



## Nature Notes



This February, Nature Playtime participants got to visit with a live owl from the NM Wildlife Center (and our own owl puppet) and learned about how keen eyesight and sensitive hearing help owls catch their dinner!

Photo by Rachel Landman

VOLUME 19, NUMBER 2, SPRING 2019

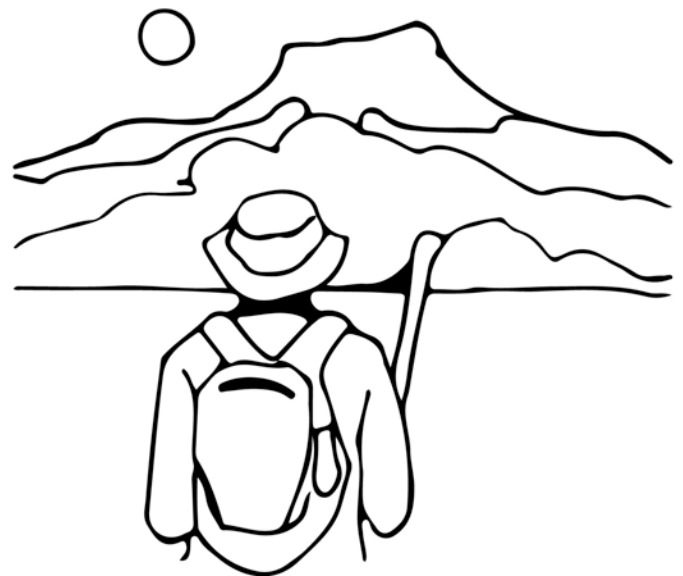
PAJARITO ENVIRONMENTAL EDUCATION CENTER, LOS ALAMOS, NM

### Introducing the Northern New Mexico Peak Challenge

By Bill Priedhorsky, President, Los Alamos Mountaineers

Inspired by the success of the Passport to the Pajarito Plateau, PEEC and the Los Alamos Mountaineers are taking things to a literal new level with the brand new Northern New Mexico Peak Challenge. For the Peak Challenge, we consider all of northern New Mexico to be our backyard, and have selected seven iconic peaks as the goals. Anyone who climbs all seven has explored the roof of northern New Mexico, and looked down on much of the rest. The peaks include:

- **Wheeler Peak**, 13,161': The highest point in the state of New Mexico
- **Jicarita Peak**, 12,835': The northern outlier of the Truchas massif
- **Santa Fe Baldy**, 12,361': Sentinel of the south end of the Sangre de Cristo and the American Rockies
- **Mount Taylor**, 11,306' high and 4,000 feet above its surrounds: The southern sacred mountain of the Navajo
- **Sandia Crest**, 10,678': Standing guard almost 4,000 feet above the Albuquerque basin
- **Pedernal**, 9,866': Georgia O'Keeffe's iconic mountain, standing as a landmark at the northern end of the Jemez



Join PEEC and the Los Alamos Mountaineers for the new Northern New Mexico Peak Challenge! We are challenging you to climb seven summits in this new take on our Passport program. Graphic by Melissa Bartlett.

- **Otowi Peak**, 6,547': The volcanic plug visible from White Rock on the eastern skyline

From their summits one can see far north into Colorado, south to Sierra Blanca (itself the southernmost major peak in the continental states), west into Navajo lands, and, from many angles, back to our own Pajarito Plateau.

The Challenge is simple: go climb them all (for Pedernal, the bottom of the summit cliff counts as a

climb). But you need not climb them alone. The Los Alamos Mountaineers will be leading hikes up all of the peaks this year and returning regularly thereafter. Participation in the hikes will be free to PEEC members, Mountaineers, or Challenge registrants. The peaks have been selected to be accessible in a day trip from Los Alamos, although some trips will offer an overnight option to avoid a very long day. The hikes are intended as a physical challenge, ranging from tough-moderate to quite strenuous. To verify each climb, participants will submit a photo of themselves at the top or will be counted on the Mountaineers trip roster. Look for trip announcements on the PEEC and Mountaineers websites.

PEEC will conduct registration for the Peak Challenge at the nature center. Participants must pay a \$10 fee to enroll. Upon hiking the seven peaks, summiteers will receive an award coin specifically created for the Challenge, and will be honored on the PEEC website. Please join the Peak Challenge! 📸

## New Opportunities to Enjoy Our Trails

By Katherine Bruell, Executive Director

Though I love Los Alamos all year round, spring is a time when I especially remember why I love our town. Which is funny, because spring is the most challenging season for those of us who, like I do, love Los Alamos for its trails. Spring is muddy, windy, slushy, and unpredictable. But spring is also when we remember how much fun summer is going to be on the trails. And who doesn't enjoy anticipation?

When people ask me what I love about Los Alamos, I attempt to describe how special our trails are. Where else can you live where almost every home has a trailhead just a few minutes away? Where sometimes it's quicker to get from one place to another on the trail than it is to drive? Where hikers encounter wonderful rock formations, hidden streams running into secret waterfalls, and trails worn by wagon wheels or human feet long ago?

Do you also rave about our trails to your friends and visitors? Even though I love being the only person on a trail, I also want more people to know about our trails. Wouldn't it be great if tourists could enjoy a trail and then tell their friends back home how they need to visit

Los Alamos, too? Wouldn't it be fantastic if everyone who lived in town had a favorite trail and wanted to discover more? The more people who value our trails, the more effort will be put into maintaining and expanding our trail network.

As a PEECer, you are a part of a community of people who care about the trails — and the animals, plants, and stars that surround them. Thanks to your support, this spring, PEEC has lots of exciting non-muddy trail news. With your pictures, we're working on an update to the beloved Los Alamos Trails app. We'll have some fun work days for you to get involved in clearing, clipping, and digging. And on Earth Day you'll be able to grab one of the first copies of Passport to the Pajarito III, as well as booklets for Passports I and II. Your support of PEEC is a great way to share your love of trails with others. Thank you for all the ways you share in our work and our community. 📸



*A coyote pauses while drinking out of a backyard pond.  
Photo from Hari Viswanathan's critter camera.*

## The Eternal Coyote

By Marilyn Lisowski

A sleek, dog-like animal pauses at the snowy foot of North Mesa Road. It glances right, then left. Confident, it trots into the crosswalk and bounds up the other side. It pauses, sniffs the icy air for a juicy rabbit or perhaps for scents of spring, and races away through the snow. Coyotes rank in the top ten smartest mammals on earth, right up there with whales and porpoises. Further, they learn from humans, their deadliest enemy, and dwell among us in increasing numbers.

Graceful, wild, and free, small coyote packs of two to



five sweep from high mountains into our plateaus and canyons. Their joyful howling and yips pierce the night, wake us from sleep, and in our primitive response to a predator, raise the hair on the backs of our necks. Coyotes, like this crosswalk animal, resemble dogs in shades of tans, grays, and cream. They descended from the same canine ancestor three million years ago. But unlike other wolf-like creatures that traveled into Asia via land bridges, the coyote is uniquely ours. It stayed here.

The name “coyote” comes from the Nahuatl word coyotl. In Native American and Mexican lore, the coyote is a clown, a trickster, or a “skinwalker.” Plains Indians domesticated coyotes as beasts of burden, and for food and fur. But life did not remain so peaceful.

In the mid-19th century, settlers began raising livestock on the American and Canadian prairies. Ranchers — and ultimately the government, with bounties — systematically eliminated the top predators from the land: wolves, mountain lions, and grizzly bears. Coyotes weren’t spared either. In less than a century, more than 20 million coyotes were trapped, shot, or poisoned. In response, our coyote’s ancestors fled from the plains west to the Pacific Ocean, east to the Great Lakes where they bred with wolves, and into New England as a new larger animal. They roamed north to Alaska and south into Central America.

Poisons and bounties are outlawed now, but there is no bag limit for hunters in any season. Thousands are slaughtered in hunting derbies every year, their carcasses left to rot. New Mexico, however, has outlawed killing contests. Coyotes like our North Mesa coyote have popped up in urban areas where they are unlikely to be shot.

Cunning and sly, coyotes sometimes hunt in pairs. One can distract prey while the other attacks. They love meat, and gobbling rabbits is a favorite sport. However, any tasty meat is on the menu: raccoons, ground squirrels, skunks, young deer, ground-dwelling birds and their eggs, large insects, and carrion. In the absence of meat, wild fruits and nuts will do. Ranchers complain that coyotes kill and eat livestock. Farmers report that they snatch corn and vegetables from gardens. In urban areas, coyotes consume chicken bones and pizza crusts from garbage. They also carry off small outdoor pets.

There are ways to protect animals from coyotes. On ranches, guard dogs, llamas, and donkeys will keep them at bay. Small pets should be kept inside, especially after dark where coyotes are known to roam.

In late winter, only the alpha pair of coyotes in a pack breeds unless the population is lowered through overhunting. In spring, the female gives birth in a den to 3 to 12 pups. Both parents feed and protect the pups.

Coyotes’ lifespan is usually less than three years. Their primary danger is from humans. In addition to being shot, many are run over by cars or die from canine diseases. They seldom carry rabies. Eagles, owls, and mountain lions snatch pups. Some pups perish from starvation.

In spite of these perils, coyotes have maintained viable numbers. They have migrated to less dangerous habitats or into cities. They have adapted to non-native climates and food. We can discourage their presence by removing food sources in cities and limiting hunting, which causes a population boom. Hopefully, this beautiful, lithe, and intelligent creature will grace our forests, deserts, and plains for generations to come. 🐾



**PEEC's June Summer Camps**

**Let your kids enjoy a fun and unique nature-based camp.**

Grades 9 – 12  
Backpacking Adventure for Teens, June 4-7

Grades 7 – 8  
Living Earth Adventure Program, June 10-14

Grades 4 – 6  
Nature Odyssey: Rocking and Flowing, June 10-14  
Nature Odyssey: Moving and Growing, June 17-21

[peecnature.org/events/summer-camps/](http://peecnature.org/events/summer-camps/)



*The author's three boys huddled up in their sleeping bags on a camping trip. Photo by Karen Holmes.*



*The author's son practices his orienteering skills. Photo by Matt Holmes.*

## Building Your Child's Confidence with Outdoor Skills

By Karen Holmes

Parents all know the importance of getting kids out in nature. The value of unstructured outdoor play cannot be understated. However, there is also something to be said for intentionally providing your children with the tools and knowledge necessary to be confident and relaxed in the wild.

As adults, it can be hard to remember that things we might take for granted now are actually skills that we somehow learned. Sleeping in a sleeping bag, for instance, can be really challenging for a child of any age. My husband Matt realized our sons needed to “practice” camping if we were ever going to be successful taking them on bigger adventures. When our first son was 2, Matt took him for short overnights at a local campsite. They would leave after dinner and be back before breakfast. Matt rarely slept, as he would wake up multiple times to stuff our floundering toddler back into his sleeping bag. But Matt repeated this activity several times over the year, and later with other kids. As with any training, it wasn't easy, but now, at 7, 5, and 3, our boys easily sleep outside with or without a tent. Most importantly, they feel comfortable, competent, and confident in this small thing, and it makes a huge difference in their eagerness for adventure.

Similarly, something as necessary and vital as getting kids to poop in the woods can be a challenge. We

have experienced every kind of poop emergency and you definitely want your kids to know how to handle themselves if they need to go when there's no bathroom facility available. Understanding how and where to dig a hole and manage the situation can create a surprisingly huge sense of independence and self-sufficiency in an 8-year-old.

Orienteering and basic map-reading skills take things to a whole other level. These skills are often overlooked in this time of easy hand-held GPS navigation. But when you consider your purpose to be instilling confidence and knowledge in your kids and not merely relying on a sometimes-unreliable tool, compass skills go a long way. The truth is that most people in the U.S. don't have great orienteering or map skills these days. Learning to navigate not only empowers your kids in an old-school way, but it may offer you an educational experience as well.

Providing your kids with legitimate outdoor skills has so many benefits. The practical knowledge is just the tip of the iceberg. When kids are confident and competent in their skills, they can see that something as overwhelming and mysterious as nature can be known and understood. When their own lives feel out of control or unmanageable, they can remember how they found peace lying under the stars despite the dark wilderness around them. When their world feels scary or they feel lost, they can go for a hike grounded in their knowledge of exactly where they're headed and how to get there. In general, outdoor skills uniquely contribute to independence and self-sufficiency at a time when kids can feel like they have no control over



their circumstances.

Groups like PEEC's Forest Explorers, the Scouts, and other organized activities can help teach your kids these skills. But it can be incredibly rewarding when you — the parent — join in this adventure and education with your kids. Perhaps your child will be able to teach YOU a thing or two, and imagine the confidence and empowerment that will result from that!

Learn more about our family's adventures raising kids outside at [www.southwestfamilyadventures.com](http://www.southwestfamilyadventures.com). 🦋

## How You Can Help Monarch Butterflies

By Jenna Stanek

Monarch butterflies are probably one of the most iconic insect species in North America. They are amazing creatures that migrate across the continent over 4 to 5 generations and are the only insect that migrates about 2,500 miles to a warmer climate each winter. However, monarch butterfly populations have declined by over 85% in the last two decades and are currently petitioned to be listed as a federally threatened species.

Monarch caterpillars need milkweed plants to grow and develop, and female monarch butterflies only lay their eggs on milkweed. Planting milkweed is a great way to help monarchs and other pollinators too, as milkweed provides nectar resources to a diverse suite of bees and butterflies. Migrating monarchs depend on early season and late season flowering plants for nectar. Beyond nectar and host plants, butterflies also need good places to bask in the sun such as large rocks, and shady puddles of muddy water.

Here are some tips on what you can do to attract monarchs to your yard and/or help them during their life cycle.

1. Create a butterfly garden! Plant milkweeds and early and late season blooming nectar flowers. Please plant only locally native milkweed species.\*

- Native milkweed species include: Butterfly Weed (*Asclepias tuberosa*), Showy Milkweed (*Asclepias speciosa*), Horsetail Milkweed (*Asclepias subverticillata*), and Antelope Horns (*Asclepias asperula*).



*At last year's monarch release events, participants got to look at the monarchs up close before releasing them. Photo by Rachel Landman.*



*Jenna Stanek raised these monarchs from eggs at the nature center. Visitors were able to see them in various stages of their life cycle. Photo by Jenna Stanek.*

- Nectar flower species – zinnias, asters, coneflowers (Mexican Hat), salvias, non-invasive butterfly bush,\* rabbitbrush, globemallow, and native sunflowers.
- Register your garden as a Monarch Waystation at [www.monarchwatch.org/waystations/certify.html](http://www.monarchwatch.org/waystations/certify.html)

\*The devil is in the details. Locally native plants are recommended because milkweed varieties (particularly Butterfly Weed) from the east coast could taint the locally native stock through cross-pollination. Our locally native Butterfly Weed differs from nursery stock which is largely from the eastern United States. Ours is paler, yellow-orange, and we need to promulgate that one. Additionally, non-native nectar flowers that are invasive are also not recommended. In the future, we hope to develop a seed bank of local genome milkweeds and possibly other wildflowers to propagate and disperse throughout the community.

2. Help researchers by contributing information on

monarch sightings, milkweed locations, and monarch tagging. Websites include: Southwest Monarch Study ([www.swmonarchs.org](http://www.swmonarchs.org)) and the Western Monarch Milkweed Mapper ([www.monarchmilkweedmapper.org](http://www.monarchmilkweedmapper.org)). You can also download the Monarch iSOS app if you have an iPhone.

3. If you decide to rear monarch caterpillars as an educational tool or for citizen science, please do so in small numbers. High density rearing situations may increase parasites and disease. Make sure you have enough milkweed to feed these very hungry caterpillars! Collect wild local monarch caterpillars only; do not buy or ship monarchs.

4. Encourage others to plant locally native nectar and milkweed species. Giving away seeds that are collected from your plants in the fall can be fun and rewarding.

We hope to raise some monarch caterpillars, tag the adults, and host some butterfly releases again this year at PEEC. This effort will depend on if we find caterpillars on our locally planted milkweed. Keep an eye on our events page for more information. Additionally, Steve Cary and I will be speaking about monarchs at the nature center on Tuesday, May 7 at 7 p.m. Join us to learn more about this incredible insect! 🦋

## Recognizing Patterns by Exploring Animal Skulls

By Mariana Rivera Rodríguez, Educator

You can learn a lot about an animal by reading the parts of its skull. These bones alone can tell you what the animal eats, whether it is eaten by others, and more about its relationship with its environment. Having a skull collection at hand, this year I worked with PEEC's Education Programs Director Elizabeth Watts and Liz Martineau from Los Alamos Public Schools to develop a new school program visiting classrooms in Los Alamos, White Rock, and Española to talk to students about animal adaptations.

In each class I visit, we start by discussing the differences between herbivore, carnivore, omnivore, and insectivore skulls, as learning about dietary conditions provides a basis for understanding how energy moves through the natural world. Rather than lecturing to the class, I like to prompt students to make their own



*One of PEEC's newest in-class education programs is all about skulls! PEEC educator Mariana has been teaching mostly third and fourth grade classes about animal adaptations through this hands-on lesson, which can be altered for any age group! Photo by Liz Martineau.*

observations and conclusions as I demonstrate each skull. I hardly have a chance, sometimes, to finish discussing the first specimen before the students are already raising their hands to guess what kind of skull I'll be showing next, almost always guessing correctly. They are recognizing patterns.

The natural world is replete with patterns, from which we formulate the basic principles of physics, chemistry, biology, and other sciences. The key to successfully interpreting patterns is to study trends and their exceptions. This is where animal skulls can be incredibly useful. An insectivorous bat, for example, has long canines (or fangs) for piercing the exoskeletons of insects, much like a carnivorous bobcat uses its long canines to grab a rabbit. But an herbivorous fruit bat who doesn't eat meat or insects also has fangs – all the better to pierce the shells and outer layers of wild fruit. These are some of the more interesting nuances I like to point out when giving this lesson.

Studying skulls for patterns allows students to stretch their inferential muscles and learn to appreciate fine details. My favorite part of the lesson is after the discussion when the kids are huddled in groups over skulls, taking turns with the specimens, turning them over to examine the teeth and parts they've newly discovered, making observations and guessing at what the animal eats or what the animal is. When I go around the tables to ask for their conclusions, I'm sometimes



surprised at details they noticed that I hadn't talked about earlier.

I enjoy the students' questions. Sometimes they like to throw surprises at me, like asking how much I know about dinosaur skulls (often inquiring very specifically about a dinosaur species I've never heard of before). Or asking whether I think a human being can eat insects (and only insects!) for their whole life. Aside from disarming and amusing me, these questions are really demonstrating an application of new information beyond the classroom, which is part of what we hope to accomplish with this lesson. It's been a great success so far! 🐞

### JOIN US FOR THE EARTH DAY FESTIVAL

Join PEEC for our Earth Day Festival on Saturday, April 27 from 10 AM to 2 PM. We will have fun games, delicious food, entertainment, and much more to enjoy!

Plus, pick up your copy of Passport III and re-printed editions of Passports I and II!

## Summer Family Evenings

Sponsored by Del Norte Credit Union

**Wednesdays at 6:30 PM  
in June and July**



**Meet wolves, rainforest creatures, bats, goats,  
and much more this summer!**

**FREE for PEEC members!**  
**\$5 per family for non-members**  
[peecnature.org/events/](http://peecnature.org/events/)

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

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### Leave Us a Google Review

*"Excellent place to take kids to teach them about the area and wildlife around Los Alamos."*

*"A must if you have little ones. My kids love coming every time we're in town."*

### Nature Center Hours:

Monday: 10-4  
Tuesday: 10-8  
Wednesday: 10-4  
Thursday: Closed  
Friday: 10-4  
Saturday: 10-4  
Sunday: 1-4

### Visit us online, too!

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**PEEC**  
Pajarito Environmental  
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*Our winter Forest Explorers have been busy building snow forts, slides, and much more as they explore our canyons! Photo by Denise Matthews.*

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## FEATURED EVENTS

Ringin' Rocks of the Southwest **APRIL 19**  
Spring Trail Work Day **APRIL 20**  
Earth Day Festival **APRIL 27**  
Rattlesnake Springs Birding Trip **MAY 10 - 13**  
Full Moon Potluck and Night Hike **MAY 17**  
Fly Fishing 101 **MAY 25**

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