



# NEWSLETTER

## Pajarito Environmental Education Center

P. O. Box 547, Los Alamos, NM 87544; [www.pecnm.org](http://www.pecnm.org)

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## President's Message

Michele Altherr

### *A Sense of Place*

I grew up in the woods of the Maryland farm country. Autumn was a spectacular season. The leaves of the oak, walnut, and dogwood trees turned crimson, orange, gold, and finally fell brown to the ground. The landscape of my childhood had changed little in the decades before. I scampered through the forest. The farmers' fields were still small patches of land simply fenced on each side by groves of leafy deciduous trees. The surrounding woods provided habitat for a variety of creatures which in turn protected the farmers' crops from pests. Wooded areas like these became the playground of my childhood imagination. I can still picture favorite climbing logs and trees that were as familiar as a playmate. I explored the woods with a child's sense of wonder. The milkweed and praying mantis fascinated me even more than an exotic tiger from India because it was all there for me to see. I still value the time I spend in the natural places right outside my back door. Now it's my husband, children, and I that laugh at the funny-shaped piñon pine that we call the Dr. Seuss tree and the finches that feed upside down from our bird feeder.

I wonder sometimes if people forget that our local places and wildlife need our attention just as much as distant places. Our immediate natural world can change quite rapidly and not always for the better. This

past summer Pueblo Canyon changed dramatically in the course of a week. Viewing the results of the canyon engineering project brought back childhood memories of the day I saw the stripped and barren land of what had once been acres of a beautiful hardwood forest. I couldn't believe how quickly a piece of my immediate natural world had disappeared.

Who makes these types of decisions? Fundamentally we all do. America's founding fathers knew that a process had to be set in place to deal with a future full of issues they could not imagine. As a result, our nation was established on the belief that an educated public endowed with the right to vote could make informed decisions to deal with any obstacle our country might face. Over two hundred years later I marvel at the wisdom of the framers of our Constitution.

I have asked myself if our democratic process will result in sound environmental decisions in the future. Crucial issues loom

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### CALENDAR OF PEEC EVENTS

**Thursday, Jan. 15, 7-8:30** at Mesa Public Library: PEEC gathering to discuss programs; Belize research slide show

**Friday, Jan. 16, 5:30-6** and every subsequent Friday night at Film Festival at Home: Kids' Night stories for children

**Monday, Feb. 2, 7 p.m.** PEEC Board meeting, 1874 Camino Manzana

**Saturday, Mar. 13:** Project WILD workshop

**Saturday, Apr. 24:** Earth Day, and week preceding

large on the horizon. I wonder how world peace will be impacted by increasing demands on dwindling water, oil, and mineral resources? How will changes in the composition of the atmosphere and climate affect our ability to feed the world? What self-sustaining connections will be unraveled as species die out? It would be easy to pass over the future and vaguely place hope in technology. Yet truthfully the solutions will rest in the quality of the decisions made by the people.

Should we be doing something now, even though we cannot predict the future? I believe so. With her words, "I touch the future, I teach," Christa McAuliffe captured an important democratic principle. I hope that through the efforts of environmental education organizations like PEEC future generations will continue to feel a sense of connectedness to the natural world and will possess fundamental knowledge to help make informed decisions about the environment. Your participation in PEEC makes it possible for you to touch the future also.

### ***PEEC, the People***

My mission is to explain where PEEC is now. I believe I can do this by describing the

extraordinary group of people that has worked at the core of PEEC this past year.

**Michael Smith:** Three years ago I sat in the audience and listened to Michael, our recent president, present the idea of an environmental education center in northern New Mexico. He showed vision then and continues to demonstrate dedication to PEEC's mission. Michael was instrumental in organizing our first two Earth Day celebrations, which have now grown into a week of collaborative programs and hikes.

**Becky Shankland:** Becky is our dynamo and she continually amazes me with her level of commitment and energy. Every three months she wrestles with the vagaries of computers and printers to produce a newsletter that is a mix of natural history articles and PEEC news. This past summer she brought to fruition a calendar of monthly nature programs sponsored by PEEC, which so far have included butterfly, forest, and bird hikes and Stephen Fettig's tour of the Las Vegas National Wildlife Refuge.



Michele Altherr reads her president's message at the October PEECnic.

**Tom Jervis and Chick Keller:** Both of these men contribute impressive knowledge and wisdom about the natural world. Both have led hikes and written articles for the newsletter and the *Monitor*. Chick is chair of the site committee and is a jack-of-all-trades who fills in whenever we have a need. Tom has been our secretary from the start. He has also obtained a grant that brought Audubon's Birds with a Purpose program to Los Alamos and several pueblos.

**Randy Ryti:** Randy is with Neptune & Co., a local environmental business. In the past year he has been gathering data and working toward developing PEEC's business plan. He is responsible for sending out our electronic PEEC-alerts that update us on natural history events.

**Hedy Dunn:** Hedy is the director of the Historical Society's museum. In her first year on the board she has contributed a wealth of insight into the functioning of nonprofit organizations. She has also helped us develop collaborations with the Historical Society. In October the two organizations co-sponsored a talk by Craig Martin.

**Sarah Meyer:** Sarah, former editor of the *Monitor*, now manager of the Reel Deal, helped PEEC to reach a wider audience by publishing natural history articles and PEEC news. For the Earth Day Committee, she got out the word with a spectacular newspaper insert. Additionally, with all the spare time that she just doesn't know what to do with, she oversees our new Web site,

**Dick Opsahl:** Dick is our membership director and has created our membership database, which has helped us notify member members when their dues are due. Our membership has expanded to 3 categories: Individual/Family \$20, Sponsor \$50 and Benefactor \$100. He is our representative to the Valles Caldera Coalition.

**Janie Enter:** Janie joined PEEC last spring. She is treasurer for the state LWV and volunteered to take over as PEEC's treasurer. She has formalized some processes and creates an awesome monthly budget report. We currently have about \$10,000 in the bank with a large chunk of this dedicated to the implementation of our Park Flight grant. This grant was written by Stephen Fettig and provides

field trips for school children in northern NM to study birds at several national parks and monuments.

Many other folks have given immensely of their time to PEEC. Claudia Lewis, a past president of PEEC, who was instrumental in writing our bylaws, led the development of our brand new Web site. Gordon Spingler retired as our treasurer after leading us into 501 (c) 3 status and raising our first funds. Yvonne Keller, though not on the board, helps with the newsletter, Earth Day, and archives. She is PEEC's artistic heart and soul. Laura Burrows served on the board this last year and was unable to continue because of young children at home. However, we are grateful for the color brochure and several other PEEC items she produced as well as her memorable litterbug character that greeted Smith shoppers on National Recycle Day. Program leaders have included volunteers such as Stephen Fettig, Dorothy Hoard, and Chris Judson. Finally, the Barrasses, local community architects, have developed and donated conceptual drawings for a possible environmental center in Los Alamos.

It's breathtaking to think of all the ways that people have helped to establish PEEC as an organization. I truly enjoy working with such visionary and dedicated individuals. I hope each of you will find ways to participate in PEEC this coming year.

## ***PEEC Gathering Thursday, Jan. 15***

PEEC cordially invites the community to a gathering at Mesa Public Library (upstairs meeting room) at 7 p.m. on Thursday, January 15. On the agenda are refreshments (bring your own mug, please!), board member introductions, upcoming event announcements, an update on building status, and a short slide show of a research diving trip to Belize with REEF (Reef Environmental Education Foundation). Please come and bring a friend.

## ***Project WILD Workshop March 13***

PEEC will be sponsoring a Project WILD/Aquatic WILD workshop for teachers (K-12), educators, and other interested persons. The workshop is presented by the NM Department of Game & Fish. It will be held on Saturday, March 13, from 9-4 with a break for lunch. A \$10 refundable deposit is required (made out to the NM Wildlife Foundation).

Materials will be provided at the workshop. Please contact Diana McPherson at [alolkoy@yahoo.com](mailto:alolkoy@yahoo.com) or 672-9408 to sign up.

## ***Kids' Night Begins This Friday***

PEEC announces a new family event: Kids' Night every Friday from 5:30 to 6 p.m. Film Festival at Home (3801 Arkansas, near the Conoco Station) has a Family Night every Friday from 5 to 7; now adult volunteers from PEEC will read stories with themes about nature during the first half hour. It will be geared to children aged 5 to 11.

PEEC board members have started the program, but we need volunteers for later times--please contact Diana McPherson at [alolkoy@yahoo.com](mailto:alolkoy@yahoo.com) to sign up for a half-hour session. Diana has a collection of books available or readers may choose their own.



Dorothy Hoard matches the Atlantis fritillary to its picture on her July butterfly walk in Cañon de Valle

# Tony Hillerman on the Bark Beetle, 1957

*As we despair of what appears to be a future without piñon pines and with many dead ponderosa pines, it is instructive to realize that the drought event we are enduring is not unique and is perhaps not even unusual. In the late 1950s a drought of rather short duration (given the historical record) had similar effects. Tony Hillerman, then known only as a reporter for the New Mexican, wrote the following article:*

Two species of bark beetles, working as a deadly team, are stripping a vast area of Northern New Mexico of its piñon and ponderosa pine.

Dr. Cal Massey of the Forest Insects Division of the Rocky Mountain Forest and Range Experiment Laboratory, estimates approximately a million acres of trees are already dead or currently being killed. From Santa Fe, the area of dead and dying trees extends northward more than halfway to Taos, southward to the Albuquerque area, east almost to Las Vegas and westward up to the higher slopes of the Jemez mountains around Los Alamos. The beetles are the *Ips lecontei* (Arizona pine engraver), known as Ips and *Dendroctonus Barberi* (Southwest pine beetle), known as Barberi.

Massey said the Barberi beetles alone killed 195 million board feet of lumber in Arizona and New Mexico last year, with losses extending into the Gila area and the Prescott National Forest of Arizona as well as Northern New Mexico.

"I'm afraid losses are running considerably higher this year," he added.

Leon Hill, forester with the U.S. Forest Service's Santa Fe office, estimated that a half-million board feet of timber is being destroyed along the circular drive from Santa Fe through Hyde Park and down through Pacheco Canyon to Tesuque.

Both are known as "non-aggressive" insects, which attack only trees in a weakened condition. They stay away from healthy trees because they are repelled by the pitch.

The Ips, a black bug about the size of a matchhead with a square tail, attacks only small trees, concentrating on piñon and seedling pine. The Barberi, also black but no larger than a grain of rice, attacks only larger trees and concentrates on mature ponderosa pine.

The combined attack is killing virtually every pine, large and small, for miles around Bandelier National Monument.

Massey said the ravaging beetle attack was set off by the long drought, which weakened trees to the point where they can no longer produce enough pitch to expel the insects boring through their bark.

"The beetles have always been here. They were located and identified as far back as 1909 by one of the first entomologists working in this area," Massey said.

"But normally, when the forests are getting enough rainfall to be vigorous, the beetles are relatively scarce—living off of trees which have become over-mature, damaged, or weakened in some way. Now, just about all of them are weak."

The entomologist said the Forest Service as yet has found no practical method of controlling the insects.

Last winter every infected tree was carefully removed from one big section of forest below Los Alamos in hope that the remaining pines could be saved. However, the flying beetles quickly reinfected the forest. Spraying from the air has proved futile. The poison settles on the foliage and the beetles attack only the tree trunks.

At the Bandelier Monument camp grounds, where the big ponderosa have a higher "ornamental" value, another method was tried. A DDT solution was sprayed on the tree trunks from the base up 35 feet or more.

Paul Judge, superintendent of the monument, said the cost was about \$700—or almost \$2 per tree. Massey pointed out that the trees will have to be sprayed again in July, and probably in August, as the second and third "flights" of the beetles emerge from dead trees to attack living ones.

So far, the beetles haven't damaged the pines with their bark soaked in the poison. However, with two or three sprayings a year the cost will run about \$5 a season—and that's obviously prohibitive for large scale control. It

would run into hundreds of millions of dollars. "And," Massey added, "we can't be sure yet that even DDT will work."

Massey said that "as far as I know there is absolutely nothing to stop the Ips from killing all the piñon around Santa Fe" and leaving green slopes around the capitol gravel piles dotted with dead brush.

"We are sure that more rainfall, which would strengthen the surviving trees, would permit them to throw off the beetle. The rainfall trend seems to be improving this year but it isn't a short-time proposition. It will probably take two years for additional rain to help much."

An inspection trip through infected areas in Santa Fe and Los Alamos counties with Massey supplied strong support for the belief that the infestation is a disastrous secondary effect of the drought.

From the Forest Service lookout tower above Frijoles Canyon, the healthy trees at the Bandelier campground appeared as an oasis in a sea of dead and dying pines.

"There," said Massey, pointing to a heavy stand of timber on a mesa below Los Alamos, "is where we cleaned out all the infected trees last winter. This spring, there was nothing left but healthy trees. Look at it now."

Now the timbered area has taken on a tan color. Among the thousands of pine, not a single living one could be seen.

Southeastward, toward the Rio Grande, another hillside covered with pine and piñon had a reddish appearance. "Those trees were killed last year," Massey explained. "The dead needles turn red the second year before they fall off."

A drive up state road 4 into the higher elevations showed that beetle damage fell off sharply with increased altitude and rainfall. Above Los Alamos, the only infested trees were those weakened by root damage, age, or some other factor. Even in badly infected areas, the beetles have avoided trees in well watered sites.

Massey, who recently helped score a knockout blow against a costly outbreak of Englemann Spruce beetles in Colorado, said operations against the Ips and Barberi are hampered by lack of research funds.

"We have a total annual budget of \$10,000 a year for research for all of New Mexico and Arizona. We are spending just

about all of it trying to find out all we can about the Barberi. We know nothing about the Ips."

Massey said the fund was just enough to allow for one full-time man and a part-time assistant. Barry Pullen, a graduate student in biology from the University of New Mexico based at White Rock, is handling the on-the-site work.

He said he had asked for \$50,000 and added that Congressman Joe Montoya is taking an active interest in the beetle program since arriving in Washington—a fact which he hoped might lead to increased funds.

Massey drove his car off the highway into a "plot" of towering ponderosa pine, where a study was being made of beetle habits.

He inspected the trunk of a healthy-looking pine, found reddish bark sawdust caught in a crevice and located a small beetle hole above.

"This tree is dead," he said, "It just doesn't know it yet."

The beetle had entered the tree the previous day. Massey said the tree would be strangled in a matter of a very few days.

"It took maybe two centuries for this tree to grow and that tiny beetle can kill it in a week. It drives you crazy," Massey said.

Massey sliced off a section of bark near a beetle hole. Below the bark, in the soft cambium layer, was a network of passageways eaten out by the bugs. At the end of one, a tiny Barberi was exposed, chewing away.

The thin layer under the bark is the only passageway for plant food and moisture between the roots and the upper portions of the tree. When the beetles eat their way around the tree, it dies as quickly as if it had been chopped down.

Massey says the Forest Service needs to know everything about the life cycle and habits of the beetles before it is practical to seek a control method.

The weak link in the cycle of the spruce beetle wasn't found for two years. Then Massey discovered that the beetles which appeared to simply vanish after their final autumn flight actually re-entered the trees under the needles around their roots.

"Once we learned that, we had them whipped. It was a relatively simple matter to poison around the base of trees compared to soaking their trunks with poison."

## Call for Earth Day Volunteers

Diana McPherson and other board members are seeking volunteers to help organize Earth Day activities. This year's theme is "Water for Life," but other ideas are welcome.

The main day of celebration will be Saturday, April 24, with activities scheduled through the week before. If you have an activity you'd like to offer during our Earth Day week, please let us know. Contact Diana at [alolkoy@yahoo.com](mailto:alolkoy@yahoo.com).

## *PEEC Building Fund Established*

PEEC has established a separate savings account for contributions to a building fund. These contributions are tax-deductible and will be recorded separately so that money can be returned if necessary.

Contributions can be sent to PEEC Treasurer, P. O. Box 547, Los Alamos, NM 87544, made out to PEEC Building Fund.

## Science Fair February 7

PEEC will again offer prizes for environmental science at the annual Science Fair on Saturday, February 7.

If you would like to be a judge, please contact Michele Altherr at 661-4237 or [maltherr@cybermesa.com](mailto:maltherr@cybermesa.com).

## Poetry Anthology Near Publication

*Soaring, A Poetry Anthology*, is receiving its finishing touches from Diana McPherson, with help from Colleen Olinger and Becky Shankland. The collection is the result of a Park Flight Program grant in which students from schools near five national parks and monuments in NM went on field trips to learn about neotropical migratory birds.

The trips were conducted by Hawks Aloft, and the grant was obtained by Stephen Fettig, wildlife biologist at Bandelier, funded by the National Park Foundation and American Airlines.

Winners in several categories will be invited to a ceremony at Otowi Station Bookstore, where Colleen Olinger and PEEC board members will present prize books.

## Volunteers Needed

PEEC has several initiatives that need help and advice from the membership. Here are opportunities to help, with names of the persons to contact:

- business plan (chaired by Randy Ryti, 662-7392, and Michael Smith)
- Earth Day (for April 24, Diana McPherson, 672-9408)
- Kids' Night story readers (Fridays 5:30-6 at Film Festival at Home)--one or more times (Diana McPherson, 672-9408)
- science fair judges (Michele Altherr, 661-4237)
- printing and mailing the newsletter (Becky Shankland, 672-9106)

**Photos in this issue were taken by Yvonne Keller. Faye Brown helped with mailing Thanks!**

# MEMBERSHIP

If your mailing label says "DUES DUE," it's time to renew your membership. Canvas grocery bags with the PEEC logo are given to new or renewing members at the \$50 level. Return this form and a check to PEEC, P. O. Box 547, Los Alamos, NM 87544. To give to the Building Fund, make your check to PEEC Building Fund. Membership is valid for one year; PEEC is a 501 (c) 3 tax-deductible organization.

Name: \_\_\_\_\_

Mailing address: \_\_\_\_\_

Phone number: \_\_\_\_\_ E-mail address: \_\_\_\_\_

Membership levels (make checks payable to PEEC):

- |  |        |
|--|--------|
| <input type="checkbox"/> Individual/Family   | \$20   |
| <input type="checkbox"/> Friend              | \$50   |
| <input type="checkbox"/> Benefactor          | \$100  |
| <input type="checkbox"/> Additional Donation | \$____ |

**Check the ways you could be involved:**

- |                                  |   |
|----------------------------------|---|
| ____ Develop programs            | ____ Support one-time events (Earth Day, talks) |
| ____ Lead educational activities | ____ Help with membership                       |
| ____ Help with site selection    | ____ Raise funds/write grant                    |
| ____ Give a guest lecture        | ____ Edit newsletter                            |

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