will reveal how plastic pollution may impact lake characteristics such as clarity, productivity and function through the distinctive “plastisphere” community dynamics. It will also help local community officials understand how recreational-related pollution may be influencing Mammoth Lakes.



MONO LAKE RESEARCH



Long-term studies of Mono Lake are essential for understanding the effects of changing lake levels and salinities on the lake's ecology. Studies by John Melack and his associates based at SNARL began in 1979 and have continued. Over the last four decades periods with large snowfall and runoff, followed by periods with low runoff and continued water diversions have dramatic impacts on the lake's ecology. The abundance of phytoplankton varies with the variations in runoff and stratification of the water column, and, in turn, influences *Artemia monica*, a critical food source for breeding gulls and migratory grebes. On-going work has added moored sensors to obtain continuous records of conditions in the lake. Our scientific results and on-going work guide adaptive management of the lake.

The work is supported by a contract from the National Fish and Wildlife Foundation with funds from the Los Angeles Department of Water and Power to J. M. Melack at the Earth Research Institute, University of California, Santa Barbara. Laboratory work is performed at the Sierra Nevada Aquatic Research Laboratory, University of California. On-going field and laboratory work and data analyses are being conducted by John M. Melack, Caroline Vignardi and Robert Jellison. Melack recently presented findings at a public workshop organized by the California Water Resources Control Board as part of the Board's on-going review of impacts of water diversions from the Mono basin.



MOUNTAIN LAKES RESEARCH GROUP



In summer 2026, the Mountain Lakes Research Group (MLRG, aka the "frog people") continues their SNARL-based research and recovery of endangered mountain yellow-legged frogs (*Rana muscosa* and *Rana sierrae*). Led by Alexa Lindauer, Tom Smith, and Roland Knapp, the team includes returning researchers Leonie Walderich, Parker Land, and Georgia Lattig, newcomers Janna Ellman and Andy Martinez, and UCSB undergraduate/FUERTE fellow Victor Rodriguez. Since June 1, they have logged over 300 field days!



MLRG continues to document mountain yellow-legged frog population recovery, and is a leading voice in Sierra Nevada amphibian conservation planning. Partnering with nationwide research collaborators, they are also studying factors driving reintroduction success, such as mountain yellow-legged frog evolution. In 2026, the team has reintroduced over 700 zoo-raised and 150 wild frogs across Yosemite, Sequoia & Kings Canyon, and Sierra National Forest, and sent 350 tadpoles to the San Francisco Zoo to fuel future reintroductions. They rescued ~10,000 Yosemite toad tadpoles from a drying habitat to reestablish an extinct population, will survey Yosemite's California red-legged frogs, and are collecting disease samples from other Sierra amphibian species. On theme with their upcoming publication about Mount Lyell salamanders, they extended the southern extent of the species' distribution and documented lake habitat use. The crew remains excited about late-night salamander hunts!



The field crew loves their mountain-town lifestyle based out of Valentine's University Cabin. Throughout the year, MLRG runs one of the Eastern Sierra's only molecular biology labs, providing amphibian disease diagnostics to colleagues across North America. They remain grateful for key partnerships with the National Park Service, Oakland Zoo, and San Francisco Zoo. As two long-term NSF grants wind down, MLRG seeks new funding and alternative support for their ongoing and ambitious frog recovery efforts.

SIERRAN CLARK'S NUTCRACKER ECOLOGY AND SEED DISPERSAL STUDIES

Michael Mahoney is a second year Ph.D. student at UC Davis, where he is advised by Hugh Safford. For his dissertation research, he is interested in studying Clark's Nutcracker (*Nucifraga columbiana*) and their seed dispersal patterns in the eastern Sierra Nevada Mountains of California for improved whitebark pine (*Pinus albicaulis*) and subalpine forest conservation. His research is a part of a broader project focused on understanding the elevational range expansion of Jeffrey pine (*Pinus jefferyi*), a conifer that typically grows at mid-elevations in the Sierra Nevada Mountains, a consequence of warming temperatures and upslope movement of the tree's seeds by the Clark's Nutcracker.



Clark's Nutcracker are related to crows, ravens, magpies, and jays. Like other members of their family, they are known for their seed dispersal and caching behavior: removing seeds from pine cones, moving them away from the parent tree, and storing the seeds in the ground to be eaten at a later time. If these caches are not revisited or not fully recovered, the seeds have an opportunity to germinate. This movement of seeds is a biologically important process, and it may have consequences for the future of many pine species in California's Sierra Nevada. Not only might nutcrackers be playing a role in the upslope movement of Jeffrey Pine, but these birds are also important in the persistence of the federally threatened whitebark pine (*Pinus albicaulis*).

Whitebark pine are unique in that they require nutcrackers and their specialized bill to pry open the scales of their cones, extract the seeds, and move the seeds to a suitable location for germination. Without the bird, this tree's seeds would not be dispersed and new trees would not grow. This is concerning, as whitebark pine populations are already threatened by an invasive disease, the white-pine blister rust (*Cronartium ribicola*), which has been killing large numbers of trees across the intermountain west. Changes in beetle outbreaks, fire regime, and climate change also are having impacts on this tree.

To learn more about nutcracker ecology and their habitat preferences during the time when the birds are dispersing seed, Michael is starting to conduct research aimed at answering the question: what features of the environment best explain Clark's Nutcracker habitat use during the harvest season (the time period when nutcrackers are harvesting pine seeds and storing them in ground caches)? To answer his question, he has started visiting sites across the Inyo National forest, counting birds, and describing forest characteristics to tease apart patterns in the bird's preference. While the research is still in its early stages, Michael has already been struck by how quiet and sneaky the Clark's Nutcrackers, a bird often described as the loudest bird in the subalpine, can be.

This work was made possible by research grants from the Organization for Biological Field Stations.

FIELD-BASED UNDERGRADUATE ENGAGEMENT THROUGH RESEARCH, TEACHING, AND ENGAGEMENT (FUERTE)



The FUERTE program at UC Santa Barbara introduces undergraduates, particularly those from underrepresented backgrounds, to environmental science through hands-on fieldwork and faculty mentorship. The goal of the program is to explore the worlds of conservation science, marine biology, and field research, and excite students about careers and science within these fields. Every year this program has involved an intensive visit to the Sierra Nevada Aquatic Research Laboratory (SNARL). Field stations like SNARL make it possible for students to move from classroom concepts to real field collection in a single trip, and SNARL gives them direct access to the ecologically significant habitats found in the Eastern Sierra. This year's trip to SNARL welcomed students from UC Berkeley as well as UCSB undergraduates, and involved a wide array of activities.



Faculty and researchers visited the group of 17 students to lecture about a mix of engaging topics including high-elevation ecology, frog conservation, grazing history and ecology, stream invertebrate sampling, and regional energy infrastructure. Students got hands-on with camera trap setup for wildlife monitoring, stream and vegetation data collection, alongside a backpacking trip that took the group into the surrounding backcountry. The backpacking trip pushed the students out of their comfort zones, while building field preparedness skills and a taste of what field science can look like.

Altogether, the support from station director Carol Blanchette and all of the esteemed guest researchers and faculty created an engaging and enriching environment to introduce the students to field ecology and conservation science. One student said that seeing so many like-minded students and incredible staff/professors in one environment has inspired them to reach out and to seek more knowledge.

UNIVERSITY OF CALIFORNIA CALIFORNIA ECOLOGY AND CONSERVATION FIELD COURSE (CEC)



Three times a year, the University of California's only systemwide class, California Ecology and Conservation (CEC), spends fifty days touring the amazing reserves in the UC Nature System. Along the way, the students design and conduct their own research projects. We study everything from the effects of tree encroachment on meadow soils and the impact of aphids on milkweed insect visitors, to the behaviors of catfish and salmon.

A highlight for CEC is always coming to SNARL. The excellent facilities and welcoming staff make SNARL a great place to work on the analysis, storytelling, and writing components of the scientific process. This year, we used out time at SNARL to write about research we conducted at UC Berkeley's Angelo Coast Range reserve in Mendocino county. Outside of writing, highlights at SNARL included watching nighthawks and poorwills fly around dusk, attracting several large fishflies (right, above) to our black-lit sheet, following the antics of least chipmunks as they foraged for seeds, and finding a Mormon cricket calling from the sagebrush (right, below). Our time at SNARL was so nice, next year we're coming twice!



OUTDOOR SCIENCE EDUCATION PROGRAM (OSEP)

The Outdoor Science Education Programs focus on getting kids outside, where they learn about nature, art, Indigenous culture and how to responsibly recreate and become stewards of the land and waters around them. During the school year, over 2,000 students from across Mono and Inyo county visit the Reserves as part of this program. Nature-based learning is paired with grade-appropriate curricula to engage students with the world around them.

In the summer, weeklong camps are offered June through August to encourage year-long learning. This year's camps featured adaptations, habitats, insects, animals, and even cryptids, like the legend of Bigfoot! Students engage with topics through hands-on learning, exploring the Reserve, creating art, asking questions, and collaborating.



Outdoor Science Education Programs are made possible through the generous support of donors and grants. These programs are supported by the Valentine Reserve Fund, the Town of Mammoth Lakes Measure U program and the generous support of Mammoth Mountain Ski Area.

PHENOLOGY



Phenology is the study of biological events and how they relate to a changing climate. The phenology program at SNARL and Valentine meet once a week from spring to fall at both locations to observe and record the stages of specific plants.

Examples of data recorded include if the plant is growing leaves, flowering, going to seed, changing color, or dropping leaves.

The data from each week's observations is entered into a statewide database as part of the California Phenology Project, which is then entered into a national database created by the National Phenology Network.

The Phenology Project is an example of citizen science. Citizen science is a way of conducting research with the assistance of the general public. Our volunteers have a wide variety of experience, educational backgrounds, and careers. Citizen science connects people from different backgrounds to a common goal, creating community and building connections between people and the land.



THANK YOU TO OUR DEDICATED GROUP OF PHENOLOGY VOLUNTEERS!

Interested in participating? Email Emily Zujewski at ezujewski@ucsb.edu for more details.

PUBLIC TOURS

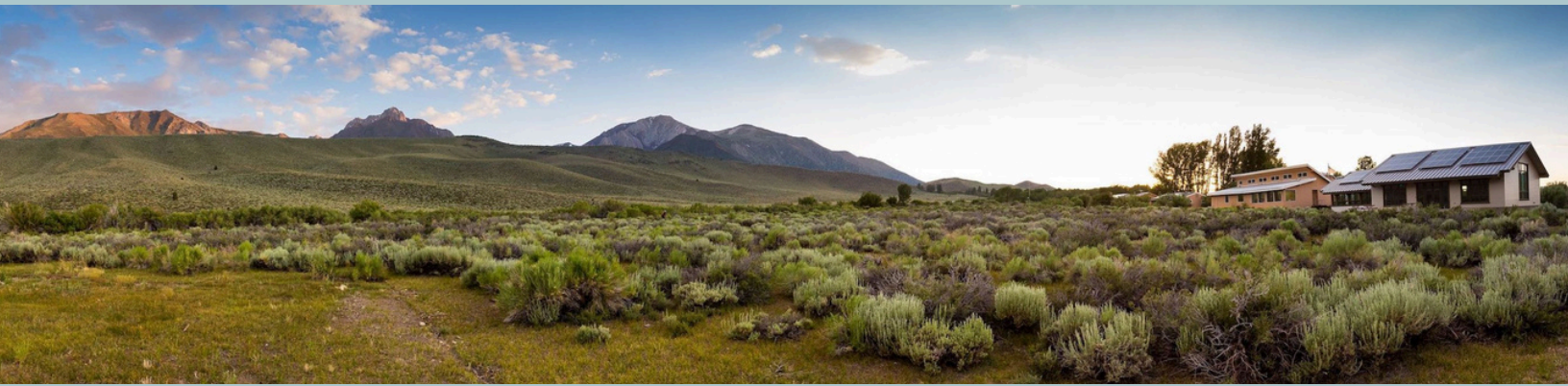
This summer, we offered 14 naturalist programs featuring a variety of topics including Eastern Sierra wildflowers, animals, geology, and human history. Led by knowledgeable volunteer naturalists, the tours follow the trails through the Reserve, brining visitors through the forest, around the meadow, up the sagebrush knoll, and back through riparian zones. These walks were observed by the inhabitants of the Reserve - bright wildflowers, jumping fish, red tailed hawks, mule deer, and even a black bear!

Due to these programs, over 150 adult community members visited the Valentine Reserve. Public tours connect the broader community to VESR. Many have had children or grandchildren participate in our youth programs, but have never visited Valentine themselves. Others found these tours through word of mouth, social media, and local postings. No matter where visitors come from, they each connect with this place in their own special way.



THANK YOU TO THE
NATURALISTS WHO
SHARE THEIR
KNOWLEDGE AND
TIME TO MAKE THESE
PROGRAMS SUCH A
SUCCESS!

SPRING SEMINAR SERIES



Springtime featured our SNARL seminar series at the Page Center. Recordings of select programs can be viewed on the [SNARL YouTube Channel](#).

April 28

Alpine Visions: The Mauna Kea Telescope Dispute & Native Hawaiian Religious Vitality

Greg Johnson, Professor, Department of Religious Studies, UCSB and Director, Walter H. Capps Center for the Study of Ethics, Religion, and Public Life

May 5

Evolution of deer mice and hantavirus across California: Past, present, and future of a mouse and deadly zoonotic pathogen

Tommy Herrera, Ph.D. Student at UC Berkeley, Museum of Vertebrate Zoology

May 12

Golden mussels in the Golden State: How an invasive species creates an unprecedented threat to eastern Sierra waters

Nick Buckmaster, Supervising Fisheries Biologist, Bishop Field Office, CA Dept of Fish and Wildlife

May 19

The Benefits of Dark Skies, Light Pollution and Prevention, Astronomy and Astrophotography

Jeremy Evans - Photographer, Filmmaker, Amateur Astronomer, and Delegate for Dark Sky International

May 26

Deep Time in the Mono Lake Basin: Nature and History over the Last 10,000 Years

Robert Marks, Professor Emeritus of History and Environmental Studies, Whittier College

June 2

*Mono Lake's Black Belt: A Natural History of the Alkali Fly (*Ephydra hians*)*

Steve Root, Alkali Fly Research Advisor, Mono Lake Committee

THANK YOU TO EACH OF OUR PRESENTERS, AND GENEROUS LOCAL SPONSORS: STELLAR BREW, DISTANT BREWING, JUNE LAKE BREWING, GREAT BASIN BAKERY, AND THE WARMING HUT

NEW STAFF



EMILY ZUJEWSKI OUTREACH COORDINATOR

Hello all! My name is Emily and I am the Outreach Coordinator for Valentine Eastern Sierra Reserves.

I started working for VESR in April 2026. As Outreach Coordinator, my primary duties include expanding our volunteer network and coordinating volunteer events, conducting community outreach, managing our social media accounts (follow us!), supporting the public tours at Valentine, participating in phenology surveys... and creating this newsletter you are currently reading!

Originally from Massachusetts, I have spent the last seven years first romping around the Rocky Mountains, and now the Sierra Nevada. With a background in environmental science and anthropology, and prior experience as a Ranger Naturalist in Tuolumne Meadows of Yosemite National Park, I love exploring how people and place connect. There is no better place to explore this relationship and create ways for more people to become involved in the stewardship of these mountains.

In this role, I hope to expand knowledge of the incredible work being done here, engage the local community and beyond, and encourage intergenerational stewardship to protect the planet for the future. I'm excited to be part of the VESR team! Thank you all for your support, knowledge, and warm welcome!

When not at SNARL or Valentine, you can find me trail running, birding, skiing, swimming in alpine lakes, or basking in the Sierra sun.



Interested in getting involved at VESR?

Contact me at ezujewski@ucsb.edu

**THANK YOU FOR YOUR
CONTINUED SUPPORT!**

