



# Nature Notes

Pajarito  
Environmental  
Education  
Center

Your Nature Center in Los Alamos

Volume 8, Number 3

Summer 2009

PEEC, Mail: PO Box 547  
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## President's Message by Chick Keller

Summer is here, Nature Odyssey and LEAP are in full swing with kids learning a large variety of things about nature. "What's Blooming Now" (at our web site under the "Guides" pulldown) is already full of flower pictures with more coming every few days. Our self-guided nature trail, which begins at PEEC and goes down the Olive Street canyon, is getting lots of use. Our xeric and children's vegetable gardens are doing well and there are plans for having students put in a butterfly garden. The rains have given us an especially moist spring which means the wildlife and plants will be thriving. PEEC is following all this with programs to help our membership learn and keep up. Many of you are helping and many more are thinking about helping. It's great fun.

Our funding, largely thanks to your generosity, is doing well, but it seems we are always hand to mouth, and so I'm establishing a more formal fund raising program. We also plan to approach the County Council with a proposal for them to fund our operations in return for services of teaching and advising. I'd also like to purchase a \$1,500 twelve-inch telescope to be the centerpiece of our astronomy programs. Any who would like to contribute to the telescope fund, please contact Diane at PEEC,

662-0460.

And so, with your help, PEEC is increasing its ability to provide environmental education to all ages. Come by and see what's new at the Center. Enjoy.

## Ponderosa Nature Trail Booklet Prepares for Reprinting

by Rebecca Shankland

Since the dedication of PEEC's Ponderosa Nature Trail on Earth Day, our guide booklets have accompanied many walkers down the little Olive Street canyon. Though some booklets were returned for reuse, our first printing is gone! As we begin the next printing, we want to make the starting point clearer (the information kiosk is after stops 1 and 2, and finding stop 3 was an unintended mystery).

We've had a few other comments and questions, so now it's YOUR TURN to send your puzzles and confusions to the editor--just send a message to PEEC <Center@PajaritoEEC.org> or Becky Shankland <rebecca.shankland@gmail.com > and your work will contribute to the second edition.

At the same time, we'll work on putting together our "answer sheet" for those of you who are still wondering what animal broke off the ponderosa pine tips and how the Pasque flower got its name.

Drawing by Dorothy Hoard from *Flowering Plants of the Southwestern Woodlands*.

## PEEC People

*The experience and skills behind our classes, walks, and lectures are amazing. Here are some notes about a few of the people who share with us.*

★Colleen Olinger is one of two volunteers leading a tour in July of historic dendroglyphs in the Valles Caldera National Preserve. She writes, “‘Dendroglyph’ is simply the scientific name for a tree carving – by a sheep herder, logger, hunter, occupant, or passer-by.” See a description in the Programs Schedule and watch “PEEC This Week” for more. Colleen has lived in the Los Alamos area since 1970. She worked over a decade in the environmental section at LANL. From 1990 to 2005, she and her husband Bart owned and operated Otowi Station Bookstore. Aspen carvings are in Colleen's background; she was raised in southern Utah/eastern Nevada in a sheep-ranching family. Colleen is a Saturday volunteer at PEEC.

★Dave Yeamans, the tour leader with Colleen, is a native of Los Alamos and worked many years at LANL as an environmental scientist. He is a river and Outward Bound guide and currently serves as president of the professional Grand Canyon Private Boaters Association. Dave is a sterling example of the unusual and outstanding professional resource that is the Los Alamos retirement community.

★John Hogan will be leading a mountain bike expedition for repeat photograph (100 years later) of the prehistoric cliff dwellings and unique tent rocks at the end of one of our mesas. *National Geographic* published an article about this site in 1909. He is currently involved in scientific monitoring and outreach for the Los Alamos County Fuel Mitigation - Forest Restoration Project. John is the founder and leader of the Living Earth Adventure Program (LEAP) for PEEC and the Volunteer Task Force.

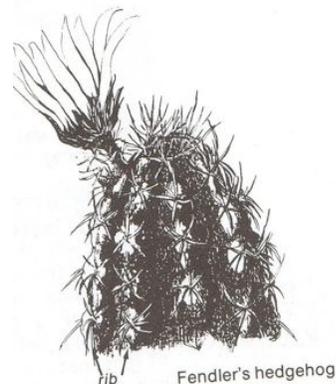
★Heather Burke brings her hobby, geocaching, to PEEC on July 1st. She and her family recently enjoyed an afternoon with four girls who learned about geocaching as a result of PEEC's Earth Day auction of nature experiences. Heather believes when she goes “where you are the search engine” (geocaching.com) she finds herself outdoors in new places, seeing new things. Heather is co-owner with

her husband of Enterprising Computing Systems and Pinon PC Support. She is volunteer co-editor of *Nature Notes* doing layout and technical details.

★Terry Foxx and Dorothy Hoard are continuing their rich instruction on how we can take nature into our lives, all the way from formal classes, wild flower walks, using wild flowers on quilts, greeting cards in our shop, nature books and trail guides, to articles and illustrations in *Nature Notes*. They are offering leisurely and enjoyably narrated walks for viewing wild flowers this summer: July 7, August 4, and Sept. 8: see the web site or “PEEC This Week.”

Terry has worked in the field of biology and ecology for over 40 years. She is retired from LANL, where she has studied fire ecology, wetland ecology, botany, and endangered species conservation. A walk with Terry through a forest recovering from fire is a rare, informational experience. She is a Master Storyteller and uses storytelling, field activities, and lectures to encourage students (children and adults) to understand ecological principles and care for the environment. Terry also is a gifted writer and here's what she writes about her colleague, “Dorothy and I met when I was teaching Plant ID courses at UNM-LA in the early 1970s. After she took the class, she and I decided to collaborate on the book [the classic *Flowering Plants of the Southwestern Woodlands*], and 10 years later it came out with over 400 of her beautiful drawings. Dorothy's enthusiasm for plants and desire to know more has never ceased to amaze me. Her energy and curiosity are far greater than mine. Just her interest in life and the area has been a model for me. She has written several books about hikes in the area and has been instrumental in preserving some important parts of Los Alamos' history.” Dorothy volunteers at PEEC on Friday afternoons

✧



*Drawing by Dorothy Hoard*

Ponds are a rarity on the Pajarito Plateau, but we do have a few, and they are exciting places to visit in spring. On a visit to a local pond this spring, I was greeted by the sound of chorus frogs (see photo). While the chorus frogs were very LOUD at quite a distance, they became completely silent as I approached the pond, and I didn't hear another peep out of them the whole time I was there. Vegetation near the pond prevented me from seeing them, as these frogs are small and blend in well.



Chorus frog

Photo by Terry Foxx

I spent some time looking in the water, just to see what I would find. I observed a variety of swimming insects, including some very cute “water boatmen.” Water boatmen are named for their rear legs, which are shaped like tiny oars, and used exactly like oars to swim through the

water. I also saw a variety of freshwater plankton, including water fleas (*Daphnia*), and a variety of other tiny critters of various sizes and colors. As the name implies, water fleas have a hopping flea-like motion as they move through the water.

I looked closely at the vegetation and debris along the side of the pond. I had expected that I might find some eggs from the chorus frogs. Pulling a few pieces of pond debris out, I did find some amphibian eggs. However, I immediately suspected that they were too large to have come from the chorus frogs. Indeed, upon closer inspection, I could see the beginning of external gills on each embryo. External gills are characteristic of salamander larvae, not frogs. (QUICK TIP: to distinguish between tadpoles of frogs/toads and those of salamanders, look for external



Water boatman

Clipart ETC., Florida's Educational Technology Clearinghouse

gills. Salamander larvae have them: frog tadpoles don't.)

To be sure of the identity of the eggs, I took some close-up pictures of the eggs (see photo). Indeed, they were well-developed salamander embryos, clearly beginning to grow external gill structures. Because tiger salamanders are the only species of salamander that breeds in ponds in our area, it was clear that they must be tiger salamander eggs. Three of the eggs are currently on display at PEEC – but they have hatched and grown into large larvae, clearly showing their large, frilly external gills. Stop by the Center and take a look!



Salamander

Photo by Jennifer Macke

Salamander embryo inside the egg. The embryo is close to hatching, and its external gills are beginning to be visible.

And the next time you go hiking, try to find a pond and learn to identify some of the life that grows in these special places. ✨



Salamander larva

Photo by

Esta Lee Albright

Note: As Nature Notes goes to press, the three developing salamanders have grown small legs but the external gills are still there and longer. Across the aisle in the Nature Center live PEEC's adult exhibit salamanders. They are named Tam and Cam, but nobody can tell them apart. They live in a moist earth substrate and a water dish, burrowing into the former and soaking in the latter. A paper panel outside their tank can be flipped up to reveal the under-earth tunnel where one or both might be hiding. [ed.] ✨

Family Nature Connection:  
Rain, Rain, Don't Go Away

by Michele Altherr

This spring and summer we've had an unusual number of opportunities to use our umbrellas. We like our umbrellas because they are big broad surfaces that shed rain and keep us dry.



Likewise, our homes and towns have been designed to keep us dry by diverting and channeling storm water away from our buildings and roads. So where does all this unwanted rain go? And if moisture is so scarce in arid New Mexico, wouldn't we really rather keep that "unwanted" water?

I have watched the flow of rainwater and it is something you might try too. After you watch it for a while, draw a map of where it comes from and where it goes. I live at the bottom of a short hill in my neighborhood. When it rains, the water begins to accumulate at the top of the hill and then it gathers more and more speed as it rushes down the asphalt slope. A side street feeds into it and adds to its power.

By the time it flows past my house, it is a torrent. During big storms I have seen two-foot waves crest against my curb, jump the barrier, and turn my front yard into a lake. However, most of the time the rainwater travels a few more yards past my driveway where it swirls down a storm drain through a pipe and finally cascades into Pueblo Canyon.

Freshwater is an important natural resource. While 80% of the Earth's surface is covered in water, most of it is in the form of saltwater or locked up in the form of glaciers, icecaps, and soil humidity. It is estimated that only 3/10 of one percent of the water on our planet is available in the form of lakes, rivers, and streams. And we use this water to supply our cities, factories, and homes, while hopefully leaving some for wildlife. So you can think of water as something everyone has a demand for – like a small slice of chocolate cake.

Though there is not a lot of freshwater, most of us take it for granted and leave faucets running while brushing our teeth, run the dishwasher when it is half full, and lay out sprinklers that water more of

the street than our gardens.

One thing we can do to cut our demand for water is to collect rain. It's free and good for lawns and gardens.

The Environmental Protection Agency reports that on average 50-75% of an American's outdoor water use goes towards lawn care. Now what would happen if people used rainwater instead of water from our faucets? We would help save our precious water supply. It is pretty easy to collect the rain that falls on your roof by channeling it through a gutter into a rain barrel. Then when it is time to water your garden, you can use rainwater instead of tap water.

If we go back and think about our umbrella but reverse it, it will collect water instead of getting rid of it. You can try some umbrella experiments. Set your umbrella upside down next time it rains and let it collect water. When it stops raining, scoop out the rainwater and use a measuring cup to see how much you collected. Then try different size umbrellas to represent big and small roof rain collection systems. You can see how much is collected after different amounts of time in a rainstorm. You might have even more ideas to test. If you keep track of your data in a journal, you might find some interesting patterns. As always, tell your parents what you want to do and make sure that it is OK.

I hope that next time it rains you'll look out your window and imagine all the water that's running off your roof being put to beneficial uses in your garden.



Note: Levels of lakes in northern New Mexico are reported 'normal' this summer (weatherforyou.com). However, the usual annual rainfall is only about 18 inches (www.weather.com), so it's important to plan creative measures for our own water supplies. (ed.)

*Umbrella drawing from Clipart ETC., Florida Educational Technology Clearinghouse.*

"Rain is grace; rain is the sky condescending to the earth; without rain, there would be no life."

-John Updike

Travelers of Nature  
in a Week at Nature Odyssey

by Michele Altherr

As a PEEC Nature Odyssey teacher, I've had the extraordinary opportunity to watch children become a little stronger, a little braver and a little more knowledgeable about nature. For one week they were travelers of nature, they were "odysseys." And their experiences would be the envy of any adult.

Indeed the children saw spectacular sights ranging from a female elk nursing her calf, to a summer tanager flying through a bosque, to the inside of a wild cave set in a gypsum landscape. Yet in a spectacular land it is still children's joyful response to nature that is wholly their own. Imagine a child twirling and skipping through a meadow with binoculars in hand against the expansive backdrop of the Caldera. Watch children crowded around a bucket of stunned fish waiting to be measured and weighed and then hear the peals of laughter when one jumps out of their hands. Listen for the young girl inside a cave say,

"Maybe I can go a little farther." Feel the distance between children and stinging nettles once they learn the meaning of its name. Gaze across a warm spring at two boys cautiously passing a frog in cupped hands and then diving after it when it leaps free. Watch a young girl throwing an atlatl with all her might and leap for joy when she hits the target. Finally picture a young boy running after a swallowtail as fast as he can through an old growth forest with net held high in the air.

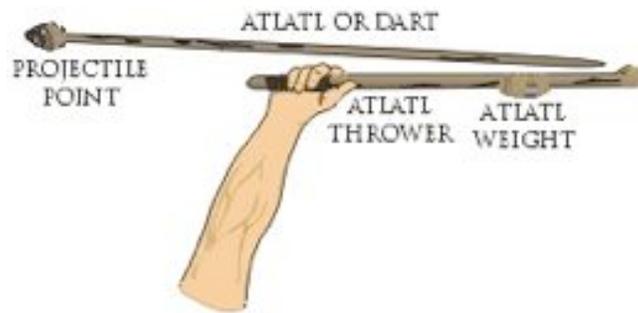
Our Nature Odyssey kids delighted in making friends with not only each other, but also with nature. At the end they spoke about the great moments of finding snakes and crawdads, learning about flowers and fire, and discovering cave entrances and artifacts. One said, "It's fun to learn things outside instead of in books." Another added, "I notice more things when I'm outside." Another

piped in with, "It sure beats sitting inside and watching TV." His friend agreed, "If I wasn't here, I'd be home playing video games." And lastly one said, "I like learning outdoors because you get exercise and fresh air."

I always wonder about the impact of Nature Odyssey on a child's view of the world. When a teacher tells them to open a book and look up information about caves, will they be able to offer their unique insights? When they read about the logging of an old growth forest, will they write their congressional representatives? When they hear about the decline of a butterfly population will they plant butterfly gardens? I won't ever know exactly how the program influences their lives, but I suspect something will stay with them. Another more famous odyssey said it well, "I am a part of all that I have met." (Tennyson, "Ulysses")

This year PEEC was able to offer a reduced tuition for Nature Odyssey and LEAP. As a result we experienced our highest enrollment, 63 children. At PEEC we celebrate the fact that we succeeded in getting more children outdoors and connecting with nature in extraordinary ways. The reduced tuition

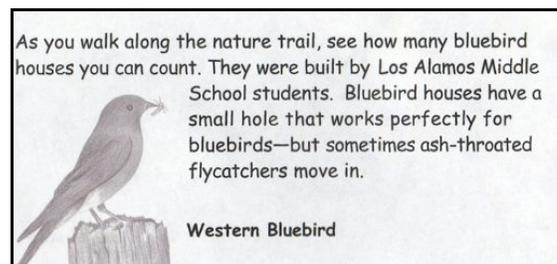
was made possible through the generosity of Moms in Motion and several Earth Day donors. Now that we've found the price point for the camp, the pressure is on to keep it the same next year! After all, what else can you do when you hear a ten-year-old child declare, "I loved this week. It's probably the funnest week of my life!" ✨



[www.heritage-online.net/Glossary/glossary.htm](http://www.heritage-online.net/Glossary/glossary.htm)

## New Bird Houses at PEEC

Students of PEEC board member Bob Dryja built and donated bird houses for the Nature Trail. Here is an excerpt from the trail guide.



## An Amazing Donation

by Natali Steinberg  
Photo by Janice Tucker

One day in late May a docent at the Leonora Curtin Wetlands Preserve checked the donation box for recent contributions. Rather than money, she was amazed to find, tucked in a back corner, a small nest with three very small eggs in it. What avian friend had made the lovely donation? And what bird was able to wedge itself in and out of the narrow money slot?

Soon the answer arrived - Mrs. Bewick's Wren easily squeezed through the slot. She is now known as Dona (short for donation).



On June 6th fifteen PEECers made a field trip to Leonora Curtin Wetlands Preserve and saw Dona and her nest, as well as Mother Cooper's Hawk and Mother Black-Chinned Hummingbird on their nests. At the lovely pond Mother Mallard brought her four ducklings for us to see.

Watch "PEEC This Week" for news of a fall trip to the Preserve, which is managed by the Santa Fe Botanical Garden. ✧

Note: "PEEC This Week" is available to anyone with an e-mail account. You can receive weekly notices of events both at PEEC and by selected local sponsors. To subscribe go to the PEEC web site and pull down "Publications." (www.PajaritoEEC.org) ✧

## Our Fence Lizard Gets a Name

by Jennifer Macke

PEEC is happy to announce that our newest educational animal has an official name: Flash the Fence Lizard. Congratulations to Sprouts Preschool in White Rock for submitting the winning entry. They received books about lizards as a prize. And thank you to everyone else who submitted ideas into the drop box beside the lizard's tank. We welcome everyone to stop by and visit Flash. But look quickly – as the name suggests, this lizard moves fast! ✧

Note: Of course, we have no idea where Flash's parents might be. Fence lizards are independent as soon as they hatch, at about 2 1/2 inches in length. However, Flash will receive good, lizard-appropriate care at PEEC, and perhaps Flash will have surrogate parents in our animal adoption program.

Adoptions are for one year and provide healthy food and habitats especially designed and maintained for the animal. Each adoption is only \$25; contact PEEC or look at our web site (www.PajaritoEEC.org and click on "Support PEEC" for instructions).

"Parents" of our exhibit animals receive a colorful fact sheet about the species, a photo magnet, updates, and the opportunity to make an appointment to see a feeding and talk with the animal's caretaker. The exhibit animals receive visitors anytime PEEC is open. (ed.) ✧

## PEEC Field Trips

as Seen by Students and Teachers

This spring 21 first, second, and third grade classes, with 380 students, visited PEEC between Apr. 27 and May 8. Some added a writing assignment to their PEEC field trip experience: a thank-you note to PEEC. Below are examples just as they came to us.

◆Dear P.E.E.C. Staff,

Thank you P.E.E.C. for the field trip it was awesome, but very tiring. I liked the sorting soil part a lot, the hike was really hot, but the flowers were so cool it was worth getting burned by the sun so thanks a lot. Sincerely, A ...

◆Dear PEEC staff,

That field trip was great. I loved the things we did. My favorite one was the hike. I badly want to come back. I liked looking at flowers. I liked digging and sorting soil. I liked sitting in the sun. Sincerely, N ..

◆Dear PEEC staff,  
Thank you for letting us in for free. My favorite part was the hike. I liked looking for plants.

Sincerely, S ...

◆Dear P.E.E.C. staff,

Thank you for letting us visit the P.E.E.C. My favorite part was when we tried to mix stuff together from the vegetable garden or the forrest or the gopher holes. Sincerely, A ...

*Of course, teachers' comments in their evaluations of the field trips were quite welcome, too.*

◆“This geology unit – especially the stations – would make a great “trunk unit .... To put together a lesson like this and teach it takes me weeks. This hands on experience ties everything together at one time so we can move on to other rock activities.”

Second grade teacher

◆“Names of plants, soil composition. This would be a great trip at the beginning of the year, when we are studying leaves. Excellent trip !! Thanks so much.”

Third grade teacher

◆“Programs always nice, appropriate and consistent. We know what to expect and have not been disappointed.” First grade teacher ✨

## PEEC Herbarium Wins Honors

by Chick Keller

This year PEEC's Jemez Mountain Herbarium was invited to add its data base to the statewide one, New Mexico Biodiversity Collections Consortium (NMBCC), maintained at UNM. This honor shows that our efforts are being recognized.

What is a herbarium anyway, and why does PEEC have one? Good questions.

First, PEEC has people like myself and Dorothy Hoard who are deeply interested in learning the plants of our area, Los Alamos County and the Jemez Mountains. Second, PEEC received a collection of the plants of the Santa Fe National Forest made by a graduate student. While SFNF extends across the valley to the Sangre de Cristos, most of it is in the Jemez. Then with a grant from the Native Plant Society PEEC purchased a metal cabinet made to store dried plants professionally. Funds from two local families and a major grant from Animal Clinic of Los Alamos enabled us to obtain a professional binocular herbarium microscope. Then LANL gave



Drawing by  
Katrina,  
student

us not only their entire plant collection but also many herbarium supplies, and the U.S. Forest Service gave us some \$500 worth of supplies like hand lenses. A grant from LANL enabled purchase of \$1,000 worth of plant identification books (*Flora of North America*) and PEEC purchased *Intermountain Flora* with its excellent drawings. Other plant ID books have made their way to PEEC and with all of this we established the "Jemez Mountain Herbarium."

A herbarium is simply a library of dried, pressed plants mounted on archival sheets, labeled and data based. It is important to have actual examples (called voucher specimens) for two reasons.

First, they provide a teaching aid to those learning plant identification (many of these are in use in our display, "What's Blooming Now"). Second, they prove that we have indeed found the plant in question. Over the past three years, PEEC has added several hundred voucher specimens to the original 1,100 specimen collection.

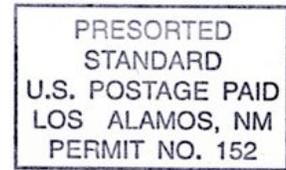
We now know that Los Alamos County has some 850 species and varieties of plants. Prior to PEEC's efforts only about 2/3s of these were known. Further, we are finding many plants never before recorded in the Jemez Mountains.

Herbarium specimens, when mounted correctly, are actually quite beautiful, showing all sorts of details often missed on a flower hike or in photographs. For several years a student, Samantha Stutz, has been working with me and has become our plant-mounting person. A growing number of others have contributed specimens to the herbarium. By simply looking carefully when hiking, they have found several plants not previously collected. You too can help by keeping your eyes open. Feel free to come in to see the herbarium. I am there Tuesday afternoon and Dorothy Hoard is there on most Fridays. ✨

NMBCC: <http://nmbiodiversity.org/>

“The gateway to New Mexico biodiversity” is a searchable data base with 350,000 records from 23 different collections so far – and still building. When a search is successful it leads to sightings data that has been entered for plants and animals in New Mexico, plus easy links to sources of photos, and species information. ✨

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Web site:  
[www.PajaritoEEC.org](http://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](mailto:Webmaster@PajaritoEEC.org). These weekly e-mail alerts always include PEEC activities and local information about nature. You also can contribute appropriate notices, observations or questions.

**Contact PEEC:**

- Attend classes, lectures, programs, events.
- Visit the Nature Center.
- Sign up for *PEEC This Week*.
- Volunteer in many ways.
- Donate.
- Exchange light bulbs.
- Join LA Green.
- Recycle printer cartridges.
- Stop using plastic bags.
- Shop in our store.

Become a member: use the form or web site, plus much more at [www.PajaritoEEC.org](http://www.PajaritoEEC.org)

|  |   |               |
|--|---|---------------|
|  | <b>General Membership</b>   | <b>\$35</b>   |
|  | <b>Living Lightly</b>   | <b>\$20</b>   |
|  | <b>Non-Profit Sponsor</b>   | <b>\$75</b>   |
|  | <i>1 Newsletter and PEEC This Week for up to 3 organization members.</i>                  |               |
|  | <b>Penstemon</b>  | <b>\$60</b>   |
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|  | <b>Sunflower</b>  | <b>\$100</b>  |
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|  | <i>Benefits above plus Muench coffee table book.</i>                                      |               |
|  | <b>Skyrocket Gilia Donor</b>  | <b>\$500</b>  |
|  | <i>We will contact you to determine how to recognize this generous level of donation.</i> |               |
|  | <b>Wood Lily Donor</b>  | <b>\$1000</b> |
|  | <i>We will contact you to determine how to recognize this generous level of donation.</i> |               |

*Tear off this form, fill it out, and mail it in with your check.*

*Do it today! Thank you.*

Name(s): \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

Number in Household: \_\_\_\_\_

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\_\_\_\_\_ Please contact me about volunteering.

*PEEC is a non-profit 501(c)3 organization.*

*Donations are tax-deductible.*

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Mail checks to:

PEEC

PO Box 547

Los Alamos, NM 87544

Att: Membership

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**Joining Is Easy!**