

Amargosa Valley BioBlitz

NDOW Wildlife Diversity Division



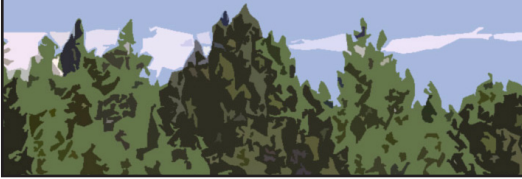
ENLC's Director, Susi Algrim, collecting data on a pallid bat during the Amargosa Valley BioBlitz.

In April, the BLM and NDOW partnered on a large data collection event known as a bioblitz. This is where many biologists from various disciplines gather to take a complete inventory of all species present in a set area, in this case the Amargosa Valley north of Las Vegas. The area is highly diverse, containing large intact Mojave Desert scrublands, sand dunes, and the large riparian area Ash Meadows. This area is also facing several threats from development of solar farms and ground water pumping.

The bioblitz was attended by more than 25 volunteers as well as other agency partners. Targeted focal species included desert kangaroo rat, Mojave fringe-toed lizard, Ash Meadows pupfish, Mojave poppy bee, scorpion, sidewinder, bats and western toads. Sampling methods included visual encounters for lizard species, road cruising for reptiles, small mammal trapping at two dune systems, mist net trapping at two water sources coupled with acoustic trapping for bats, bee bowls to measure bee diversity, scorpion visual encounter surveys, as well as botanical identification efforts.

We managed to locate and sample genetics for two Mojave fringe toed lizard individuals, and we were able to trap several desert kangaroo rats at both dune systems sampled. We were also able to trap and identify 11 bat species.

Eastern Nevada Landscape Coalition



Our Mission

The mission of the Eastern Nevada Landscape Coalition is to restore the dynamic, diverse, resilient landscapes of the arid and semi-arid West for present and future generations through education, research, advocacy, partnerships, and the implementation of on-the-ground projects.

Our Vision

We envision a future where the ecosystems of the arid and semi-arid West thrive. Functioning, diverse ecosystems will be the result of restoration achieved and maintained with naturally occurring disturbances such as fire, in combination with other management prescriptions, including traditional uses. The Eastern Nevada Landscape Coalition, a 501(c)(3) non-profit, will be a recognized contributor and leader in this effort for future generations of Americans.

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Dedicating the ENLC Herbarium in Greg Gust's Name

Susi Algrim, Executive Director

Gregory Garrett Gust Memorial

August 27, 1975 – March 14, 2023

Greg was a wonderful friend, coworker, scientist, outdoor enthusiast, forager, and many other things. He will be dearly missed.

Greg was born and raised in Milwaukee, Wisconsin, and attended college at the University of Wisconsin-Milwaukee, where he spent a year working in the plant systematics molecular lab. He conducted DNA sequencing and phylogenetic analysis on tuberous members of the Anemone plant genus, which are members of the buttercup family (Ranunculaceae). Before graduating from UWM, Greg spent a year living in Nepal through the University of Wisconsin's study abroad program. While there, he conducted ethnobotanical field work that culminated in a senior thesis.

Upon graduating from UWM with a BA in Anthropology and minor in Biology (emphasis in botany), Greg worked as a seasonal biological technician in Washington's North Cascades National Park. In 2002, he accepted a research specialist position with the Missouri Botanical Garden's William L. Brown Center for Plant Genetic Resources. As the Center's North American collections manager, he traveled extensively throughout the U.S. and Puerto Rico collecting herbarium specimens and plant samples for drug discovery and pharmacological analysis.

After living on the banks of the Mississippi River for nearly four years, Greg took his position with ENLC in 2006. Beckoned by the beauty and adventure of the mountain West, he called it home. His interests included botanizing, backpacking, gardening, floristics, ethnobotany, mycology, photography, backcountry hunting, and searching for new populations of rare plant species. In over 16 years of working at ENLC, Greg managed many projects, including: conducting dozens of rare and sensitive species surveys for federal, state, and for-profit entities, plant/fire ecology projects including Emergency Stabilization planning and monitoring, overseeing the Seeds of Success program for the Ely District BLM (10 years), personnel management and training, and providing technical expertise to several projects. He also conducted a vascular plant inventory of the Basin and Range National Monument (BARNM) in eastern Nevada.

Like a librarian creating and managing a library, Greg created, curated, and managed ENLC's herbarium. An herbarium is a



Greg Gust mounting specimens. Photo courtesy of ENLC.

Gregory Garrett Gust Memorial Herbarium Donation

Individual	\$ 50
Restoration Partner and /or Nonprofit Org.	\$100 - \$999
Corporate	\$250
Lifetime Restoration Partner	\$1,000+

Name:

Business/Org:

Address:

Phone:

Email:

☐ **Recognize me at the herbarium dedication.**

Send your check and this form to:

**ENLC • PO Box 150266
Ely, Nevada 89315**

Contributions are tax deductible as allowed by law. Tax ID#: 33-1001664.

scientific repository for dead, dried, pressed, and pampered plants. Each dried plant is mounted onto acid-free, archival paper using an acid-free adhesive. Other associated data, including locality, GPS coordinates, habitat, associated species, and details regarding the morphology of the specimen, are recorded on an acid-free label that is affixed to the paper.

The herbarium currently houses more than 6,000 specimens focusing on the Mojave and Great Basin floristic regions of Nevada. Important historic specimens of the collection include seven Isotype specimens collected by Ira W. Clokey during his 1936-1938 botanical explorations of Clark County, Nevada's Spring Mountains. The herbarium is a member of the Consortium of Intermountain Herbaria, Intermountain Region Herbarium Network, and Index Herbarium. Its Index Herbarium acronym is ENLC.

Access to all non-sensitive specimen records is available online via the Intermountain Region Herbarium Network's portal.

ENLC staff would like to honor Greg by dedicating the ENLC herbarium in his name. Currently, we have no funding to mount, process, and digitize the remaining specimens from Greg's BARNM vascular plant inventory. We are asking our ENLC members, partners, and friends to help us in the herbarium dedication and further curation for the specimens that Greg collected and those that have not yet been collected. We have included a donation form (above) for those interested in contributing to the dedication of the herbarium in Gregory Garrett Gust's name.

He is the wind, the rain, the sun, the trees. He is the dizzying mountain peaks and the vibrant wildflower blooms. We love you, Greg. Until we meet again.

Conditions Right for Nevada Superbloom

Amy Alonzo, Reno Gazette Journal
March 21, 2023

Could conditions this year mean an epic wildflower season across portions of the Nevada desert? Absolutely, say Nevada wildflower experts. “It will be a great wildflower season,” said Desert Research Institute ecologist Tiffany Pereira. “It will hit different areas at different times.”

What is a superbloom? A superbloom is when a landscape breaks out in a glorious display of wildflowers as far as the eye can see. Superblooms occur when all the variables needed for a great wildflower season line up – things like temperature and rainfall – in just the right way.

When the conditions align perfectly, not only do usual perennial and annuals emerge; there are some species that might wait up to a decade for those right requirements. This spring, there’s potential for “more finicky, narrower-threshold plants” to emerge in parts of Nevada, Pereira said.

What conditions are needed for an epic wildflower display? The best spring wildflower displays actually start in the fall if there is a good autumn rain. Wildflower seeds sprout and wait, low to the ground, for warmer temps. When warm spring temperatures and a good rain hit, the flowers grow and bloom. If temperatures warm too quickly, they can have adverse effects on the flowering plants.

According to Jerry Tiehm, curator of the University of Nevada, Reno’s herbarium and one of the founders of the Nevada Native Plant Society, the best bloom seasons in Nevada are when a gradually warming spring is followed by a solid May rain.

Where the experts suggest looking for wildflowers – superbloom or not: Tiehm: “I like going to Tahoe Meadows early when all the buttercups are out. And hiking higher on Mt. Rose on the upper ridges – alpine plants on the ridges are always fun.” But his favorite? Open, sandy areas like Lahontan Valley. “I like the deserts because they’re so unpredictable – one year they’re full of flowers, the next year they’re not.”

Pereira: Any scenic highway in the state. “Just cruise and do roadside botany.”

Amy Alonzo covers the outdoors, recreation and environment for Nevada and Lake Tahoe.



Globemallow (*Sphaeralcea* spp.) off Hwy 6 near the Lunar Crater Volcanic Fields, Warm Springs, NV. Photo by Jamey McClinton.

Calendar of Events

June 10	NDOW Youth Fishing Derby Cumins Lake, Ely
June 17	East Region Guzzler Build (NDOW) Butte Mountains East – Elko
June 18-24	Society for Range Management (SRM) Range Camp – Ely
July 14-16	Great Basin Kids Workshop (White Pine County), Ward Charcoal Ovens – Ely
July 21	Nevada Weed Management Area (NWMA) Barbecue – Elko
August 18-20	White Pine County Fair, ENLC’s Noxious Weed Educational Booth – Ely



Great Basin Kids Workshop

July 14-16, 2023



Sign up Today
Only 20 Spots Available
\$50 Per Kid

July 14TH (4^{PM}-7:30^{PM})

Kids Dropped Off at Broadbent Park

*Parent Orientation *Camp Name Bracelets
*Wildlife Activities *Leave No Trace Activities

July 15TH (8^{AM}-4:30^{PM})

Kids Dropped Off at Ward Charcoal Ovens

*Unpacking Lesson *Macro Invert Lesson
*Hawk Watch Presentation *Owl Pellet Dissection *NOS Activities

July 16TH (8^{AM}-2^{PM})

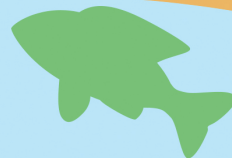
Kids Dropped Off at Ward Charcoal Ovens

*Hawk Watch International Presentation-Falcon Research & Bird Scientists
*NOS Activities *Family BBQ & Talent Show

for more information or to sign up

775-289-7974 | admin@envlc.org

envlc.org/events/great-basin-kids-workshop



(NOTE: The appropriate age range for the workshop are kids going into 3rd through 5th grade.)

Does Thinning Work For Wildfire Prevention?

Emily Shepherd, *High Country News*

www.hcn.org/articles/wildfire-does-thinning-work-for-wildfire-prevention

Western forests are a modern artifact. Gaze upward, and you'll see needles overlapping needles, blocking out the sky. Peer around, and you won't see far through the congestion of shrubs, young trees and vines. Look down, and you will see duff, debris and non-native plants. Primeval forests, by contrast, were a patchwork of varying densities, often sparsely populated by leviathan trees lording over a healthy, diverse and fruitful understory.

The strange new state of modern forests makes them more flammable.

Severe wildfire—which kills most of the trees in its path—has increased eightfold in 30 years. The burned forest is often replaced by shrubland, extinguishing a once-magnificent ecosystem.

Decades of scientific research and field practice have landed on a powerful tool for preventing severe wildfire—and helping forests become more resilient to climate change: fuels reduction. This term includes both thinning, the mechanical removal of shrubs and small trees, and prescribed burning, the purposeful introduction of fire under favorable conditions.

Wildfire ecologists almost universally support fuels reduction—especially in forests that used to flourish under frequent ground fires, such as the ponderosa pine forests of the Southwest. There is no sizeable cohort of scientific dissent, but forest managers still struggle to put it into practice. Thinning is the target of prolific misinformation, while nearby residents may see prescribed burning as a nuisance or threat, sometimes with good reason.

Here's a brief rundown on fuels reduction, wildfires, and what most scientists think we should do to protect forests and homes:

Thinning is not logging. To its opponents, thinning is a form of "silviculture by stealth," as wildfire historian Stephen Pyne put it. Pyne, however, says thinning is more like "woody weeding." Logging, he explained, harvests large, mature trees over large areas, while thinning mostly removes small trees. Logging makes money; thinning almost always costs money. "When you hear something like 'fuels reduction logging,' that's a classic conflation," said Gavin Jones, research ecologist with the U.S. Forest Service and lead author of a paper on wildfire misinformation published last September in *Frontiers in Ecology and the Environment*.

Thinning does not make wildfires more destructive. One line of misinformation claims thinning creates

"hotter, drier, and windier conditions that favor the spread of flames." "Yes, but they favor the spread of flames on the surface," said Pyne, "and that's where you want it."

Thinning followed by frequent ground fire is generally beneficial; it promotes nutrient cycling

and maintains an open forest structure that won't get dense enough to invite a crown fire.

Thinning is not a climate change risk. Detractors say thinning contributes to climate change by depleting carbon reserves in the form of forests. That's not entirely inaccurate, but it overlooks an important point: Forests in need of thinning are already "pretty darn at risk of total loss from wildfire and drought," said Jones. Thinning sacrifices a portion of the carbon reserves in order to save the ecosystem and the remaining carbon reserves.

Thinning should be followed by prescribed fire. "If you don't follow it up with the right fire, then it's worthless, and in many cases may have made it worse," said Pyne. Thinning and prescribed burning are the one-two punch that will knock out many severe wildfires. Prescribed fires do have drawbacks: They are complicated to plan and execute, they dump unwanted

Continued on next page

Thinning for Wildfire Prevention

Continued from previous page

smoke on communities, they're subject to litigation, and in rare instances they can spark destructive burns. Nevertheless, they are sorely needed, and without them, thinning rarely succeeds. Updated policies, funding and new programs could reduce the risks and increase the use.

The vast majority of scientists approve of thinning, though a quick Google search may seem to show otherwise. Chad Hanson, director of the John Muir Project, is thinning's most vocal opponent. His opinions have appeared in dozens of news clips, reports, letters to Congress, lawsuits, op-eds, webinars, books and interviews. In 2019, Jones co-authored a paper criticizing Hanson's methods and conflicts of interest in the journal *Frontiers in Ecology and the Environment*.

Jones argued Hanson and his coauthors were guilty of unscientific practices, including "mixing science and litigation without disclosing potential conflicts of interest," "pressuring scientists and graduate students with different research findings to retract their papers," and "selectively using data that support their agendas."

In 2021, a group of more than 20 fire ecologists led by Susan Prichard, Keala Hagmann, and Paul Hessburg published a trio of scientific reviews in the journal *Ecological Applications*, refuting some of the most persistent misinformation about wildfire. In answer to the question, "Are (fuels reduction) treatments unwarranted and even counterproductive?" they argued the evidence was clear: No.

Still, misinformation and confusion surround fuels reduction. For example, thinning, which by definition happens before a burn, is at times conflated with salvage logging, or harvesting mature but dead trees after a wildfire or a disease outbreak. While there are practical and ecological reasons for salvage logging, such as road safety or avoiding future wildfires in downed dead trees, the trade-offs between benefits and ecological detriments are less clear. Many scientists say more research is needed to employ salvage logging for ecological benefit.

Fuels reduction also has its limits. It can help save forests from obliteration — but it might not protect the towns nestled within them. This is because even low-

intensity fires can ignite human-built structures from afar.

"All these decimated towns were not taken out by tsunamis of flame raging through the woods — they were taken out by embers," said Pyne. "They come in as a kind of blizzard of sparks. Once a house or two gets started, then it spreads structure to structure." Fuels reduction can help save forests, but saving towns means using fire-savvy construction: ignition-resistant building materials, ember-trapping ventilation systems, and defensible space around structures.

In short, thinning and prescribed fire are critical for preserving Western forests. But they won't save forests on their own: Climate action is imperative, too.

Emily Shepherd is a freelance writer covering science, including wildfire and wildlife conservation. She worked in wildlife conservation for eight years, followed by two years fighting wildfires as a U.S. Forest Service hotshot. Her work has appeared in Eos, Undark Magazine and Terrain.org.





**Eastern Nevada
Landscape Coalition**

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execdir@envlc.org**

ENLC Membership Reminder

By supporting ENLC as a member, you are supporting our annual programs and workshops. These events aren't covered by grants or agreements, so your memberships are critical to keep these events going. A few of these events are our Great Basin Kids Workshop, our Annual Winter Weeds Conference, and our CWMA Volunteer Workdays, which are all events that ENLC hosts that are supported by its members.

If you have any questions, please don't hesitate to contact Susi Algrim, ENLC's executive director, at 775-289-7974.

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*Membership contributions are tax deductible as allowed by law.
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Student (enrolled in school)	\$ 15
Senior (60+)	\$ 35
Individual	\$ 50
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Corporate	\$ 250
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