Nature Notes

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Forest Restoration Promotes Insect Diversity

by Bob Parmenter, Valles Caldera National Preserve, National Park Service (Retired)

Forested ecosystems world-wide are suffering from increased stress under global warming, long-term droughts, high-severity fires, insect outbreaks and human land-use changes. In an effort to mitigate these stressors, forest managers are working to restore sustainable forest structure to the landscape. This often involves "forest fuels reduction" operations to reduce the density of trees, litter and coarse woody debris (logs and branches) on the forest floor (Fig. 1). Such operations use tree thinning and prescribed/managed fires to remove large quantities of combustible wood and litter, thereby reducing the risk of a high-severity, stand-replacement wildfire. Lower tree density also reduces inter-tree competition for water and nutrients, increasing the resistance and resiliency of the forest to droughts and insect attack (e.g., bark beetles). Numerous recent studies have shown that fuels reduction actions are an effective and cost-efficient means for reducing wildfire severity and area burned.

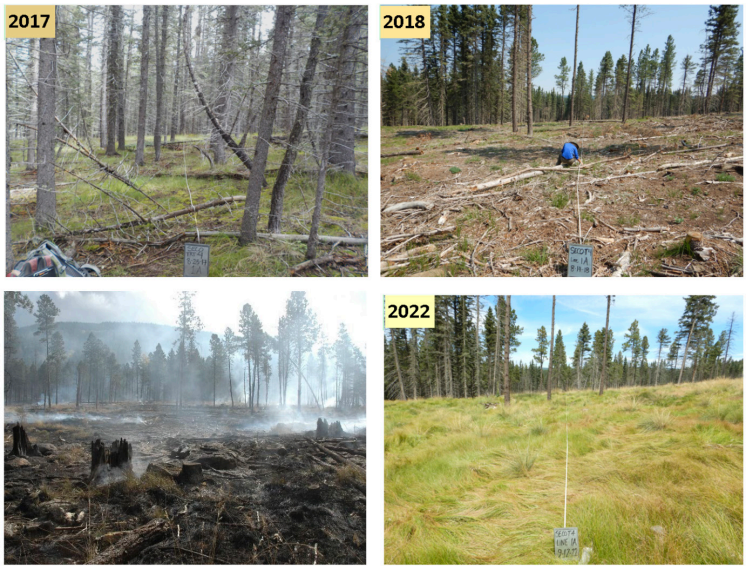

Fig. 1. Time series photos of a forest restoration project on Valles Caldera National Preserve. 2017: Pre-treatment "dog-hair" second-growth forest, with high levels of woody fuels. 2018: Post-thinning view of the same site. 2019: Prescribed fire to burn slash from thinning operations. 2022: Same site 3 years later, showing meadow in foreground and thinned forest in background. Photos: NPS staff. From Parmenter et al. (2026).

Another beneficial result of forest restoration activities is that it creates a mosaic of habitat types across the landscape, comprising a mix of forest stands of different ages with an understory of grasses and wildflowers, along with open patches of meadows and grasslands. This landscape of different habitats, in different successional stages, provides a diversity of resources to which wildlife species quickly respond. We know from studies in Valles Caldera National Preserve and the Santa Fe National Forest that elk immediately benefit from the increase in sub-canopy grass and forage production, and that mule deer also use restored forest habitat after several years (once shrubs resprout after thinning and low-intensity ground fires). Bears and cougars, along with songbirds, rodents and rabbits, also respond in a variety of ways to these newly-available habitats.

Among the most pronounced changes in wildlife use of forested habitats are the shifts in the insect community. Park Service scientists and entomologists from the University of New Mexico have documented a succession of new species colonizing freshly-restored "dog hair thickets" of second-growth forest stands (stands that were previously clear-cut in the 20th century, and grew back in high-density thickets of stunted trees). In one study in Valles Caldera, forest restoration thinning and prescribed burning led to a total of 18 species of grasshoppers colonizing the site, which had previously supported only two species of camel crickets and a handful of relatively rare

Fig. 2. Photo of the crackling forest grasshopper (Trimerotropis suffusa). This common species of the Valles Caldera, with bright yellow wings (inset), makes a loud "crackling" sound as it flies through widely-spaced trees in restored forest. Photo: David Lightfoot, UNM Museum of Southwestern Biology. Inset photo: Jim Moore

wingless grasshoppers. Following treatments, the grass and wildflower populations had rapidly established, and these food plants quickly supported population increases in the resident rare grasshopper species, and for newly colonizing grasshoppers (Fig. 2). Within the second year, grasshopper nymphs (juveniles) of many species were observed, indicating successful reproduction of the colonizing hoppers. A year after the prescribed slash fire, even the Mormon cricket (a wingless species that can only disperse by walking) arrived on the site and began reproducing. The restoration effort resulted in new habitats that supported a community totaling 21 species of grasshoppers and crickets that normally couldn't all exist in dense, second-growth forests.

In addition to grasshoppers, the beetles of the Valles Caldera also responded to the forest treatments. Scientists found 289 species of beetles during this study, and the thinning and burning resulted in clear shifts in abundances of many of the common species, with forest-specialist species declining somewhat while open-habitat specialist species increased. But only two new species of beetles arrived on the scene – one species of rove beetle (a small predator) and another predatory species, the tiger beetle (Fig. 3). This latter species prefers open, bare soil microsites, and was abundant after the tree thinning, but became less common as the grass and wildflowers filled in the forest floor. So the beetle community shifted as a result of the forest treatments, but not as dramatically as the grasshopper/cricket community.

Fig. 3. Photo of a tiger beetle (Cicindela longilabris). This agile, flying predator hunts other insects in open, sunny habitats of the Valles Caldera. Photo: Mark S. Romero

Other studies are still underway for different insect and invertebrate groups. These include studies of ants, spiders, millipedes and centipedes. We expect to find shifts in ants and spiders because these groups typically have forest and grassland specialist species, but we anticipate only minimal changes in millipedes and centipedes, as these latter species are commonly found in both forests and grasslands of the Jemez Mountains. We also expect to see beneficial impacts on pollinators—butterflies, bees, and various flies—through the increase of wildflowers in the forest sub-canopy vegetation.

Thus, the efforts by forest managers to reduce the impacts of wildfires, droughts and insect attacks on forests of the Jemez Mountains are producing beneficial and interesting results for wildlife, and in particular, insect communities. In the face of a warming climate, these management activities will hopefully preserve Jemez Mountains forests and their wildlife communities for the enjoyment and use by many future generations of northern New Mexico's residents and visitors.

Citation: Parmenter, RR, Obermeit, TJ, Stout, BP, Hall, SM, Myers, OB, Lightfoot, DC. 2026. Forest restoration thinning and burning treatments create habitat mosaics and facilitate succession of grasshopper and cricket communities (Orthoptera). For. Ecol. Manage. 607:123576. https://doi.org/10.1016/j.foreco.2026.123576

Building a Legacy: Strengthening Connections for the Future

by Jillian Rubio, PEEC Executive Director

As a trained biologist, Gwendolyn Gallagher has always had a strong interest in nature—for as long as she can remember. From a young age, she enjoyed watching nature shows on tv (the likes of Jacque Cousteau for those who remember) and thought to herself, "I want that job!"

She grew up without outdoorsy parents, which is why she's developed a passion for ensuring nature is accessible to everyone, especially kids, whether their first spark stems from a TV show or, even better, from immersion in the wild and learning to identify a creature firsthand.

"If we can introduce young people, into nature and get them excited about it, they'll develop a passion for it and become better stewards for the environment," shared Gwendolyn.

She and her husband Don moved to Los Alamos in 2001

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just down the street from PEEC at the time (off Orange St). She briefly served on PEEC's Board of Directors, where she met long-time volunteers Natali Steinberg, and Becky and Tom Shankland, among others.

Following her retirement, she found herself with more time to share and give back to her community. Spending time at the nature center, surrounding herself with passionate, like-minded people, was a natural fit.

When considering their legacy, she explained, "It's important that we have a plan for what happens, and we want to give support locally. We want to do something positive with our hard-earned money."

As a result, they've chosen to include PEEC in her estate planning to ensure that children continue to experience those first-hand, life-changing experiences for generations to come.

Gwendolyn K. Gallagher and Don Krier

For more information on PEEC's Legacy Society membership or to discover more ways to give, please reach out to Jillian at jillian@peecnature.org or visit peecnature.org/legacy.

Amateur Naturalist: Understanding Trends in Bird Populations

by Robert Dryja, PEEC Volunteer

National news sources report that bird populations are decreasing. Steps therefore need to be taken to correct this trend. However, a statistics joke comes to mind: "If you have your foot in a bucket of ice water, and your hand on a hot stove, you feel fine on the average." There can be similar variations among bird species while the overall pattern is important to recognize. A decade of my backyard bird-feeder observations, submitted to the Cornell Lab of Ornithology through eBird.com, recorded forty-five species in Los Alamos. Most appeared only occasionally, but five visited every year in consistently high numbers, including the house finch and canyon towhee.

House Finch

House finches peaked in 2019 and 2020 with an average of 7.6 being seen on a day. This average decreased on a yearly basis to 4.2 in 2026. This 4.2 reflects 143 birds being seen over 34 days during the year, (142/34 = 4.2). The 7.6 average seen in 2020 reflects 267 birds seen over 35 days, (267/35 =7.6). This local, short term pattern is consistent with the national assertion that bird populations are decreasing.

Until the 1940s, the house finch was found only in the western United States. A small number were released in 1940 in Long Island, New York when they were not sold as pets. They then spread throughout the eastern United States and southern Canada. A localized, ten-year decrease may be occurring but the house finch now has spread throughout the entire country over the past several decades. The western United States represented the hot spot while the eastern United States represented the cold spot. On the average, they now can be found throughout the continent.

House Finch

Canyon Towhee

Photo Credit: Bob Walker

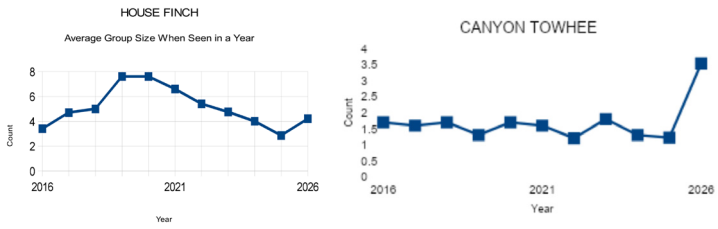
Canyon Towhee

The canyon towhee has appeared in Los Alamos consistently in small groups of 1 to 2 members from 2016 to 2025. The average group size then increased to 3.5 in 2026. Even though the numbers are small, the group size hasn't shown a downward trend and has stayed fairly consistent aside from one year. The total

Photo Gallery and Print Store Launched to Help Support PEEC

Thank you, Richard!

White Rock resident, **Richard Skolnik**, has recently launched a photography website and print store to benefit the Pajarito Environmental Education Center. The gallery on Richard's website feature photos of insects, birds, and wildlife from a number of places, including White Rock, Los Alamos, Phoenix, Costa Rica, and Iceland. Each photo is available in two sizes and on two photographic papers. Photos will be printed at White Wall, one of the finest photo printers in the world, and delivered directly to the purchaser. We encourage you to take a look at Richard's wonderful photos at: ***richardskolnikphotography.com***



Graphs Courtesy: Robert Dryja

number seen has varied from 9 to 59 for a year. They have been seen for 5 days throughout 2021 or 29 days for 2026.

Although there is an overall decline in the population of birds, there is considerable variation when individual species are compared or localized areas are considered. Multiple strategies and priorities are needed to deal with this overall decline.

Improving the Quality of Life: Guided by the Integrated Master Plan and Trails & Open Space Management Plan

by Cory Styron, LA County Director of Community Services

The Parks and Open Space Division of the Community Services Department has a simple mission with a big impact: to care for and continually improve the parks, trails, and open spaces that shape daily life in Los Alamos. Whether you're heading out for a hike, taking the kids to a playground, or enjoying a quiet moment under the trees, our work is guided by two key community-built documents: the 2023 Integrated Master Plan and the 2025 Trails and Open Space Management Plan.

Both plans were shaped with extensive public input, and together they create a shared roadmap that values stewardship, access, and the natural beauty that defines Los Alamos. A major theme in both plans is preserving and enhancing the natural character of our community. That goal aligns closely with the County Council's 2026 Strategic Objectives around Operational Excellence and Quality of Life.

Our Integrated Master Plan reflects a clear message from the community: parks and trails must be welcoming to people of all ages, abilities, and backgrounds. Inclusion, Access, and Belonging serve as core design principles for our team, and they are evident in recent projects, including:

- Golf Course improvements
- North Mesa Pickleball Courts
- East Park Basketball Court
- 37th Street Playground and Piñon Park

And we're continuing this momentum with upcoming improvements at Brewer Arena, Grand Canyon Playground, San Ildefonso (Dinosaur Park), Urban Park Courts, North Mesa Picnic Grounds, and the North Mesa Recreation Area.

We're building for today and tomorrow. Your voice plays a crucial role. To follow project updates or share your input, follow the Community Services Facebook page or visit the project website.

2023 Integrated Master Plan and the 2025 Trails and Open Space Management Plan

Los Alamos County Community Services Facebook Page

Los Alamos County Community Services Project Website

Beginnings of Bear Fest

by Nirankar Horak, LEWF Executive Director and Ty Horak, LEWF Co-Founder

Land of Enchantment Wildlife Foundation (LEWF) is a non-profit founded in 2012 with the mission to help wildlife rehabilitation efforts throughout New Mexico and provide education. In 2024, our mission expanded to include our own wildlife rehabilitation program (Cottonwood Rehab) and remains the only bear rehab center in New Mexico.

Our director of rehab, Dr. Kathleen Ramsay, is one of our founding board members. She is well known for her work in wildlife rehabilitation, especially bear rehab. Due to her reputation and being the only licensed bear rehabber in NM for the past 40 years, she has and continues to receive a lot of calls about bears getting into trouble by getting into trash cans, ponds, chicken coops, and other food sources.

About 10 years ago, the New Mexico Department of Wildlife (previously NM Department of Game and Fish) was responding almost daily in Los Alamos to bear disturbances throughout the night and sometimes during the day—sometimes more than once within 24 hours. With these reports, there was one common denominator: *humans!*

Bears were getting into trouble as they were becoming too comfortable being around homes, humans, and Los Alamos townsite. A very common saying is: “a fed bear is a dead bear.” We were seeing firsthand the impact of these human-bear interactions, including an increase of orphaned cubs, coming into rehab. It was time to take action and help keep bears in the wild.

Knowing that Los Alamos was facing a large issue, LEWF began discussing how to create a fun and engaging way to educate adults and kids about bear safety and how to help keep bears safe and encourage them away from our homes, all while celebrating the beauty of living in bear country. The idea for a festival, having booths and educational partners sharing bear education, came about.

The brainstorming started with discussions of where to host the first Bear Fest, what it would look like, and how we would make it happen. Well, it was an easy decision to start in Los Alamos! We reached out to the Pajarito Environmental Education Center (PEEC) to see if they would be interested in becoming partners in creating this event, and the answer was an enthusiastic “YES!”

In one of the first meetings, Jonathan Creel (now PEEC board member; previously PEEC’s Director of Interpretation) joked about curating a dinner with dishes inspired by a bear’s diet. This got the ball rolling to host a Bear Buffet (now known as Bear Dinner) on Friday night and Bear Fest on Saturday.

After a lot of planning by both organizations, hours of manpower, food preparations, emails to potential booths for the festival, and other logistics, the first Bear Dinner and Bear Fest was held on May 12 and 13, 2017. Although the dinner and festival looked a little different in 2020 and 2021, this event has grown beyond our dreams—-and it’s working! We are seeing far fewer human-bear conflicts in Los Alamos and through education and changes made throughout the County, a bear’s opportunity to get in trouble has been significantly reduced. PEEC and LEWF are proud to co-host the 10th Annual Bear Dinner and Bear Fest on

First Bear Dinner Presentation by LEWF
Photo Courtesy: LEWF

August 28 and 29. We hope to see YOU there!

This year's Bear Fest is generously sponsored by Century Bank and N3B Los Alamos! Join us in August to learn more about the wildlife in *your* backyard.

To save your spot and register for Bear Dinner, please visit ***peecnature.org/events*** or scan the QR code below.

Eat Like a Bear at Bear Dinner
Friday, August 28th

Volunteer!

Learn more about Bear Fest
Saturday, August 29th

Outdoor Safety During Thunderstorms

by Jean Dewart and Kenneth Waight

When lightning roars, go indoors! But what happens when you're trapped outside? The National Weather Service produced the graphic below of lightning risk when you're exploring the great outdoors.

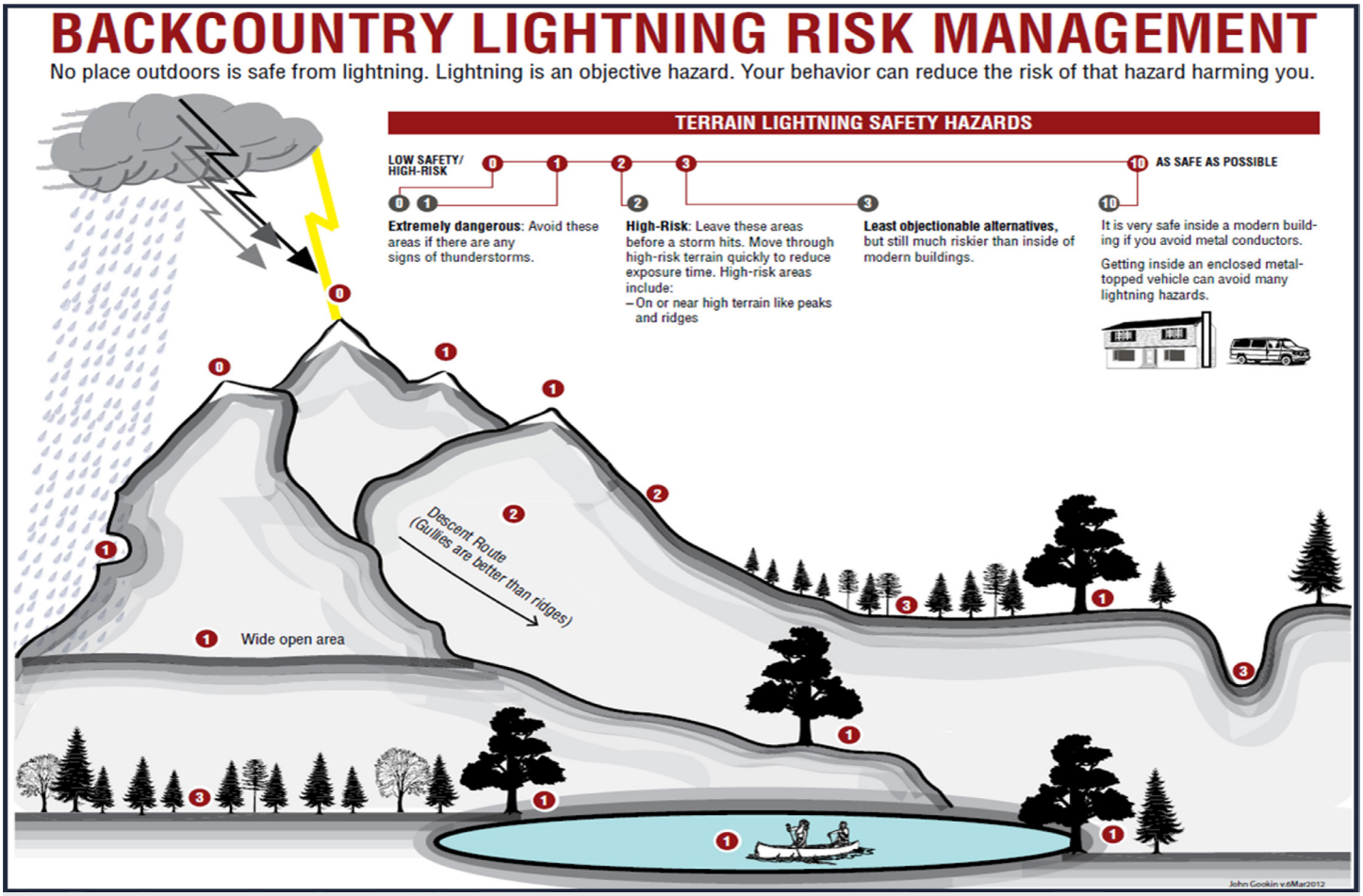
The highest risk locations for lightning strikes are out in the open, on high terrain, and under solo trees. Use the graphic below (Weather.gov) to understand where you should go to lower your risk as quickly as possible when thunderstorms approach or occur. If there's no absolutely safe location when you're outsid and you are in a group, separate from each other. That way, if lightning strikes you'll be able to help others who may have been struck.

It's important that you check the weather forecast before spending time outdoors. Thunderstorms commonly, though not exclusively, develop in the afternoon and evening. If thunderstorms are in the forecast, plan to begin your activity early enough to return to a safe location before lightning hits (as a rule of thumb, it is recommended to descend from elevated terrain prior to noon). But, whenever you hear thunder—you're at risk of a lightning strike—so move to safer ground immediately!

For more in depth discussion of lightning and lightning safety, here are additional resources:

Backcountry Lightning Risk Management
Courtesy: Pacific Crest Trail Association

Backcountry Lightning Risk Management
Courtesy: Weather.gov



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Volunteers Bonnie Klamm and Sue Barns at Bear Fest in 2025
Photo Credit: Casey Lundberg

Our Mission: Enriching people's lives by strengthening their connections to our canyons, mesas, mountains, and skies.

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"Really nice experience visiting! Some interesting displays, a clean bathroom to use and a launching point for some wonderful hikes behind the facility. There is no fee to enter. Plenty of parking. Very helpful volunteer too."

— Los Alamos Nature Center Visitor

Nature Center hours:

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Wednesday: 10 – 6
Thursday: 10 – 4
Friday: 10 – 4
Saturday: 10 – 4
Sunday: Closed

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2025 Bear Fest Attendees Posing with Bear Hats
Photo Credit: Casey Lundberg

INSIDE

UPCOMING EVENTS

Nature at Night: Summer Series **JULY WEDNESDAYS**

Bear Dinner **AUG 28**

Bear Fest **AUG 29**

Wild Waters: Passport to New Mexico's Rivers **SEPT 10**

Taos Volcanic Field Geology Trip **SEPT 12-13**

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