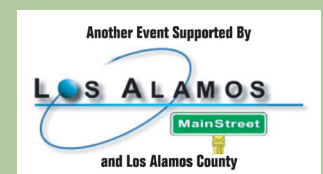


# Earth Day 2014



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# Celebrate National Park Week at Bandelier April 19-27

BY CHRIS JUDSON



*NPS Photo*

Way back in 1872, Yellowstone was established as the first National Park – not only in America, but in the world. Since that time, over 400 areas have been set aside nationwide, with more than a dozen just in New Mexico, for the benefit and enjoyment of everyone now and in future generations. These areas are as special, and varied, as the Statue of Liberty, Death Valley, Hawai'i Volcanoes, the Martin Luther King Jr. Memorial, Everglades, Antietam, – and Bandelier National Monument.

Now, each spring the National Park Service and the National Park Foundation partner to present National Park Week, a time to encourage people to get out and enjoy their National Parks. In fact, this year's theme is "Go Wild!" To encourage visitors even more, park entrance fees will be waived during the first weekend, April 19-20, at federal parks nationwide. On those

days the Bandelier bookstore will have everything 15% off, and the gift shop will offer specials too.

Bandelier will be offering a number of special activities during National Park Week, including:

## **A special backcountry hike on Saturday, April 26.**

Bandelier backcountry ranger Dale Coker will be leading a hike from the Burnt Mesa trailhead to Juniper Campground by way of Burnt Mesa Pueblo site. The distance is about 5 miles, including scrambling to cross two small canyons off-trail; a car shuttle will be arranged by participants at the start of the hike. Numbers are limited, so be sure to call the Visitor Center at (505) 672-3861 x 517, for details and to sign up.

## **Special archeology hikes on April 19, 20, and 21.**

The park archeologist will lead a different hike on each of these days. Saturday April 19 will be out on



Burnt Mesa; Sunday April 20 will be to lesser-known sites near Juniper Campground, and Monday April 21 will be up to some of the seldom-visited cavates in Frijoles Canyon. Numbers are limited, so be sure to call the Visitor Center at (505) 672-3861 x 517, for details and to sign up.

**Special natural resources walks on April 21, 23, and 25.**

Kay Beeley, of the natural resources staff, will offer a different moderately-strenuous off-trail walk each of these days to discuss the landscape in historic and modern times.

**Junior Ranger day on Sunday, April 27.**

Children and adults can come in to the Visitor Center, pick up a Junior Ranger activity book, and earn their patch all year 'round; in addition, today there will be a special activity that can be done any time during the day. Check at the Visitor Center desk.

**Bandelier pass contest event on Saturday, April 26.**

This is the culmination of the

competition to provide the image that will be used on the 2015 Bandelier Annual Pass. Everyone is invited to see all the images and find out the winners. The event will take place at the Visitor Center Theater at 4:00 p.m.

**KRSN radio interviews each morning Monday – Friday, April 21-25.**

Tune in to local radio station KRSN (AM 1490, FM 107.1) to hear an interview with a different staff person each morning.

**Bandelier at the Earth Day Festival on Saturday, May 3.**

Be sure to visit Bandelier's booth at the Earth Day festival on Saturday, May 3, at PEEC.

For information on National Park Week activities and Bandelier National Monument, visit the park website [www.nps.gov/band](http://www.nps.gov/band), check the Facebook page at BandelierNPS, or call the Visitor Center at (505) 672-3861 x 517.

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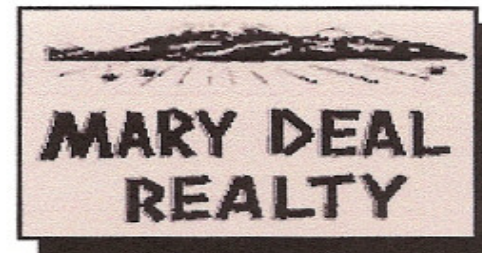
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# The Los Alamos Department of Public Utilities Wants to Remind You of Water Rule W-8

Beginning May 1 and continuing through September 30,  
Los Alamos is on an odd/even address watering schedule.

Designed to conserve water, customers are permitted to irrigate as follows:

**Odd addresses on Sunday, Wednesday & Friday  
Even addresses on Tuesday, Thursday & Saturday**

Please water on your permitted day in the morning before 10, or in the evening after 5.

It is prohibited to water on Monday. *Thanks for your water conserving efforts!*

Water Rule W-8 is available at our office or on the website: [http://www.losalamosnm.us/utilities/Documents/DPU\\_WaterRuleW8.pdf](http://www.losalamosnm.us/utilities/Documents/DPU_WaterRuleW8.pdf)

*The Los Alamos Department of Public Utilities • 1000 Central Avenue, Suite 130, Los Alamos, NM 87544 • (505) 662-8333*



# Emerald Ash Borer is Threatening our Trees

BY LAURAL HARDIN,  
ISA certified Arborist & Integrated Pest Management (IPM) Specialist

What is Emerald Ash Borer and why is it relevant to you? The emerald ash borer (EAB) *Agrilus planipennis* (Coleoptera: Buprestidae) is an invasive insect in the US native to Asia, which was first detected in Michigan in 2002. It likely arrived in the 1990s, stowed away in wood packing material used in shipping. EAB targets all ash trees (*Fraxinus* species) including green and white ash, but only ash. Since EAB is not native to the US, it has no natural predators and our ash trees have very little natural resistance. There are several insects native to North America that bore into ash trunks and limbs. Lilac/Ash Borer, ash bark beetles, and red headed ash borer can all be found in ash mostly on trees with injury or significant stress. None of these insects poses near the threat as EAB.

Because EAB adults are only present for a few short months in summer, and larvae remain hidden under the bark, EAB is difficult to detect until several years of tree damage has occurred. As larvae tunnel under the bark they injure the phloem and xylem that comprise the circulatory system of the tree, and the tree loses its ability to transport nutrients and water. This is why one of the first symptoms a tree exhibits is a thinning in the crown.

EAB is responsible for the death of tens of millions of trees in more than 20 states and Canada. Communities have already spent billions of dollars to remove infested trees and to treat or replace lost trees. The most recent state added to the list is Colorado, in September of 2013. In fact, the City of Boulder is now under quarantine for EAB. This is done to slow the human aided spread of EAB. It is believed that EAB has been in Colorado for several years and Boulder is already experiencing the financial impact of

this highly destructive pest. EAB kills 100 percent of untreated ash trees once it establishes in an area. The Denver



EAB arrives and decimates trees. A single type of tree should make up no more than 10 percent of all trees in a

Metro area has an estimated 1.45 million ash trees.

So why is this relevant to New Mexico and specifically Los Alamos? As in Denver, the urban forest (street trees & non-native) in Los Alamos is 15-20 percent ash. Drive around town and you will see that most trees planted in the last 20-30 years are ash. They line our streets, parks and parking lots. Ash trees are well suited to the demands of urban life and are cold hardy and fairly drought tolerant. Michigan's neighboring states found that EAB spread rapidly with widespread damage. When EAB first arrives, its populations are present in low numbers making it hard to detect. Without the natural suppression from tree resistance and predation, the population soon explodes.

So what can we do about it?

First, stop planting ash trees. Mountain Ash is *Sorbus* spp. not *Fraxinus* and is not susceptible to EAB.

Second, home owners and city officials should begin to plant replacement trees now. Don't wait until

planted urban forest or landscape.

Third, decide now if any of your trees are valuable enough to you to treat chemically. As an IPM specialist, it's my job to help people understand why a given problem is a problem. Often a stressed tree is stressed because of the day to day activities of humans. The way we water, prune, fertilize and the trees we select are all cultural controls that either benefit or harm urban trees. In the case of EAB, there currently is not an effective nonchemical control. Insecticides are not only expensive, but they also impact human health and the natural environment. These treatments are either annual or biannual, so as long as EAB is present, all valued ash trees must be treated.

Government officials are working on biological controls for EAB, mostly parasitic wasps native to eastern Asia. As with all introduced species, there are benefits and risks. Some of these tiny wasps have already been released and are beginning to establish, but it will be years before we know if this

will be a viable solution for EAB. In areas that have opted not to treat with insecticides, 100 percent of the ash trees were lost after about six years, but the EAB populations receded.

Lastly, get involved. Learn what emerald ash borer looks like and what an infested tree looks like. Learn how to identify our native insects. If you think you have EAB, contact our County Extension office. And please, never move firewood from state to state or even region to region. The best way to reduce the impacts of emerald ash borer is to be prepared. To learn more about EAB, visit [www.eabcolorado.com](http://www.eabcolorado.com). Another great resource, for understanding the value of the trees in your yard or our community, is [www.treebenefits.com/calculator](http://www.treebenefits.com/calculator).



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# Hiking and Camping and Rafting Oh My!



Come explore the great outdoors this summer with PEEC! Two summer programs are being offered this year - Nature Odyssey: Super Sleuths in the Valles Caldera for students entering the 4th through 6th grades, and the Living Earth Adventure Program (LEAP) for students entering the 7th and 8th grades. Both programs take place the same week: June 9th – 13th. Nature Odyssey hours are from 8:30 – 4:30 and LEAP hours are from 8:00 – 4:00 each day. These programs are unique opportunities for young people to learn in nature's classroom with talented and enthusiastic environmental educators.

Register soon - registration has already begun and the programs are

filling up.

## Nature Odyssey: Super Sleuths in the Valles Caldera

Come explore the Valles Caldera with expert scientists! Learn how animals camouflage themselves for protection against predators (or as predators so as to not be seen by prey) and then camouflage yourself! Learn how animals use their senses. Explore cool pine forests, mountain streams and open meadows.

Want to learn about Atlatls? What's an atlatl you ask? Come and find out during a fun-filled week in the Valles Caldera. Become a nature detective and hone all your senses as

*cont'd on pg 16*



The new nature center is coming to Los Alamos, and you can be a part of this community legacy!

## Donate today!

Help us raise \$1 million to fund exhibits and gardens at the new nature center. Any amount helps, and gifts of all levels will be recognized in the opening day program. Donations are tax-deductible.

### Naming opportunities

- ☐ \$25,000 Named Exhibit
- ☐ \$10,000 Lucite Tile on Donor Wall
- ☐ \$5,000 Name on Donor Wall
- ☐ \$1,000 Paver
- ☐ \$500 Brick
- ☐ \_\_\_\_\_ Other



### Special opportunities for businesses

- ☐ \$10,000 Large Logo & Business Name on Donor Wall
- ☐ \$5,000 Small Logo & Business Name on Donor Wall

**For more information, visit [www.PajaritoEEC.org/TakeWing](http://www.PajaritoEEC.org/TakeWing)  
Questions? 505.662.0460**

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# Los Alamos as a Community Wildlife Habitat

BY HEDY DUNN



Selvi Viswanathan, Hari Viswanathan and Bob Walker formed a committee to help promote efforts for the entire county of Los Alamos to become a Community Wildlife Habitat. Again, the National Wildlife Federation is the sponsor of this nationwide effort with help from local community volunteers.

The steps toward becoming a Community Wildlife Habitat are already under way as we already have over 94 homes, 1 school and 4 public places in

Residents and visitors to Los Alamos may have seen homes that display a National Wildlife Federation sign designating their property as a Certified Wildlife Habitat. What, you may wonder, does this signify? It means that the owners of the property have met four basic requirements (providing food, water sources, places for cover, and places to raise young) for protecting our local wildlife. In addition, they are probably dedicated to the concepts of water conservation, preservation of open spaces, using native plants, lessening the use of toxic chemical fertilizers, and, in general, living in harmony with wildlife and



Los Alamos with Certified Wildlife Habitat designations. What are the next steps? The committee is tasked with reaching a total of 100 homes, 2 schools, and 3 public places, which include parks and special places such as the Demonstration Garden, the Memorial Rose Garden, and the PEEC Wildlife Habitat grounds. The committee also is seeking letters of endorsement from a variety of local businesses whose practices and missions are in concert with these ideas. We already have a letter of endorsement from an individual who is a member of the Los Alamos County Council, and we would

like only a few more from business supporters, non-profit entities, and the County government. Other projects toward certification include various



kinds of educational and outreach efforts including printed and electronic information, community projects such as cleanups and restoration events, partnerships

with other like-minded groups, volunteer training and special events for families.

What does the community “get” for becoming a Certified Wildlife Habitat? We get the pride and satisfaction of doing something good for our community and our wildlife, and the satisfaction of knowing that we are supporting the National Wildlife Federation. We have lots of literature to distribute at PEEC events such as the Earth Day festival on May 3rd.

Be sure to attend our panel discussion at PEEC on June 11 from 7 to 8:30 PM: “Wildlife Habitat Forum: Birds, Bears, Butterflies, Burnt Area Recovery and More,” which will feature speakers Terry Foxx on “Burnt Area Recovery and Invasive Plants,” Steve Cary on “Butterflies,” Bob Walker on “The Best Places to See Birds in Los Alamos and White Rock,” and Hari Viswanathan on “How to Discourage Wild Animals From Becoming a Nuisance.”

Watch for more news of our progress toward becoming certified and be sure to stop by our information table at the next PEEC-sponsored Earth Day on May 3rd. You can help us

by joining the cause. By volunteering any amount of time that you can spare, you can help to spread the word about this exciting project. You can also help coordinate canyon clean ups, clear invasive weeds, help with kids’ activities, hold plant sales etc. Stop by PEEC (3540 Orange Street, Los Alamos) for more information, and see PEEC’s habitat as an example, which has a birdbath, brush pile, feeders and birdhouses along with drought-resistant trees and shrubs.

To learn even more about the CWH program, visit our website: [http://www.PajaritoEEC.org/outreach/community\\_wildlife\\_habitat.php](http://www.PajaritoEEC.org/outreach/community_wildlife_habitat.php) and be sure to stop by our lobby case exhibit at Mesa

Public Library that will be on display from June 1 to June 15, 2014.

To help or learn more about the process of certifying your own home or business, feel free to contact any member of the CWH committee at CWH@PajaritoEEC.org.



nature.

Recently, therefore, a small group of volunteers, all members of PEEC, including Michele Altherr, Hedy Dunn,





# Everything You Always Wanted to Know About the Nature Center but Were Afraid to Ask

BY KATIE WATSON  
PEEC Executive Director

## Is there really going to be a new nature center?

Yes! Los Alamos County is getting a new nature center, and we expect the doors to open in April of 2015. It will be located just on the edge of downtown, at the old skateboard park site between the Aquatic Center and the Jewish Center. Los Alamos County Councilors voted to use Capital Improvement Project funds to build this building for you, the residents of Los Alamos County, because so, so many people asked them to.

## Wow! So, PEEC is getting a new building?

No, not quite. The new nature center will not belong to PEEC—it belongs to the County, and to you. The County put out an RFP for an organization to operate the nature center and chose PEEC to provide this service. So, PEEC's operations will be housed in this new building, and we'll continue to bring you the kinds of programming you've come to expect and love—plus lots of new experiences, like planetarium shows! Many other County buildings are operated this way—the Senior Center, Historical Museum, and Fuller Lodge Art Center, to name a few.

## I've heard PEEC is fundraising for the new building. Why?

As part of our commitment to the County, we promised to put high quality, long lasting, professionally designed and fabricated exhibits into the nature center. These will be interactive and engaging exhibits, which get people thinking about nature and excited to go out and experience it. There will be something for kids, something for experts, and lots for everyone in between. Some of the exhibits will be high-tech, and some will be low-tech and hands-on. But amazing exhibits like this don't come

cheaply. The project we will need \$1 million to provide indoor and outdoor exhibits worthy of such a beautiful building.

## Whoa! A million dollars? Do you really think you can raise that?

Yes, actually, we do! We've been going to our biggest and longest-running supporters, as well as some businesses and foundations, and have already raised \$750,000. We believe this shows that the people of Los Alamos want to be a part of the new nature center and can't wait to see it become a reality.

## What's with that dragonfly? Is that PEEC's new logo?



So glad you asked. Have you looked at any of the drawings of the new nature center from a bird's eye view? Well, some kids who looked at it decided it looked a lot like a dragonfly (perhaps flying over to visit Mesa Public Library's bird?), so we've adopted a dragonfly as the logo for our capital campaign. We hope you'll take wing with the nature center and join our campaign. We'll have a brand new PEEC logo that we'll unveil right around the time of the grand opening for the new nature center.

## Is it too late for me to get involved?

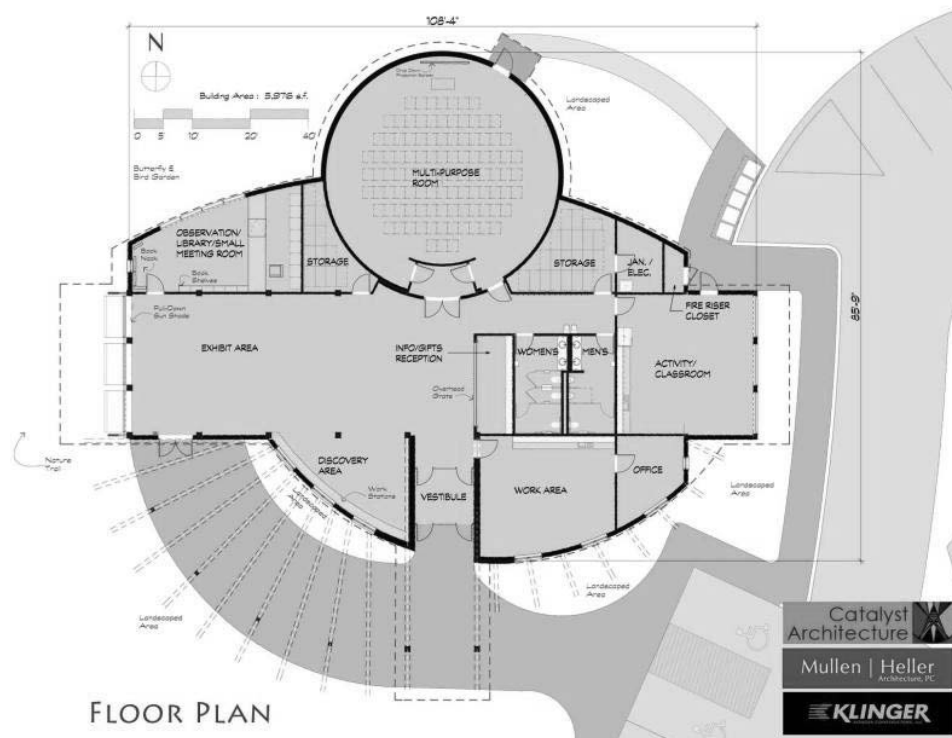
Not at all! The public phase of our

capital campaign will kick off on Earth Day 2014, and we're going to have very exciting gifts for donors of \$150 or more during this period. Donors of \$500 and up will be recognized at the nature center with bricks, pavers, donor wall listings, and Lucite tiles with the Pajarito Plateau animal or

plant of their choice. You can see all the details at: [www.PajaritoEEC.org/TakeWing](http://www.PajaritoEEC.org/TakeWing).

## It sounds pretty exciting!

We think so, too!





# Going Green: Catching Up with Art

BY ROBERT DRYJA

Pictures by ROBERT DRYJA and PETR JANDÁČEK

Petr Jandáček is a remarkable artist who has a remarkable home in White Rock. Many of us had Petr as our art teacher while in school, or our children had him as their teacher. What is even more remarkable is that he has used engineering principles that go back a century to make his green home.

that the dome is so light that five or six people could have carried it. The Earth fill rises about six feet around the base of dome. This provides a massive heat sink that helps to stabilize the temperature inside of the home. It takes a long time for heat to enter or escape from the home through the tons of earth. Whereas the north side is concerned with stabilizing heat flow, the south side is designed to let solar heat into the home during the winter.

wooden hand extends in greeting from the wall by the inner door. Shake hands with it, and the doorbell rings. You enter into the solarium area, and a Norfolk pine, blooming bougainvillea and variety of plants are growing here. They all are oblivious to any cold outside in the dead of winter. A spiral stairway leads to the center of the home upstairs, although it begins to the side of the solarium area downstairs. A free form stone wall follows the spiral of the stairs. One side of the stone wall faces to the south and is black. It absorbs solar rays during the



*Geodesic North Side*

We have a lot of catching up to do to incorporate even a few things that he did when making his home a third of century ago in 1978.

Petr and his wife Louise studied art and design before coming to Los Alamos. They then used the “trickle down smarts and scientific knowledge” of friends who worked at Los Alamos Laboratory to design their home. Petr and Louise built their home themselves with assistance from friends. Some of the trickle down smarts is visible when looking at the outside of their home. The north side is a combination of a geodesic dome and earth fill. The geodesic dome provides a maximum of space inside while using a minimum of construction material.

Petr, Louise and their friends built the dome on location but Petr notes

The south facing wall is made of glass, rising about twenty feet. Petr says he fell only a few times while constructing it. There also is a roof extension designed to provide shelter from sunlight during the summer but not in the winter. The home in effect is a combination of greenhouse and igloo when seen from the outside, and this is the just the beginning. A large wooden sculpture of a bear greets you when you walk into the enclosed alcove at the entrance. (Perhaps some of you can remember helping to make the bear when a student of his?) A



*Solarium South Side*

day and releases heat throughout the home during the night. A wooden snake will pop its head from a hole in stone wall from time to time under Petr's direction. Petr will tell you that the solarium also is a carbon sink and a humidifier. He estimates that there are now about 600 to 800 pounds of plants cells absorbing the carbon dioxide from 300 pounds of human cells. Transpiration from the plants and



*The Spiral Stairway*

a small water fountain at the top of the spiral stairs keep the humidity of the home at a comfortable level. The geodesic area of the downstairs is designed like the layers of an onion. The earth fill surrounding the dome is like the outside skin of an onion. Closets for the bedrooms are built along the inside walls of the geodesic dome and represent a second layer. The closets provide pockets of insulating air when their doors are closed. There can be five degree difference between the closed closets and the bedrooms. The bedrooms in turn form a circle around a central living area. There can be another five degree difference between the bedrooms and the living area when the bedroom doors are closed. A small wood burning metal fire box is in the living area. The spiral stone wall is behind the fire box. The stone is painted silver on this side and acts as parabolic mirror, reflecting heat

*cont'd on pg 13*



# Upcycling Projects and Plastic Bags

BY MELANIE BORUP, Teen Contributor

In our day and age, plastic is present in almost every aspect of our lives, especially in convenience products which are designed to be used once and thrown away. The substance has revolutionized the way our world functions. It is lightweight and durable, making it a handy building material, but at the same time it is also very detrimental to the health of organisms. Although plastic is a useful convenience product, action should be taken to prevent the release of chemicals from plastic to the environment as well as controlling plastic debris in the global environment.

Due to the varying densities of it, plastic is easily able to get dragged into the ocean and make its way around the world, while wreaking havoc all along its path. Plastic entangles and kills wildlife as well as poisons it when it ends up in their bodies after it has fragmented. Plastic contains various chemical compounds that have been shown to take responsibility for some of the malformities in wildlife. BPA, PCBs, and phthalates are all chemicals found in common forms of plastic and are known as EDCs (endocrine disrupting chemicals). Because plastics cause issues both before and after it fragments, I believe that extra care when disposing of these chemicals is extremely important. There is still debate on this topic, but there is a large amount of evidence that shows that plastic products will never be able to fully break down no matter the amount of photodegradation or abrasion methods. We must start thinking about future generations. It's not any one person's fault, but the plastics being found in uninhabitable places have been shown to have come from regular, everyday plastics that are used daily for our convenience. It was reported in 2009 that the



*I recently created a plastic bag monster using 500 plastic bags (the amount an average person uses in a year), cardboard and lots of duct tape. I created the plastic bag monster as a visual representation for people to really see and realize how many plastic bags they unknowingly use each year.*

most common type of plastic debris found was plastic film, such as the type coming from single use plastic carryout bags. To combat the issue of plastic getting into the environment in the first place, it would be extremely beneficial if we stopped being so irresponsible with plastic products and stop focusing so much on the short-term convenience. Simply using and producing less plastic and controlling the use of disposable items, I believe, is a very effective way to reduce the amount of plastic that is put into our oceans each year. Right now, I'm collaborating with the Sierra Club of Los Alamos on an education-based campaign that will (hopefully) result in a plastic bag ban in Los Alamos County (much like the ordinance that Santa Fe has just implemented).

cont'd on pg 11



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# A Classroom with No Walls

BY SIOBHAN NIKLASSON,  
PEEC Education Programs Director

Outdoor classrooms are rich with lessons you weren't expecting. Recently, we took a group of second graders to a trail near their school to look at trees. We were hoping to find trees in various stages of life: from seeds to mature trees to rotting logs. And we did! We found snags (standing dead trees), we explored rotting stumps, and compared pine cones and acorns. But we also made unexpected discoveries.

There was an early spring lizard scuttling around a rock. It allowed us a good look at it, and later, back in the classroom, the students who saw it reported that it had a blue streak on its chin, and a spiky head.

We found some bright green moss, and one of the students told us that he discovered that it actually felt hairy, because it had some long hairs growing out of it.

Some of the students found mushrooms, and if you squeezed them,



gray powder came swirling out.

A couple of students came running, saying, "Come look! We found something really interesting!" I went over to see what they had found, and indeed, it was something really interesting: brown, lumpy galls on the winter-bare branches of oak trees.

These galls are abnormal growths of oak tissue stimulated by an insect's hormones. In the spring, when plant tissue is growing fast, a wasp or other arthropod lays an egg in a bud on the

tree. The release of growth hormones encourages the plant to build a woody structure that protects and feeds the growing larva. The young arthropod's life is contained in this tree house until it is ready to emerge as an adult. Although the galls sometimes look malignant,

they don't generally harm the tree.

In venturing out on the trail to look at the life cycles of trees, we inadvertently stumbled across a fascinating story about the life cycle of insects. The students also practiced their observation and communication skills, using their senses to explore the natural world just a few-minutes' walk from their school, and ably

choosing words to describe what they had discovered. Add in a brisk walk and a sunny day on the cusp of spring, and I'd argue that you have a well-spent hour of school.



# Addressing Hummingbird Conservation Needs: Monitoring at Bandelier National Monument

BY JEAN PALUMBO  
Photos by Bob Walker



It's mid-August, 6:30 in the morning. A pale light spreads across the sky over Mesa Verde National Park as the sun rises above the horizon and illuminates the top of Prater Ridge. In the cool morning air, you can hear the sounds of hummingbirds calling, the whirring of wings, and the whisper of voices. A team of six volunteers for the Hummingbird Monitoring Network has set up their operation near the park staff residences. Two volunteers are sitting about 50 feet from the traps — hummingbird feeders mounted on a platform with net poised to drop over the feeder when released. They carefully retrieve trapped birds from under the net, place them into bags made of fabric netting, and carry them over to where four other volunteers sit

around a covered picnic table.

Lynn Udick, who sits before a tray with an array of small tools wearing a magnifying head lamp, is the hummingbird bander. She takes the birds captured in the traps and identifies the species and age, takes key measurements, notes their condition and affixes tiny, uniquely numbered bands to their legs. The data and band number associated with each bird will be sent to the North American Bird Banding Laboratory. Cumulatively, with data collected at monitoring stations across the western U.S. and Canada, this information increases our knowledge about the distribution, movement, relative numbers, breeding, and lifespan of hummingbirds in North

*cont'd on pg 14*



cont'd from pg 9



Using old climbing rope that was generously donated, I was able to create a rug with hot glue and waterproofed it by melting Smith's bags to the bottom. The rug now sits at the entrance to the Teen Center.



Until we find better ways to recycle and dispose of our plastic conveniently and efficiently, upcycling is the best option for home based DIY recycling. These are some of the recent upcycling projects I have done.

By melting plastic bags together with an iron others and I created reusable pencil cases and shopping totes. (Be sure to use parchment paper in between the iron and the plastic bags.)



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# The Continuing Impact of the Y Earth Service Corps in Los Alamos

BY KIMBERLY PULLIAM

The Family YMCA initiated a local chapter of the Y Earth Service Corps (YESC) 13 summers ago in Los Alamos in order to help serve the needs of this community. One pressing need at the time was to address environmental damage to trails caused by the Cerro Grande Fire. The other need was to provide local youth with an opportunity to learn leadership skills, social responsibility, cross-cultural awareness, and environmental stewardship. YESC is a national Y program that was founded in 1989 in order to empower youth to help create healthier environments and stronger communities. The Los Alamos YESC participants have certainly met this calling within our own community throughout the years. Over the past 13 years, the Los Alamos YESC program participants have completed a total of over 22,000 hours of volunteer service - working on local trails and completing various local service projects. Of course, in addition to all of this work, the Los Alamos YESC program has also provided its participants with summers full of exciting outdoor adventures, fun fieldtrips, backpacking trips, and weekend campouts.

The YESC tradition of hard work and fun adventure will continue this summer in Los Alamos. This year, the YESC youth will not only focus on improving Los Alamos' trails, but they will focus on gardening in Hilltop Garden as well - the educational, community garden awarded to the Y by Los Alamos County through a Request for Proposal. Any youth, ages 11-17, may join this program, and will be enabled to make a positive impact on this community and on the local environment while having the opportunity to embark on exciting YESC adventures. Furthermore, years of service in the YESC program greatly increases the potential to get hired by the Youth



*A group of backpackers from the Y Earth Services Corps.*

Conservation Crew, a highly sought-after employment opportunity for youth in the local area.

YESC registration is now open at the Family YMCA. To receive more information about YESC, including pricing information, call the Y at 662-3100.



PEEC's summer camps only happen for one week this year, so be sure to give your child the chance to learn, explore and just plain have FUN in nature this summer!

**June 9-13, 2014**

## GRADES 4-6

### NATURE ODYSSEY

Become a nature detective in the Valles Caldera, and hone all your senses as you delve into the mysteries of nature.

M - F, 8:30 a.m. - 4:30 p.m. \$325/\$305 PEEC members.

## GRADES 7-8

### LIVING EARTH ADVENTURE PROGRAM

High adventure nature exploration such as river rafting, rock climbing, geocaching, and hiking. We will even camp out one night!

M - F, 8:00 a.m. - 4:00 p.m. \$375/\$355 PEEC members.

**SPACE IS LIMITED SO SIGN UP TODAY!**

Learn more and register at [www.PajaritoEEC.org](http://www.PajaritoEEC.org) or contact

SOAP@PajaritoEEC.org.

Financial assistance available.

This program is made possible in part by the Valles Caldera Trust.



Keep the Earth Day Celebration going at the Reel Deal Theater!

After PEEC's Earth Day Festival on Saturday, May 3, take the kids to see Disney's "Bears"



Clip this coupon and bring it in for one FREE Kids' Combo for each child ticket purchased. Good only for the 4pm showing on May 3, 2014.

Happy Earth Day from PEEC and the Reel Deal Theater!



cont'd from pg 8



*The open second floor looks over the solarium to the outdoors.*



from the fire box into the living area and bedrooms. The upstairs is one large room under the geodesic dome, which is heated by air rising from below. It has a shaded panoramic view through the solarium windows to the outside. Petr has had only two so called "concerns" about the home over the years. First, the geodesic dome is very light. Less dense warm air captured below it has the potential of lifting it into the sky, however the weight of the sheet rock ceiling is meant to keep this from happening. Second, the county property

*Petr has a horse stable behind his green home.*

tax collectors are used to measuring rectangular houses in terms of square feet. They have puzzled about how to measure the round feet of a circular geodesic dome. Petr summarizes his intent for the home in terms that are a blend of art and engineering: adequacy, efficiency, elegance and parsimony. Want to learn more about this green home? Petr has a website at [www.jandacek.com](http://www.jandacek.com)

# 14th Annual Earth Day Festival



Saturday, May 3, 10 a.m. - 2 p.m.

**Pajarito Environmental  
Education Center**

3540 Orange Street

Take the free Atomic City shuttle from Sullivan Field



Performances by Clan Tynker  
and the Hill Stompers

Nature-themed activities

Food vendors

Booths from many local organizations



[www.PajaritoEEC.org](http://www.PajaritoEEC.org)



*cont'd from pg 10*

America. Hummingbird monitoring has been conducted at Mesa Verde National Park since 2006. In 2014, Bandelier National Monument hopes to begin monitoring hummingbirds as well.

As she works, Lynn relays the information to Jane Pederson, who carefully records it on her data sheet. Other volunteers assist. Kathleen records the data on a laptop computer. Linda helps Steve with the trapping of birds. Danielle and Deb feed the tiny birds before they are released. The team will work for five hours, not only banding the birds that they capture, but also keeping a tally of all the other hummingbirds that visit the traps, but are not captured.

Hummingbirds are the second most diverse family of birds, with about 340 species that are found only in the



western hemisphere. The majority of these species occur in South America, but 57 species make their home in North America. Seventeen species are found in the U.S. and Canada, and 13 of these are neotropical migrants that overwinter in Mexico. Of these, four have been identified by the USFWS and Partners in Flight (PIF) as species that are in need of conservation actions: Costa's (Calypte costae), Calliope (Stellula calliope), Rufous (Selasphorus rufus) and Lucifer (Calothorax lucifer).

The Calliope hummingbird is the

smallest long-distance avian migrant in the world, travelling some 9,000 miles in its migration from south-central Mexico through the U.S. to southwestern Canada and back. The rufous, Anna's (Calypte anna) and black-chinned (Archilochus alexandri) hummingbirds also migrate across North America. They depend upon flowering nectar plants to sustain them through these long migrations, but the timing of their flowering will likely be affected by global climate change. Monitoring hummingbird populations will help us understand how global climate change affects biological communities.

Their tiny size, beautiful plumage, amazing speed and aerial feats have earned hummingbirds the admiration and affection of many. However, some of these characteristics — particularly their small size and speed — make them difficult to monitor using traditional land-bird monitoring techniques. The Hummingbird Monitoring Network (HMN) has been monitoring hummingbirds across the western US and British Columbia since 2002. In order to detect trends in all hummingbird species where they nest, where they winter and along their migration routes, a network of sites on a continental scale is needed. Monitoring hummingbirds on this scale requires a lot of funding and many properly trained people. HMN's program relies heavily on volunteers in a citizen-scientist capacity. All potential bird banders, whether they are volunteers or agency scientists, must undergo a rigorous training program before they can manage a monitoring site. During a banding session they must adhere strictly to the protocols, safely band and release hummingbirds, and ensure that data is collected, recorded, and reported correctly and accurately. They must work also with the site host to train and manage the other volunteers on the team.

Bandelier National Monument has good habitat for hummingbirds, which are commonly seen in the park. Stephen Fetting, wildlife biologist, thinks



that monitoring hummingbirds at the park will add valuable information to that which is already being collected through HMN. He is currently seeking volunteers who would be willing to learn to be a hummingbird bander, a position that requires a considerable commitment of time for training and biweekly monitoring sessions from May through September, as well as manual dexterity and good eyesight. But other volunteers will be needed that do not have such strict requirements, such as data recorder and trapper.

"Releasing a wondrous rufous hummingbird from your hand, a bird that likely has traveled from Canada and is bound for some place in Mexico is a uniquely North American experience," says Fetting. "This hummingbird can only survive by being able to use countless places along the backbone of our continent. Considering that our modern urban lives can be so disconnected from nature, the experience of working with these birds is nothing short of transformative. Such a deep experience with wild creatures may be enough for some people, but knowing that rigorous data collection protocols are being used to support continental conservation efforts adds a respected purpose to the whole experience."

For those who are interested in learning to be a hummingbird bander and are willing and able to make the commitment, a hummingbird banding training workshop will be held in Arizona April 27 – May 3 with limited seating available. A second training will be scheduled in New Mexico

in mid-August. Please contact Stephen Fetting at [stephen\\_fetting@nps.gov](mailto:stephen_fetting@nps.gov) for more information.

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# Compost – It's Back!

BY ALLISON MAJURE

Composting is the controlled decomposition of organic materials. It's a rewarding way for individuals and communities to recycle yard, kitchen, and other wastes into a valuable, nutrient rich, soil amendment. Compost is a combination of plants and other organic materials that are aerobically decomposed. Los Alamos County creates compost from three streams: North Mesa Stables' manure, the Los Alamos Wastewater Treatment Plant sludge (biosolids) and wood waste.

After a composting hiatus of three years, Los Alamos County is now returning to the provision of compost for our citizens through collaboration between the Los Alamos Dept. of Public Utilities, the Public Works Department and the Environmental Services Division.

## Why Use Compost?

- Improves the fertility and health of your soil. Plants grown in healthy soil are more resistant to pests and diseases. As mulch, compost suppresses weeds and reduces the need for pest controls and sprays.
- Composting saves water by helping the soil hold moisture, reducing evaporation and water runoff. Using compost as mulch will also benefit plants by keeping roots cooler.
- Composting helps the environment by recycling valuable organic resources and extending the lifetime of our landfills and avoiding the costly hauling of waste materials to the landfills.

## Compost will be Ready Soon

Los Alamos County will have compost available to be picked up at the Eco Station at 3701 East Jemez Rd. beginning in the early summer. Eco Station days and hours of operation are Mon.-Fri. 8:00 a.m. to 4:30 p.m., Sat. & Sun. 9:00 am to 4:30 pm Compost for



residents will be offered for free at the Eco Station. Residents can also pay to have compost hauled to their homes for \$65/hour with a minimum charge of \$65. Commercial customers pay \$22/ton for unscreened compost and \$28/ton for screened compost.

## Basic History

Los Alamos County provided compost at the Eco Station until 2011 when the landfill was closed to further waste. Since then, the Dept. of Public Utilities has been hauling sludge off the Hill at cost to DPU ratepayers of nearly \$150,000 per year including tipping. The new compost, to be offered this summer will have reduced size wood pieces, thanks to the planned incorporation of a special screen for this purpose. Once DPU begins screening the compost, it will not have the large sticks that the previous compost product had, and should be a much more acceptable product for the public.

## Process

The compost constituents include waste from the horse stables on North Mesa, sludge or biosolids from the Wastewater Treatment Plant (WWTP), and wood waste, and the process takes about three months as follows:

- Wood waste is collected, shredded and stored at the Eco Station on East Jemez Road then hauled to the Wastewater Treatment Plant and blended with manure from the North Mesa Stables and with WWTP

biosolids.

- It takes three to four weeks to build a windrow (a long row) then turning of the windrow begins. Wastewater Treatment Plant operators start the heating phase, recording the temperatures daily until the temperature rises above 130 F, then the active phase begins turning three times in 15 days and recording

the temperatures twice daily. After that, a 30 day curing phase begins.

- During the curing and drying phase microbial activity decreases. Compost is stabilized as microorganisms



metabolize the remaining biosolids/ wood debris mixture.

- During the planned screening process large pieces of shredded yard debris (screenings) will be removed and returned to compost mixing. The finer screened material will remain in the compost product.
- The compost is sampled and tested to comply with the DPU's Wastewater Treatment Plant's Discharge Monitoring Report requirement of the National Pollutant Discharge Elimination System permit. Wastewater Treatment Plant operations also comply with New Mexico Ground Water and New

Mexico Solid Waste Dept.

By improving the holding capacity of soils, compost can lessen water use and improve plant vigor. Mixed into clay soils, it can improve soil texture. Compost also encourages soil microorganisms, whose activities help make nutrients available to plants. The compost that will be available through Los Alamos County at the Eco Station contains biosolids and is therefore not suitable for gardens with edible plants. Although composting reduces pathogens, it does not sterilize them. Compost with biosolids has heavy metals, so it is important to limit its use as certain soils can lose fertility with excessive heavy metals. Compost is not a fertilizer. It works in conjunction with fertilizers, slowing

down the release of nitrogen which in turn requires less water.

## Is the compost safe to use in my garden?

Yes, in some gardens, but not in vegetable or other edible gardens. Compost operations meet regulatory compliance standards and is safe to be used in your landscape and flower gardens, lawns, etc. Check DPU's Facebook page ([www.facebook.com/DPU1968](http://www.facebook.com/DPU1968)) or web site ([www.losalamosnm.us/utilities](http://www.losalamosnm.us/utilities)) for the announcement of compost availability early this summer. Or contact the Eco Station at 662-8163.



*cont'd from pg 5*

you delve into the mysteries of the scientific study of bears, fish and other wild animals. Find out how recent fires have affected the Valles Caldera.

Throughout the week you'll be on the lookout for clues as to how the natural world works and how you fit into it.

### **Living Earth Adventure Program (LEAP)**

For you mid-schoolers, PEEC is again offering a week of the Living Earth Adventure Program. Make new friends as you explore the archaeology, geology, ecology, and wildlife of Northern New Mexico. Raft through spectacular rock formations and canyons that formed millions of years

ago!

This year in addition to rafting, look forward to an overnight campout. Campout fun includes using bat detectors and exploring the night sky.

Let curiosity be your guide as we explore the diverse ecosystems of the Pajarito Plateau and surrounding areas. Learn about numerous opportunities for outdoor recreation and discuss our responsibility to protect our environment, as well as its inhabitants. Join us during this exciting week as we explore the beautiful wilderness we call home!

\*These programs are made possible in part by the Valles Caldera Trust.

relation to this town's garden scene, can all come together in one, unified, community education garden. There is a new opportunity for people of all ages and expertise levels to come together to learn from each other, to mentor and teach each other, and to find refreshing experiences - in this garden and in our community.

Los Alamos County has awarded a Request for Proposal to the Family YMCA to steward a 1-acre plot of land on North Mesa (near the horse stables and next to the tennis courts) for use as a not-for-profit, educational, community garden. The Y will be the sponsoring agency host of this land; the community will foster the life and growth on this land - providing the inspiration, the energy, and enthusiasm for the growth of this garden. This garden, Hilltop Garden (named by the community through an online vote), holds the potential to become a site of

local pride, to remember and reflect on the traditional ways of those who tended this land in the past, and to show the current depth of knowledge, creativity, and life of this community today.

How can you learn more about Hilltop Garden? How can you become involved?

**WEBSITE:** If you would like to learn more about Hilltop Garden, visit the Hilltop Garden page on the Y's website: <http://www.laymca.org/hilltop-garden.shtml>

**FACEBOOK:** If you would like to share your ideas for the garden or if you would like see recent pictures and events from Hilltop Garden, visit its Facebook page: "The Family Y-Hilltop Garden," at [www.facebook.com/HilltopGardenLosAlamos?ref=hl](http://www.facebook.com/HilltopGardenLosAlamos?ref=hl)

**BLOG:** If you want to read about Hilltop Garden's events and related stories, visit the Word Press Blog: Hilltop Garden- Los Alamos at <http://hilltopgardenla.wordpress.com>.

**ONLINE VOLUNTEER SITE:** If you want to learn about upcoming volunteer opportunities and garden events, join our group on Sign-Up Genius titled "Hilltop Garden" at [www.signupgenius.com](http://www.signupgenius.com)

**CONTACT:** For specific questions, contact Kimberly Pulliam at [kpulliam@laymca.org](mailto:kpulliam@laymca.org)

# Hilltop Garden of Los Alamos

BY KIMBERLY PULLIAM

Many Los Alamos residents, newcomers and old-timers alike, have created garden "treasures" in the spaces where they live. They display a great level of awareness in regards to the land and gardening. Visit a number of households in Los Alamos, and you will likely notice thriving backyard gardens, delicious-smelling herb "gardens" in the kitchen, or beautiful, flowering flora in sunrooms and family rooms. Look at a listing of upcoming events and happenings in Los Alamos, and you will likely come across announcements concerning garden-related meetings, discussion-groups, and presentations hosted by different organizations at various locations. Read the local news, and you will be able to find information about garden-inspired projects, clubs, and initiatives in the local schools.

Now an opportunity arises in Los Alamos where the expert individual gardeners and groups in this town, the students searching for more of the sense of wonder that they've discovered in gardening, and those who have always felt like an outsider in



*Adam Rahn admires his gardening work at the Hilltop Garden.*



# If You Care about the Environment, Take a Kid Outside to Play

BY KATIE WATSON



*First graders work together to carry a log to their fort at the Pajarito Environmental Education Center's Nature Play Area.*

Think back to your childhood. Can you tell a story about what made you want to become a person who protects our natural world? If you're like most of us in the business, that story will involve playing outside – building a fort or hideaway, discovering something you felt like no one had ever seen before, or catching and holding a wild critter in your hand for just a minute.

Kids today don't get to make those kinds of memories as often as we did – they're much more likely to be participating in organized sports, taking after-school lessons, or staring

at a screen. We believe unstructured play in the outdoors is critical to protecting our environment, because without these kinds of experiences, kids grow up not caring about nature.

Our nature play area is the home of many fun programs, like Nature Playtimes (for ages 0-5), First Friday Forts (for all ages) and is a place where we let all the kids who come to our nature center on field trips have free time to play, explore, discover, and create. We've been told by one young visitor that we have "the best sticks!" A teacher told us, "With my group, there are often conflicts on the

playground, but here at the nature play area, I haven't heard a single angry word, or high-pitched wails, or seen any physical misbehaviors. Look! They're all busy."

If you care about the environment, take a kid outside to play. You'll be guaranteeing that those who come after you will care, too.

## The New Nature Center Shoots for the Stars

BY CHICK KELLER

The idea of having a planetarium as part of our new nature center came as something of an afterthought. I thought, since we were going to have a multi-purpose room, why not have it be in a planetarium setting. At first I thought the idea wouldn't fly, but when County folk liked it, I thought what the heck. And the rest, as they say, is history. Catalyst designers made it an integral part of the overall shape and, even though we can't afford to have it be an outside hemisphere, it still will be a major part of our structure.

First I need to correct a common misconception. A planetarium is not an observatory. It doesn't have a big telescope for people to view the heavens. Instead, it's a hemispherical projection screen on which we display the heavens. As such it's a teaching tool, and it fits right into our mission to orient people to nature indoors, so that they will have a richer experience out of doors. Most people looking up at the night sky are pretty much lost as to what's there and how to see it. After some viewing sessions in our planetarium, we hope people will have a better grasp of how to think about what they're seeing outside, either with just their eyes, through binoculars, or using a telescope.

We will be able to show all of the night sky—the constellations, nebulae, star clusters, and where the planets are on any date. In addition, we will be able to show what the sky would look like if you were in the Southern Hemisphere or at the North Pole.

Finally the new planetarium will

allow us to do more in-depth teaching for students who wish to really understand the sky—learning terms like 'right ascension' and 'declination', how to tell time from the position of the Big Dipper, Messier catalogue sky objects which are the brightest and easiest to find, and much more.

PEEC will be purchasing a state-of-the-art digital star projector, which can also show full-dome color animated shows on just about anything – wildly impressive. This allows us to teach about nearly anything in nature – volcanic eruptions, weather, plants, dinosaurs, animals, and birds doing their 'thing'. For example, we plan to show daily what's around Los Alamos and the Jemez Mountains, introducing visitors to this area but also expanding the experience and knowledge of people who have lived here for some time.

In addition, of course, we can use the room for almost any other type of gathering – meetings, PowerPoint slide show presentations, even festive get-togethers and perhaps the occasional wedding.

Right now, if you go outside in the evening, you'll see Orion dominating the southern sky. Overhead is very bright planet, Jupiter. And for those of you who get up before the birds, brilliant Venus is in the east. There is a lot to enjoy and also a lot to look forward to, with the opening of the new nature center including the planetarium in 2015.



# A Man Named Abbey, or Adventures with Ed

BY TERRY FOXX

Earth Day is just around the corner, and PEEC is celebrating with three separate events on two different days this year. PEEC will be holding two events on April 22. The first will be the ground breaking ceremony for the new nature center being built by the County.

The groundbreaking will be held at 2600 Canyon Road at 4:00 p.m., and the public is invited to join. The second event on April 22 is a talk at 5:30 p.m. at the Bradbury Science Museum on Edward Abbey, the writer of *Desert Solitaire*, by his best friend Jack Loeffler. We are very honored to be able to welcome Mr. Loeffler to Los Alamos, for this event co-sponsored by the Bradbury Science Museum and the New Mexico Humanities Council. The title of the talk is "Adventures with Ed."

Abbey was an American author and essayist of the mid 20th Century. He was noted for his advocacy of environmental issues and was critical of public land policies. *Desert Solitaire* was Abbey's fourth book and first non-fiction. It was published in 1968 and describes his two six-month stints as a seasonal ranger at Arches National Monument of southeastern Utah from 1956-1957. *Desert Solitaire* is regarded as one of the finest narratives in American literature and has been compared to Aldo Leopold's *A Sand County Almanac* and Thoreau's *Walden*. It has been in print for 40 years and is still read by nature lovers and wilderness defenders. Abbey has been described as "America's prickliest and most outspoken environmentalist."

Loeffler is a writer, aural historian, sound collage artist, and Chautauqua speaker for the New Mexico Humanities Council. He first met Abbey in the 1960s, and they became fast friends. "We camped, hiked, and talked for many years," said Loeffler. "I



Abbey (left) and Loeffler

will talk about his approach to radical environmentalism and his legacy." Loeffler has written *Adventures with Ed: A Portrait of Abbey*. He will read an excerpt from his book about Abbey and talk about their many adventures throughout the Southwest. Abbey died at the age of 62, twenty-five years ago on March 14. Abbey is among those great environmentally conscious individuals that were responsible for helping us preserve the beautiful places in the west. He joins Thoreau, John Wesley Powell, John Muir, and Aldo Leopold.

And of course we hope you will also join PEEC at the community-wide Earth Day Festival, to be held May 3 at PEEC (3540 Orange Street) from 10:00 a.m. to 2:00 p.m., for activities, entertainment, food and more.



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# Protecting Pollinators and People by Choosing Organic and Responsibly Sourced Foods

BY LAURAL HARDIN,  
ISA Certified Arborist & Integrated Pest Management Specialist (IPM)

Do you know what impact our food choices, both in gardens and the grocery store, have on our environment and subsequently our health? The Los Alamos Co+op Market carries and promotes organic and local foods grown using sustainable agricultural practices, which support personal and environmental health.

Recently, clients have been calling to ask about neonicotinoides, a class of systemic insecticides used in all areas of conventional agriculture. This class of chemical is receiving increased attention as new evidence emerges regarding its impacts on pollinators. These insecticides, sprayed on plants or drenched onto the soil, are absorbed and moved by the circulatory system of the plant just as it moves water and nutrients. Every part of the

plant becomes poisonous to insects. The pests a farmer is targeting are destructive and thus reduce yield, esthetics and profitability. But non-target insects are also affected by the use of systemic insecticides. Foraging bees become affected as a non-target insect when they come to the crops for nectar and pollen. The systemic action of the insecticide allows it to move into the nectar and pollen, killing not only the bee that harvested it but the other members of the hive as well. You are also a non-target. As you eat the fruit of a treated apple tree, you are eating fruit from the poisoned tree. Like the bee, you can't smell, see or taste it and you can't wash it off.

2014 marks the first year that apple farmers in much of the eastern US will use solitary bees for pollination instead of honey bees. This is largely

due to the fact that fewer and fewer honey bees are available. Hive collapse, abandonment and reduced populations

when we reach a tipping point in pollinator population levels?

Our local Co+op offers a good

selection of organically-grown and responsibly-sourced produce, and much of it is locally grown as well. Many crops heavily sprayed with pesticides come from large commercial farms in other states or countries. Supporting small, local farms and grocery stores is not just a question of local economy or reduced carbon footprint.



are all factors. Honey bees are not the only insects affected by pesticides. Bumblebees, the previously mentioned solitary bees, butterflies, beetles and even some birds are also affected.

For the back-yard gardener, it's easy to decline the use of pesticides. We can choose to plant heirloom varieties that have natural pest resistance. We can use cultural controls like keeping our garden weed-free and turning our soil over in the winter to expose overwintering pests to sunlight and freezing. But how do we reduce our exposure to chemicals that are inside the foods we eat? And what happens

There are other issues including biodiversity, sustainability and maybe even survivability for pollinators and even us. We are fortunate. We can grow our own food, buy food from the farmer's market, and we have a community food co-op, the Los Alamos Co+op Market, committed to the promotion of safe and sustainable food. This year new "pollinator protection" labeling will come out on many different insecticides. While this is a good start, each of us has the power to end the commercial use of neonicotinoides simply by choosing to buy and grow only organic produce.

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