Nature Notes

Pajarito
Environmental
Education
Center

Your Nature Center in Los Alamos

Volume 9, Number 4 Fall 2010

PEEC, *Mail*: PO Box 547
Los Alamos, NM 87544
505-662-0460
www.PajaritoEEC.org
Location 3540 Orange St.
Open Tu-F, 12-4, Sat., 10-1

President's Message

by Chick Keller

This will probably be my last column as PEEC Board of Directors President.

It has been a busy, eventful, and gratifying time. Today PEEC is poised to become a larger, more active, more useful organization. We have finished negotiating a new four- year lease with the Public Schools and now await the approval of the State Board of Finance. PEEC will be contracting with Los Alamos County for funding of $25,000 per year. And PEEC has recently submitted a Capital Improvement Program proposal for funding to construct a nature center. It is hoped that, when our current lease with the schools is over, we will move into a new building. Considerable study will go into deciding where and what kind of building we'll want and also how best to make it capable of advanced teaching methods and equipment. There is even the possibility of our including a planetarium, again for teaching purposes.

All of this activity has profited by an enormous amount of volunteer work, especially by the Board, all of whom have contributed. I am awed at their dedication and contributions. It might be a good idea if you are talking with County Councilors or CIP people to put in a word of support for these initiatives.

Here is another example of dedication. In May the fire department's inspection found a deficiency in that our ceiling insulation was not covered by drywall. PEEC had only until early July to comply to avoid fines. To do this we needed a rather large amount of work by volunteers. A team worked full days on Saturdays and part time other days of the week for six weeks to get the job done. This was challenging, difficult work but was accomplished by people dedicated to PEEC. The work was done with skill and good cheer. Yvonne Keller provided lunches each Saturday and others helped along the way. Special thanks to Los Alamos Home Improvement for giving us a discount on our materials and to Stan Primak, who gave excellent advice and loaned us installation equipment. Frankly I was amazed at the performance and commitment of these people. It showed me again that PEEC is a valued community asset.

(Continued on page 2)

PEEC has just hired a half-time program director, Katie Watson. We are very lucky to have her both from her teaching and administrative experience and her communication skills. She is already making a difference and we look forward to a continually improving slate of programs.

And so PEEC continues to grow and to improve its ability to carry out its mission of educating the community, especially its children, about our splendid natural heritage and how it influences our cultures. Thanks to all you volunteers and donors without whom we simply couldn't provide these services to our communities. ☼

(Graphic on p. 1 from Google.com)

PEECnic Offers Fun and Education on Oct. 17, 1 – 3 p.m. at the Nature Center

PEECnic is about seeing friends and meeting new ones with environmental interests. Folks at PEEC take the opportunity to emphasize progress and recognize the many volunteers who made it possible.

Interesting things to do at PEECnic will include new exhibits to see and snacks to eat. It's a good time to renew your membership and give some as gifts to friends. The shop has a good selection of books, cards, and little stocking stuffers for the holidays. Now is a good time to adopt one of PEEC's exhibit critters for only $25 each. Food, clean bedding and appropriate habitats are necessary and adoption fees help.

A highlight this year is a presentation by the two interns who spent the summer helping at Park Flight Migratory Bird Project, which is a joint project by PEEC, Bandelier National Monument and the National Parks Foundation. They also led nature projects in local schools. Laila Yunes Jiménez is from Mexico City and Andrés Peña Monroy is from Medellin, Colombia. We will learn about the birds of their countries from their illustrated talk, "Flying with Birds in Mexico and Colombia."

<u>More about Park Flight</u>
In the fall, fine mist nets are opened to catch birds harmlessly, so that scientists can record important data, band and release the birds. Sixth grade classes are invited to visit and help, giving some students their first up-close looks at wild birds and the chance to release them.

The Park Flight objectives are two-fold. The bird-banding component helps us better understand scientific observation of migratory birds in Northern New Mexico. The student-education component teaches young people about animal-habitat relationships, geography of North and Central America, and problem-solving skills through field trips and classroom presentations. (See PEEC's web site for more information www.PajaritoEEC.org, then click on *Programs & Education*.) ☼

PEEC Board of Directors Elections

Members of PEEC's Board of Directors warrant the whole town's gratitude for making sure our nature center grows and programs move at a fast pace that is educational to everyone. Annually at the PEECnic half of the board is elected for a two-year term.

<u>Nominations for re-election to the 2011 Board of Directors</u>
Terry Foxx, John Hogan and Chick Keller
Terry Foxx has been nominated for vice-president. Please see PEEC's web site for biographies. Enter PajaritoEEC.org, click on *Welcome*, then *About Us.*

<u>For first-time election to the board</u>
Kelly Larson - avid gardener, trail runner, with experience in teaching kindergarten.
Siobhan Niklasson - geologist with experience in field work and teaching in schools and the Audubon Center.
David Yeamans - long-time Los Alamos resident, birder, rafter, dendrography expert and outdoorsman.
Melanie Boncella - nominated for student representative to the board. She volunteers at PEEC, in the Nature Odyssey summer program, and is active in the high school Environmental Club.

<u>Continuing on the board after election last year</u>
Becky Shankland, Jennifer Macke, Mary Carol Williams, Selvi Viswanathan, Felicia Orth (secretary), Bob Dryja and Nathan Clements. Their biographies are on the web site, too. ☼

The Gopher Getter

by Sue Watts

Long-tailed Weasel

I didn't recognize the furry fellow zig-zagging up the driveway and into the front yard as the answer to our pocket gopher dilemma, but he was definitely not the ground squirrel I had originally thought. He was too big and the proportions were wrong. Looking like the stretch-limo version of a small rodent, he had a long, slender body with short legs, which may account for the distinctive running gait, reminding one of an inchworm. His upper fur was a reddish-brown, and his underbelly was yellowish. His eyes and the tip of his long tail were black. Instinct whispered "ferret," but that wasn't quite right. The only animal with a similar elongated shape was a weasel.

I hit the internet looking for verification and more information. Despite his looks, a weasel is not a rodent but is related to the family containing skunks, otters, ferrets, and wolverines. It has anal glands that produce a skunk-like odor, an odor I had noticed wafting through the backyard. The long-tailed weasel (*Mustela frenata)* fit the range and description of what I had seen. Chick Keller's photo on the PEEC website nailed it. I had a long-tailed weasel. Reading further, I found that carnivores with high metabolisms, like the long-tailed weasel, need to eat a lot and typically prey on one species that is continually available. The article also noted pocket gophers are its primary prey.

OK ... that worked for me. I had pocket gophers and they were "continually available." Named for the pocket in their cheeks, the pocket gophers play havoc wherever they show up. Pernicious weeds spring up on their mounds; plants both ornamental and edible disappear while you watch; feet sink into the ground. While I could appreciate their role in churning up the subsoil, I was not enthusiastic about their work in my yard. Like Dorothy Hoard's weeds, they were animals "that are out of place."

University of California at Davis, one of the leaders in integrated pest management, offered gloomy insight into gopher control. I could poison them, but I didn't like the idea of introducing toxic substances into the ecosystem. I could trap them, but I wasn't keen about the hauling and disposing of carcasses. I didn't have a cat for the used kitty litter solution; chewing gum didn't sound very humane; and I wasn't about to hook the car's exhaust to the nearest hole.

When asked if a gopher ever met a plant it didn't like, Bob of Agua Fria Nurseries mentioned castor beans and daffodils. Rejecting the castor beans (there were kids in the neighborhood), I planted daffodils. They were pretty, but the gophers tunneled between the bulbs to get to the tasty stuff. I finally resorted to the exclusion method. The veggie garden gained a bottom barrier of hardware cloth and all newly-planted ornamental plants sported underground chicken wire cages. These protected the plants important to me, but still the critters were getting out of hand.

And then, the activity slowed. Fewer mounds appeared. The remaining mounds developed mysterious holes. I gained an upper hand on the weeds. No plants disappeared while I watched. When I saw the weasel, everything fell into place.

We had a food chain going.

I wondered how to keep them around. Philosophically, I was against feeding wild animals, and practically, I wanted to keep them hungry. Then, I remembered the research: "the absence of water to drink is thought to be a limiting factor." So, I have been leaving a dish of fresh water in the back yard; each weasel needs about two tablespoons of water a day and I like to encourage pairs.

(Continued on the next page)

(Continued from page 3)
Are they still around? I think so. The mounds have a deflated, abandoned look. When a new pocket gopher mound appears, it quickly develops a hole and no further damage occurs. Small scat looking like a twisted, black toothpaste tube appears on rocks. Water continues to disappear from the dish, and occasionally, I catch a whiff of weasel.

Let the food chain roll.

Sources:
quotes from “Weasels” a monograph by F. Robert Henderson, extension agent with Kansas State University:
http://icwdm.org/handbook/carnivor/Weasels.asp
For more information, check out enature's website:
www.enature.com/fieldguides
Graphic: Discovery Travel World, SA web site ☼

Mammals of Los Alamos County and Some Surprises !

by Chick Keller

PEEC seems to emphasize our native plant and bird populations, but Los Alamos County also has a wealth of mammals. In all, some 30 or so species have been recorded here. In addition, we might add domestics--cats, dogs, horses, the occasional mule and burro, hamsters and guinea pigs!

Below is a tentative list of our wild mammals. Most of them are well known, such as the bear that damaged our bird feeders at PEEC recently. But there are some surprises, too. Last summer we heard strange chirpings outside PEEC around the same bird feeders, and discovered a pair of long-tailed weasels (see photograph at PEEC's website). A few years ago we discovered a beautiful wood rat in our pantry. Caught in a have-a-heart trap, he looked out at me with a very intelligent aspect. Jackrabbits aren't all that common but one was seen in Rendija Canyon after the fire and they are probably more common in the White Rock area. Another rare visitor is the badger seen very seldom. And still another seldom-seen species, possibly because it is nocturnal, is the diminutive kit fox. One became a regular visitor to a tech site at the lab about 20 years ago where they got good photos of it. Gray foxes are more common, although their numbers were significantly reduced a few years ago by an outbreak of canine distemper.

Residents are often treated to visits from the nocturnal ringtail cat. It got the nickname "miner's cat" when miners discovered it could be essentially tamed and would keep their cabins free of mice and rats. While we don't have prairie dogs, there are several large colonies in the nearby Valles Caldera. Their presence is a mystery since it's not clear how they got there from the lowland, prairie habitats they are used to (including downtown Santa Fe).

The Rio Grande has contributed two other species. A beaver dam and lodge recently were constructed in lower Ancho Canyon where they are devastating the cottonwoods. The second species hasn't been seen yet (please report to PEEC if you see one) but should be present. It's the river otter, reintroduced into the upper Rio Grande a few years ago but now reportedly moving south. It would be a wonderful sight to have them frolicking along the flats of Pajarito creek.

But perhaps the most surprising of all our mammals is the high-altitude pika. (See the drawing to the left.) This small rabbit-like creature normally inhabits mountainous terrain near the tree line, where it lives exclusively in rocky areas. Imagine our surprise upon discovering a small colony of about six living in the rocks just at the top of Pajarito Mountain’s Aspen ski lift! They are part of a relic population "trapped" in the Jemez Mountains after the last ice age. There are several other small colonies in the highest mountains of Valles Caldera. All harbor a special version of pika--a warm-adapted one. As the Earth warmed after the end of the ice age, these animals slowly, over a thousand years or more, got forced higher and higher

until they arrived at the tops of our highest peaks. Since they could go no higher, they had to adapt, not only to warmer temperatures, but also to different food sources as the high elevation flora was replaced by lower elevation plants. These pikas may become a very important gene pool for adaptation to warmer climate. For, if global warming continues to drive the tree line higher and higher in the Sangre de Cristo Mountains (currently around 12,500 feet), those pikas will not have time to adapt and may die out. Perhaps introducing some of ours there may save the species in New Mexico and even farther north. Certainly pikas will no longer be found in the Jemez.

So that's a very short tale of mammals that live around us and enrich our lives. Some, such as the burrowing rock squirrels and gophers are less loved by gardeners, and mice can be a nuisance. Yet the possibility of seeing some of our more rare species is intriguing. Please, if you see one of these, contact PEEC so we can keep a list. For example, I haven't seen a badger in 25 years. Are they still around? If not, why not? So such sightings are important. And besides, it's exciting!

Tentative List of Los Alamos County Mammals
Several mice and a vole ✡ chipmunk ✡ wood rat ✡ badger ✡ skunk ✡ red squirrel (also called spruce squirrel or pine squirrel) ✡ porcupine ✡ coyote ✡ raccoon ✡ rock squirrel ✡ Douglas squirrel ✡ elk ✡ black bear ✡ mule deer ✡ kit fox ✡ gray fox ✡ bobcat ✡ mountain lion (puma) ✡ gopher ✡ Abert's squirrel ✡ long-tailed weasel ✡ cottontail rabbit ✡ jackrabbit (actually a hare) ✡ ring-tail cat (miner's cat) ✡

Surprises !
pika ✡ beaver ✡ river otter (to be looked for)
Pika drawing: Alaska Dept. of Fish and Game web site. ☼

A wildlife habitat in your yard may give small birds and mammals their necessary food, water and homes. The National Wildlife Foundation sponsors certification of such habitats in yards and has information on the web site: www.nwf.com.

Our scorpion with her babies on her back, July 2010

Correction: Not a Bark Scorpion!

Article and photo by Jennifer Macke

We published an article in the previous issue of Nature Notes about a local scorpion we have on exhibit at PEEC. One morning, to our surprise, she was discovered with babies on her back. But this was not to be our only surprise. As it turns out, part of the information we published needs to be retracted. Our local biologists were unable to identify the species with certainty, but the photos made their way to a scorpion specialist in Texas. The exciting news is that our scorpion is probably an undescribed species! It is almost certainly not a bark scorpion (genus *Centruroides*), as reported in the previous Nature Notes. It is more likely to be a member of the genus *Vaejovis*, either *Vaejovis paysonensis* or an undescribed species. This is good news for PEEC, as these scorpions have much less potent venom than the bark scorpions.

If anyone finds additional scorpions of any species in Los Alamos, please contact PEEC. We would like to collect some additional specimens (alive or dead), which we will preserve and send to the researcher in Texas. ☼

Native Fish Exhibit at PEEC

by Jennifer Macke

We are happy to announce that we have finally finished setting up (Fish exhibit continued from page 5)

our exhibit on native fish. Using a donated 180-gallon aquarium, PEEC is now home to three local species, the Rio Grande Chub, Rio Grande Sucker, and Longnose Dace. Stop by the nature center and get an up-close look at some of our aquatic neighbors. ☼

Family Nature Connection: Potato Topo

by Michele Altherr

When you go out to explore the wilderness, be sure to take along your topographical map. It will provide information about your trail and the surrounding mountains, canyons, roads, bridges, and other landmarks along your journey.

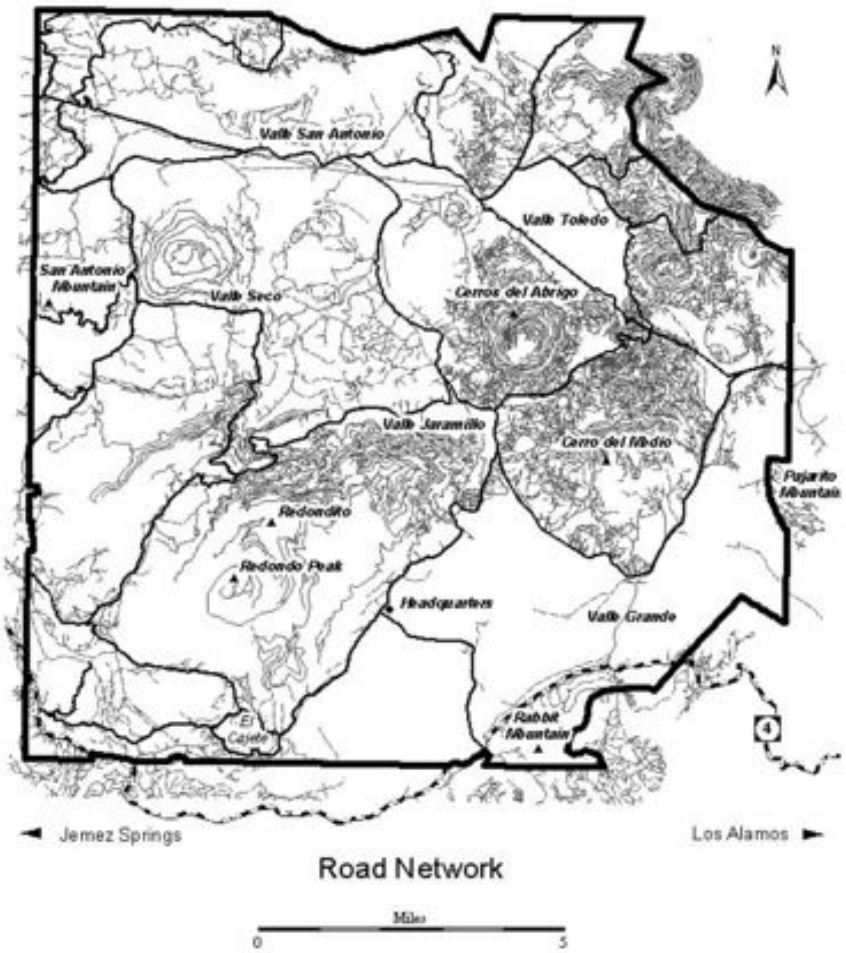
The word "topography" is derived from the Greek words *topos,* meaning a place, and *graphien,* meaning to write. Thus, topography is the written or drawn description of a place. Some of the earliest known maps were made to show property boundaries for the purpose of taxation in ancient Mesopotamia and Rome.

In 1793 the first topographical map was produced. Though it lacked much in the way of elevation detail, it did result in the first complete map of France. The concept of contour lines to show different elevations was developed in 1791 by J. L. Dupain-Triel. Yet the idea went largely unused. It took the birth of a rapidly expanding new nation, the United States of America, to recognize the need for accurate topographical maps that detailed lands few Americans of the time would ever have the opportunity to see. Meriwether Lewis, William Clark, John Fremont, and John Wesley Powell are just a few of our early geographic explorers who mapped rivers, mountains, valleys and lakes. By 1879 the U.S. Geological Survey was established to consolidate the various surveying efforts. Today the U.S.G.S. has produced over 56,000 maps of the U.S., as well as maps of the moon and planets.

A topographical map looks different from other maps because it contains many thin curved lines that don't branch or cross over each other. These lines are called contour lines and connect points of equal elevation. So, all points along a contour line are the same elevation.

When the lines are close together, the elevation is changing rapidly and the terrain is steep. Conversely, when the lines are widely spaced, the area is relatively flat. Mountain peaks appear as smaller and smaller concentric circles as the summit is reached.

Try to find steep inclines in this map of the Valles Caldera.



Here is a fun project to try that will give you an opportunity to take a three dimensional potato and map it in two dimensions.

First, take a large potato and carve a shallow "valley" so it looks like there are two peaks in your potato. Then with a sharp knife, slice the potato into horizontal layers. Discard the bottom layer so the potato sits flat. Take the remaining layers and trace each one. Be sure to keep each layer in its proper position in regard to the previously traced layer. The resulting pattern will be a topographic representation of your potato hills and valley.

Now go find a topographical map and head outside with your family.

Map source: vallescaldera.com ☼

Update on Gardens at PEEC

Butterflies Find Plants by Dorothy Hoard

The Butterfly Garden has been created with the joint efforts of many people. Moreover, PEEC's experiments with a high elevation garden are making progress.

For butterfly plants, the Kinnikinnik Club kids chose beebalm, coneflowers, and globe thistle. Selvi Viswanathan recommended Jupiter's beard, golden basket alyssum and silverberry. I specified butterfly bushes, a native of China, but the best insect attractor ever devised. Linda Boncella brought Shasta daisies, pineleaf penstemon and yarrow. Selvi brought violets, gaillardias, goldenrod plants and a rue plant that hosted black swallowtail caterpillars in her own garden. Most are doing well. As far as I can tell, all the plants survived, even with the squirrels treating the young coneflowers like lettuce.

Best of all, we had customers, even though this has not been a good butterfly year at Los Alamos' altitude. We've seen painted ladies and dainty sulphurs. We had a monarch for about a week, far from his migration corridor but welcome here. We had a Milbert's tortoiseshell that I associate with the Camp May area. A sleepy orange stopped by, not commonly seen in our area. With these successes, I sent away for certification as an official Butterfly Garden from the North American Butterfly Association.

Note: Please see PEEC's web site for two lively articles by Dorothy Hoard about this garden. Walkways, signs and benches make it a joy for walking and learning.

Native Plants Bloom

Where do you think you might see sun drops, Apache plume, Jacob's ladder and greenthreads? Take a look at the Waterwise Flower Garden between the parking lot and the front door at PEEC. Chick Keller says it took about two years, but these native shrubs and flowers are standing tall and blooming with glorious color.

Sunflower Kids' Vegetable Garden

The Indian corn and the pumpkins are not quite ready yet, but Marion Good's enthusiastic young gardeners held a picking party on September 15. Tubs were filled in no time with tomatoes, squash, basil and zucchini.

Mary Zemach of a food bank in Espanola spoke with the children about poverty and families who do not have enough food. Such people can be certified to receive free food that has been donated by stores, gardeners, and groups like the Sunflower Kids. Mrs. Zemach emphasized, "There can never be too many zucchinis."

See how food banks and depots work at the web sites: nmfoodbanks.org and homelessshelterdirectory.org.

PEEC Board member Terry Foxx asked one young gardener, "Did you have fun doing the garden?" The reply was, "It was a lot of fun but I bet those hungry people will have more fun eating it." ☼

Katie Watson Leads PEEC's Programs

The new Program Director at PEEC originally hailed from Brookline, MA, and came to the Southwest to attend St. John's College in Santa Fe. A masters program in international relations at George Washington University took her east again, but the Southwest and a teaching profession called her back. She completed the teaching internship program at UNM and taught three years in Santa Fe. Recently she taught in the GATE program at Aspen School. Her family, including Peter, 9, and Andrew, 7, see above, lives in the Jemez.

Katie has ideas for new ways to interact with teachers and classes. Also, she likes the term "schoolyard ecology" to stress possible nature experiences near the schools. Adult level nature education inspires her to create learning about natural products for home and to continue PEEC's "Winter Wednesday" programs.

"I want kids to be playing outside. I want people of all ages getting out and enjoying the outdoors, " she says. And, she means it! ☼

PEEC
Pajarito Environmental Education Center
3540 Orange St.
P.O. Box 547
Los Alamos, NM 87544
www.PajaritoEEC.org

PEEC This Week

weekly e-mail alerts about classes, events, nature and the environment. Anyone who has an e-mail account can receive them. To start, send a message to Webmaster@pajaritoeec.org. These weekly e-mail alerts always include PEEC activities and local information about nature. You also can contribute appropriate notices.

	General Membership	**$35**
	Living Lightly	**$20**
	Penstemon *Benefits of membership plus t-shirt or canvas shopping bag.*	**$60**
	Sunflower *Benefits above plus additional t-shirt or canvas shopping bag.*	**$100**
	Wild Iris Donor *Benefits above plus Muench coffee table book.*	**$250**
	Skyrocket Gilia Donor *We will contact you to determine how to recognize this generous level of donation.*	**$500**
	Wood Lily Donor *We will contact you to determine how to recognize this generous level of donation.*	**$1000**

	Non-Profit Sponsor *Newsletter and PEEC This Week for up to 3 organizational members.*	**$75**
	Corporate Sponsor *Newsletter and PEEC This Week for up to 3 organizational members.*	**$100**

PEEC's Mission Statement: To provide a nature center and outdoor education programs that allow people of all ages to explore the rich natural and cultural heritage of the Pajarito Plateau and to appreciate our connection to the natural world.

Joining Is Easy!

Tear off this form, fill it out, and mail it in with your check or go to the website www.PajaritoEEC.org. Do it today! Thank you.

Name(s): _____ Address: _____

Phone: _____ Number in Household: _____ E-mail: _____ ____ Please contact me about volunteering.

PEEC is a non-profit 501(c)3 organization. *Donations are tax-deductible.*

****

Mail checks to: PEEC PO Box 547 Los Alamos, NM 87544 Att: Membership

****