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PAJARITO ENVIRONMENTAL EDUCATION CENTER, LOS ALAMOS, NM

Making Connections Through a Kids' Animal Guide

By Siobhan Niklasson, Education Programs Director

How do you connect with your environment? Maybe you eat produce grown locally, or you enjoy watching birds raise their young in your backyard. Maybe your environment forces you to notice it with the sudden onset of rain. With each interaction, you establish a new link between yourself and things in your environment, slowly but surely creating a robust network tying yourself to the place where you live. Students at Kha'p'o Community School in Santa Clara Pueblo forged a mass of new connections between themselves, their culture, and their local wildlife when they created a multidisciplinary Kids' Animal Guide in partnership with PEEC.

The curriculum at Kha'p'o Community School (KCS) includes learning about plants, animals, place, and relationships in the local area in addition to the typical academic standards. For several years, the students have used PEEC's online nature guides as resources for their research projects because PEEC's guides are the only ones that focus specifically on the flora and fauna indigenous to Northern New Mexico. But second-grade teacher Diane Katzenmeyer-Delgado pointed out that the guides were not really designed for children. The vocabulary is sometimes advanced, and the content is very no-nonsense: great for someone looking up information about a species, but not always captivating for children.

KCS espouses a project-based-learning (PBL) model,



Buffalo watercolor painting by third grader Natalia Maestas.

where students work on an in-depth project to solve a real-world problem. To demonstrate their knowledge and skills, they create a public product or give a presentation for a real audience. Cultural arts teacher Eliza Naranjo Morse sums up the impact of project-based learning: "PBL mimics real life more than filling out worksheets and then moving on. We see relationships developing: with materials, with animals, with ourselves. The magic is in the process. [Students realize], 'I've collected a lot more wisdom through this process than just about the lesson.'"

With their experience in project-based learning, KCS students and teachers were primed to be able to create an online animal guide designed for children. With the financial support of the LANL Foundation, PEEC and KCS collaborated to create a one-of-a-kind Kids' Animal Guide. Making the guide would be a valuable learning exercise for the students, and their guide would be

available on PEEC's website as a resource for other children interested in learning about the wildlife of Northern New Mexico.

PEEC staff worked with KCS 3rd- and 4th-grade teacher Diane Chavarria, along with Tewa language teacher Barbara Chavarria and cultural arts teacher Eliza Naranjo Morse, to develop a template. The students chose animals native to Northern New Mexico and created slides about their animals. The guide incorporates factual information about animals, but also elements less commonly found in nature guides, like two- and three-dimensional artwork depicting the animals and their habitats, autobiographical poetry, artwork, and origin stories about the animals written by the students, like "How the Catfish Got His Whiskers" by fourth grader Alex Lomayma.



Third grader Terrance Chavarria shows off his diorama of a black bear's habitat.

This breadth of content was key to the students' learning experience, and also to making the guide delightful for readers of all ages. Diane Chavarria says, "It's a reflection of the student as a whole: an expression of self, culture, and the strengths of the students. The creativity that was expressed within their writing and art was huge — having a voice. Typically, students think that it's adults that can publish something. It was amazing to see their reaction to having something published themselves."

Students created two versions of the guides: a version incorporating their native Tewa language, and an English version. Students shared their Tewa versions with family and community members during live, online presentations, and made the English versions available to the public on PEEC's website. The team consulted

extensively with senior staff at Kha'p'o Community School to ensure that cultural norms were respected before the guide was published. Tewa teacher Barbara Chavarria was impressed by the strides the students made in their language skills: "Hearing the students talk, speak their native language, introduce themselves — I feel that the students are learning the Tewa language."



A colorful hummingbird, by fourth grader Kailynn Archuleta.

The Kids' Animal Guide is as much a joy to read as it was to create. Themes of friendship and family come up again and again in the children's stories. The school's and community's values are reflected in the students' work, and many students were inspired to submit multiple versions of their work as they continued to make improvements.

Take a look at the Kids' Animal Guide. You'll get a picture of what the animals mean to the students, and maybe it will inspire you to deepen your own connections to the wildlife that shares our home. 🌿

EXPLORE THE KIDS' ANIMAL GUIDE AT:

peecnature.org/learn/nature-guides/kids-animal-guide/

The True Heart of PEEC

By Katherine Bruell, Executive Director

After more than a year of being closed, we reopened the nature center in April 2021. You have been streaming in to visit! We've seen so many old friends, plus lots of new members of our community who moved to the area during the closures. We've welcomed school groups and summer camp groups. Lots of you look the same as you did before the closures, but some of you have new hairdos and some of you are much taller! (I'm looking at you, Olie, one of our youth critter care volunteers.)

Even though we were closed for so long, we were busy providing knowledge, fun, exploration, and connections to nature. I'm incredibly proud of the PEEC staff who came up with creative ideas for programs, learned how to film and edit videos, mastered Zoom, inspired kids over Google meet, and so much more. One lesson I've learned during the pandemic is that while our building is what many of us think about when we think about PEEC, our staff is the true heart of PEEC.

From March 15, 2020, when we closed the building, until April 12, 2021, when we reopened, PEEC staff put on 314 public programs, taught 281 school lessons, and served 16,795 people! Their hard work was possible because 817 of you donated, became members, or renewed your membership during that time. And you paid for our pay-what-you-wish programs over 1,000 times. You made sure that PEEC could keep its entire staff, which meant we could keep providing services.

Thank you for helping us all through a difficult time. I'll leave you with a note we got about what you made possible:

"PEEC has addressed pandemic obstacles with more significant success than anyone in Los Alamos. Those who receive the newsletter or check the website can see how you've risen to the challenges. You've exceeded expectations in the minds of the public. Your outreach, from naturalist kits to Zoom programs, demonstrates how clearly you and your staff are accommodating needs that many of us never anticipated — children at home for prolonged periods of time, a decreased sense of isolation because PEEC programs come into our homes, gentle encouragement to find meaningful ways to embrace the sanctuary of the out of doors." 🌿

Three Ways to Protect Our Black Bear Neighbors

Black bear season is in full swing here on the Pajarito Plateau. The warmer months of the year always include bear sightings around town, and, with our whole state in an extreme drought this year, we can



Black bear cub. (Photo by Craig Martin)

only expect to see more activity from these wild neighbors. The dry environment generally means less food and resources are available in our local forests, driving bears into human communities to try to supplement their diets and survive.

Living with wildlife is one of the best parts of life in Northern New Mexico, but with that privilege also comes the responsibility to do our part to protect the animals that live around us. After all, they were here first! Here are three things to remember during black bear season:

1) Make Food Inaccessible: Secure trash cans with a bear-resistant lock or by putting them in your garage or shed until the morning of garbage collection. Bring in bird feeders, feed pets indoors, clean and store grills, and remove any other possible food sources around the house.

2) Make Noise on the Trail: Make conversation, sing a song, or carry a bear bell while you're hiking. Bears have a wonderful sense of smell, but their sense of hearing leaves something to be desired. By making noise on the trail, you can give a bear a heads-up that you're on the way so you don't catch it by surprise!

3) Reach Out to Your Community: Once you've adopted bear-wise practices at home, talk to your friends and neighbors and encourage them to do the same! It takes our entire community's participation to ensure that we're not creating nuisance bears around town. And, be sure to join us for our annual Bear Festival on Saturday, Aug. 28 to learn more about living with black bears! 🌿

Discover-ability: Accessibility & Nature

By Terry Foxx

Often walkers or wheelchairs are necessities. However, because one has a disability does not mean that they cannot enjoy nature. Getting to a place where they can sit, observe, and decompress is essential for their well being.

Recently, the Audubon Society put out a call for trails that are accessible to bird watchers of all abilities. They called it Birdability. Virginia Rose, Birdability founder and wheelchair user, has compiled information that will help people with disabilities get out in nature. However, she noted no one can predict what an individual with accessibility challenges can or cannot do. She says, "You won't know until you go!!"

Disabilities can strike at birth, at any age, and often with aging. For my favorite professor, once a vibrant hiker, it was polio of the 1950s. No one is immune to the possibility. As I have aged, I have less stability and long hikes are improbable. Even though I had become somewhat disabled, nature was still calling me. However, uneven surfaces were dangerous and provided a falling hazard.

Two years ago, the physical therapist suggested I find a walker with large wheels to make walking trails more accessible. I found the Drive Medical RTL 10266 Nitro Euro Style Rollator Walker to be just what I needed. The Drive comes in several heights, colors, and is 23 inches wide with 10-inch front wheels. It also folds compactly. If slopes are not too steep and surfaces not too rocky, trails wider than two feet are often possible to traverse with large-wheeled Rollator Walkers. The wheels on the front provide enough surface to go over gravel, small rocks, and debris. However, large rocks, clumps of grass, and steep slopes are a challenge. Having this mobility tool has changed my life and mobility prospects. Now, I may not walk a whole trail, but I can find places to perch and observe. I feel enlivened.

I might note that wheelchairs and scooters offer different challenges. There are many different kinds from those that are manually propelled by the rider to those that have electrical assist. Wheelchairs and scooters can be wider than 25-26 inches, and surfaces are extremely important for the device's and user's mobility.



Terry Foxx exploring Portillo Canyon Loop Trail with her Rollator walker, which her kids have named "Foxxxy Lady." (Photo by Jim Foxx)

I was delighted when Katie, the Director of PEEC, became interested in the Audubon Society's Birdability project. At PEEC, we have developed a team of people that are working to understand and document the accessibility of the trails in the Los Alamos area. We decided to call our effort *Discover-ability* because nature lends itself to discovering all sorts of things — including birds, flowers, butterflies, insects, mammals, reptiles, amphibians, and the landscape. Our committee includes individuals using Rollator Walkers and manually propelled wheelchairs. We hope to connect this project to the other aspects of nature represented on PEEC's website and build a database of our more accessible trails. If you're interested in being involved, please let us know by contacting PEEC's Marketing Manager, Rachel Landman, by emailing publicity@peecnature.org.

I applaud the Audubon Society for realizing that people with all types of disabilities can be rewarded with nature and feel enlivened. Nature is amazing and is for everyone! For each of you, cherish your yard, your perching places, and the trails you can travel. 🦋

Upcoming Event:

As an aspect of accessibility study, Terry Foxx and Sue Watts will teach an interactive class on journaling in July. They will identify perching sites where you can sit, observe, and record your observations. The program will take place on Tuesdays in July from 5:30 – 7 PM. Learn more and register at peecnature.org/events.



Closeup of One-seed Juniper (*Juniperus monosperma*) leaves and berries. This species is likely the most common juniper on the Pajarito Plateau. (Photo by Craig Martin)



Rocky Mountain Juniper leaves. This species' scientific name, *Juniperus scopulorum*, means "Juniper of the rocks." (Photo by Craig Martin)

What's In a Name?

By Natali Steinberg

You've probably noticed that plants tend to have several names. Most folks call them by their common name such as rose, peony, violet, etc. But many plants have more than one common name and a common name may refer to more than one plant, so it can get confusing. Common names also are often regional. Some of us plant aficionados prefer to use the Latin (or Greek) name in order to be exact. You might be wondering, how did Latin become the preference for scientific names?

About 300 years ago, a Swedish naturalist by the name of Carl Linnaeus designed a system for classifying and naming plants, animals, and minerals. At that time, people had begun to organize plants into large groups based on structural similarities (family) and into smaller groups called genera. Linnaeus broke these genera down into even smaller units called species.

A plant's scientific name consists of two words, the genus name (a noun) and the species name (an adjective). These two words are always italicized. Often there is a capitalized name in single quotes following the species. That indicates a cultivar produced by human hybridization. Unless we are growing only native species, most of the plants we buy for our gardens are cultivars.

My first experience with Latin names came many years ago when I first went to work in a greenhouse and nursery in Boulder, Colorado. A customer asked me if we carried seeds for Cornflower.

I didn't know what she meant, so I asked a coworker for help. It turned out that she was asking for what I grew up calling Bachelor's Buttons. Those are regional distinctions. Depending on where in the country or in the world you live, there are 12 other possible common names for this plant. *Centaurea cyanus* is its Latin name.

Most Latin names are descriptive; *compactus* (small); *columnarus* (vertical); *floreplano* (many petals); *sempervirens* (evergreen); *horridus* (prickly or thorny). Some names speak of their geographic origin, the botanist who discovered them, or their color.

Here on the Pajarito Plateau we can be in either the Piñon/Juniper woodland community or the Ponderosa Pine census designated community. Did you know there are several types of juniper? On the Pajarito Plateau, most of our junipers are One-seed Juniper (*Juniperus monosperma*). But another species that you can find is Rocky Mountain Juniper (*Juniperus scopulorum*), meaning "Juniper of the rocks."

Learning about Latin names helps us be precise in identifying the plants we're discussing, communicate with other naturalists, and learn more information about the species we're studying. 🌀

WANT TO LEARN MORE ABOUT LOCAL PLANTS AND GARDENING?

Chat with Natali about plants at the Los Alamos Nature Center on Wednesdays from 10 AM - 12 PM or on Saturdays from 10 AM - 1 PM!



A male Black-chinned Hummingbird. The iridescent purple at the base of its throat is best viewed in the sunlight. (Photo by Bob Walker)



Female Broad-tailed Hummingbird on her nest. Broad-tailed and Black-chinned Hummingbirds are the only hummingbirds that nest on the Pajarito Plateau. (Photo by Bob Walker)

No Bummer: Summer with Hummers!

By Marilyn Lisowski

Trilling through the trees, cascading onto the flowers! Quick, fill the feeders! Hummers are here! Nothing is so sweet as tiny hummingbirds at flowers or clustering at hummingbird feeders. Their forked tongues dart in and out to draw up nectar seemingly faster than the speed of sound.

Yards with blooms, trees, and profusions of gnats and mosquitoes will entice the biggest number of hummingbirds. And, recent scientific experiments reveal that hummingbirds see ultraviolet light, guiding them to the best food. So, if a trumpet vine or a honeysuckle, with ten times the sugar of average flowers, grows in your yard, you'll have a hummingbird hotel.

All our hummingbirds on the Pajarito Plateau migrate here from Mexico and Central America. And, like streaking jewels, a population of four-inch Broad-tailed Hummingbird males, fresh from the Rocky Mountain Flyway appears in Los Alamos each year near mid-March to breed. In the absence of flowers, they bump one another away from sipping tree sap, their dark neck feathers flashing hot pink to red above whitish underparts. They pump their tails when hovering, as they await the dowdy females for a few seconds of sport. On bitterly cold nights, males and females descend into a slowed metabolic state called "torpor," keeping their body temperature at about 54 degrees.

The Broad-tailed female, dusty green-backed with washed reddish-brown sides and white underparts, constructs an inch-wide pliant nest from plant fibers. She glues it together with spider webbing and camouflages the outside with lichen or bits of bark. Then she looks for a mate. If a

contender is close at hand, the male ascends about 50 feet, then dives, screeching to a vertical halt, facing the hen. He bounces from side to side, as though on a bungee cord, flashing his iridescent bib. If she's dazzled, they mate. The fickle male, having performed his part in the sequence, trills off to chase other females.

Shortly after mating, our little hen lays two half-inch eggs. Two babies will fill the nest and keep one another warm as they grow. The mother feeds them liquid insect protein she has first digested. The nestlings grow quickly on this diet, and at about a week and a half old, they stay warm by themselves. At about three weeks, they begin flapping their wings. The mother bird feeds them less, enticing them to fly to her for more food. As her nestlings fledge, the hen may build another nest from the remains of the old one, and raise a new set of nestlings. In spite of our hen's productivity, more than half of all hummingbird nests fail to produce fledglings due to predation by larger birds, snakes, lizards, and squirrels.

Black-chinned Hummingbirds appear in early April. Some migrate farther north but a population returns to breed year after year, attracted by our flowers and many feeders.

They display black throats flashing purple above white upper breasts. Females, an iridescent green with white underparts, follow shortly, and peacefully sip nectar or perch in amiable groups at feeders as they prepare to nest.

Into this bucolic scene plunges the small, florid Rufous Hummingbird, not to breed but to wreak havoc on its July return migration to Mexico. A male Rufous on the feeder means no one else drinks. A Rufous near any nectar source means feeding efforts of other hummingbirds are doomed.

Called Rufous because of its reddish brown or copper

plumage, the male bears a green head, scarlet neck, and light underparts. The female has a bright green back, with the rest copper brown over white.

The Rufous population is in decline, due not to its aggressive ill-humor but likely to the loss of feeding stations on its perilous way from Mexico to the Pacific Northwest and Southeast Alaska and back.

The startling Calliope, at three inches long, is the smallest breeding hummingbird in the United States. It also passes through Northern New Mexico while traveling south on the Rocky Mountain Flyway in the late summer and early fall. The male Calliope flashes us its streaked magenta iridescent neck over white underparts. The female is easily confused with those of other species. It loves feeders when many nectar-bearing flowers will have finished blooming.

Hummingbirds can stay in this area as long as October. Usually, they don't. As insects vanish, so do the last of the hummingbirds, zooming their way to the warmth of Mexico and the Central American jungles. There, they feast, molt, and grow new feathers for their spring trips back into the north, where we eagerly await their return. 🐦



Rufous Hummingbirds are known for being aggressive at feeders and flowers. (Photo by Mouser Williams)



Calliope Hummingbirds are our smallest hummingbird and the last to arrive locally. (Photo by Bob Walker)

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

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Nurturing Discoveries

The Passport program has played a great role for motivating kids to spend time outdoors. It also helped us to find real hidden gems right next to our doorsteps.

— Passport Program Participant & Parent

Nature Center Hours:

Monday: 10 – 4
Tuesday: Closed
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Thursday: 10 – 4
Friday: 10 – 4
Saturday: 10 – 4
Sunday: Closed

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Members of our spring Forest Explorers Club practiced their observation skills by making watercolor paintings in Acid Canyon. (Photo by Ashleigh Lusher)

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UPCOMING EVENTS

- Discovering Nature Through Journaling **JULY 6**
- Summer Family Evening: Harrell House **JULY 7**
- Electric Vehicle Show **JULY 10**
- Bear Festival **AUGUST 28**

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