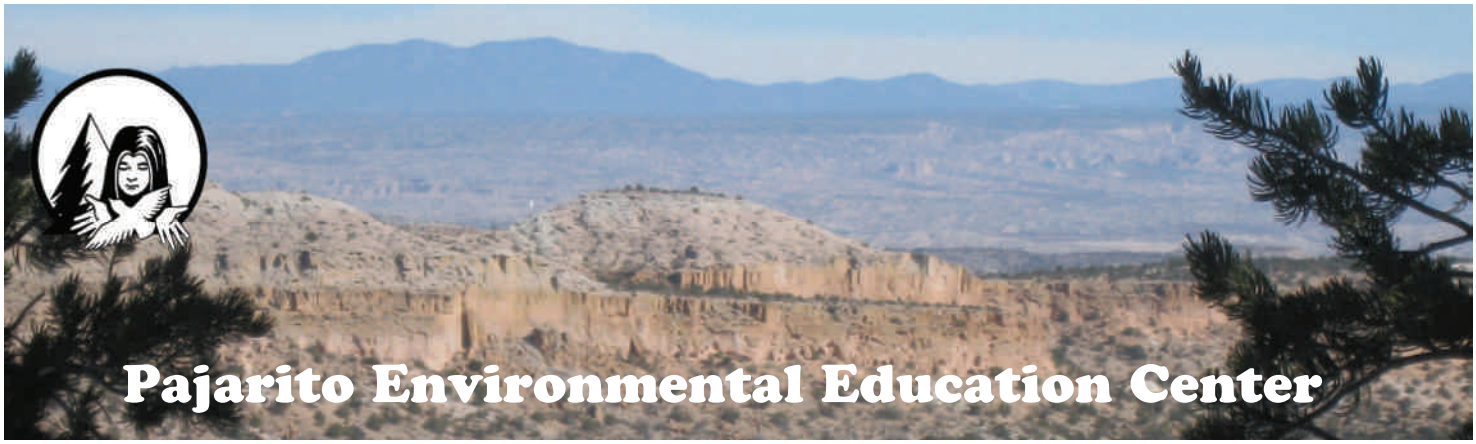

Nature Notes

Volume 11, Number 4 Fall 2012
Your Nature Center in Los Alamos

President's Message: Advice from Nature

by Rebecca Shankland

Incoming PEEC president Terry Foxx recently created an amazing quilt titled "Advice from Nature." Each piece of advice is illustrated with an appropriate model from nature—a big-horn sheep, a honey bee, a hummingbird. All that splendid advice from nature seems to be exactly what brought us to the exciting path at the edge of a cliff on Canyon Road where we now stand. How did we get here?

Keep chasing your goals (with an image of the brash, ungainly, but purposeful roadrunner): Starting more than two years ago, Chick Keller led the PEEC Board in a campaign to create a County-built nature center worthy of the splendors of Los Alamos's mesas, canyons, mountains, and skies.

Listen to sage advice (with an upstanding, enduring sagebrush): Our wise, experienced, and financially astute Advisory Board encouraged us, saying that the time was ripe to grow in a new dimension.

Unmask your talents (with mischievous but purposeful raccoons): The multi-faceted PEEC Board got down to the endless chores of researching, investigating, planning, and writing Phase 1 and Phase 2 applications to the County's CIP (Capital Improvements Project) Committee. It turned out that our County staff managers (Steve Huebner and Gary Leikness) and the CIP Committee were also full of talents to be unmasked.

Pounce on every opportunity (with the ingenious, far-searching mountain lion): Wondering what would make kids into life-long learners who would also be stewards of the outdoors, PEEC people began creating the PPFS (Pajarito Plateau Field Science) curriculum to get kids doing science in their schoolyards and trails. Thanks to the LANL Foundation and A. I. Pierce Foundation for helping to fund this project.

Remember your roots (with staunch, hardy, quick-sprouting aspen trees): We rallied our 300 members and friends from eleven years of running programs from "Slime Molds as Pets" to "The Biggest Trees of Los Alamos" and they flooded the County Council with messages of support for building a nature center for the Pajarito Plateau.

Don't let the small things bug you (with lady bug, dragonflies, and other busy insects): Responding to the County's RFP (Request for Proposal) to operate the nature center, we turned to our most picky, detail-oriented, financial and legal wizards to deal with the rigorous requirements of this document.

Know when to be still (with rabbits patiently sitting, alert for any sign of news): We wait with ears perked up for the County's response to our response to the RFP.

(Continued on page 2)

Nature Notes is the quarterly newsletter of the Pajarito Environmental Education Center, Los Alamos, New Mexico 87544

(Continued from page 1)

Build on your dreams (with a beaver cheerfully but meticulously creating a sustainable structure): With hopes for a future architectural jewel that will grace the Pajarito Plateau, we've designed the staff that can keep it smoothly running: Katie Watson, our new executive director; Angelique Harshman, our environmental educator; and Beth Cortright, our nature center coordinator.

It's been a challenging but exhilarating two years for me as president (and 12 years as erstwhile board member). As PEEC's dream takes shape, I will of course "Take time to smell the flowers"—that's the advice from the butterflies. ☼

A Two-tailed Swallowtail butterfly enjoys a Rocky Mountain Bee plant. Photo by Sally King

How to Diversify Your PEEC Experiences

A Message from Katherine Watson

Exciting things are underway at PEEC! We're working on an interpretive plan to create new exhibits that share the wonder and uniqueness of the Pajarito Plateau with residents and visitors. Our organization and programs continue to grow as we become stronger and more robust. We are planning a great set of programs for this winter and beyond.

PEEC's board of directors has asked me to serve as the Executive Director to lead these efforts, and I'd love to have your help. Do you have ideas for exhibits, or thoughts about what makes the Pajarito Plateau so special? Perhaps there's a program you've been wanting to see? Please send your thoughts in e-mail to me at director@PajaritoEEC.org or call me at 662-0460.

We are thrilled with the support you've given to us this year, and in order to fund our new initiatives and growth, we are launching our 2012 Annual Fund Drive. Please read more on our web site. (www.PajaritoEEC.org/welcome/donate.php)

As you make your end-of-year charitable decisions, please consider a gift (beyond your membership contribution) of $50, or the amount that seems best to you. Your support will help PEEC share our remarkable Pajarito Plateau with friends, family, and visitors for years to come. If you wish to honor a friend or relative with your gift to the annual fund, just add a note.

The winter holidays are the perfect time of year to give a gift membership. Notice the categories on page 8 of this issue. If you wish to share our programs, events, and exhibits with another family, please call, e-mail, or visit us to arrange a gift of PEEC membership. (www.PajaritoEEC.org/welcome/membership.php)

Thank you for your connection to PEEC and to the incredible nature that surrounds us. ☼

Good Days Coming

This issue of Nature Notes brings good wishes for the holidays. Halloween passed with lots of fun and there are several meaningful times approaching. May happiness and good works fill your lives in the days to come.

Here's some fun coming to PEEC: "Holiday Crafts" of many beautiful and eco-friendly kinds are on the calendar again this year. Kids in grades 1-6 make amazing gifts and keepsakes while parents have two hours for secret shopping. Dec. 5, 2-4 pm. $12 members; $15 non-members includes all supplies. See the PEEC web site to register.

New at PEEC: 6 More Colorful Critters

by Jennifer Macke

This past spring and summer we had the opportunity to add some interesting animals to the exhibits at PEEC. Be sure to stop by and meet them! Each animal has a fact sheet on the exhibit, so you can learn more about our local fauna. We try to present animals that are local, but some of the less-commonly-seen types.

Whip Scorpion

We were fortunate to get a Whip Scorpion from White Rock this summer. This large but seldom-seen arachnid is also called the "vinegaroon" because it can spray a vinegar-containing fluid as a method of self-defense. Despite its menacing appearance, the whip scorpion is fairly harmless and not venomous.

Spotted Whiptail Lizard

Photo by Jennifer Macke

The Spotted Whiptail is one of the less-common lizards found around Los Alamos. The whiptails can be identified by their long tails, and this particular species has a unique pattern of both stripes and spots. It is one of the three all-female species of whiptails that occur in this area.

Giant Millipedes

Photo by Jennifer Macke

The Giant Desert Millipede is common in some White Rock neighborhoods, but for those of us who live on the Hill, these are a novelty. Millipedes are remarkable for their many legs and unique method of locomotion. This species is particularly remarkable for its large size, which makes it especially handy for educational activities. The five millipedes at PEEC have already attended several outreach events. Despite the 'ewwws' from the folks in White Rock who occassionally step on one, giant millipedes are an amazing local treasure!

Crayfish

A new crayfish was brought to us from the San Antonio River in the Jemez. It started out gray, but after shedding it had an obvious blue color, and we realized that it must be one of the blue crayfish that we've heard rumors about. The crayfish in the streams of the Jemez are the Northern Crayfish, which is an invasive species in New Mexico.

Photo by Jennifer Macke

Milk Snake

Another new display is a New Mexico Milk Snake, which is on loan from a local reptile breeder. The Milk Snake is native to the region, but generally found at lower elevations, such as along the Rio Grande. Its bright colors and gentle disposition make it an ideal snake for handling and educating about snakes at outreach events.

Rosey the Tarantula

PEEC is hosting another animal on loan, a Chilean Rose Tarantula named Rosey. Although not a native, this tarantula's habits are very similar to our local tarantulas. Rosey has been a big hit with visitors, who can see the webs she spins - not to catch food, but to build shelter for herself.

All of the animals are available for adoption through PEEC's adoption program. When you "adopt," the animal stays at PEEC, but you (or the adoptive honoree) receive a photo of the animal, a factsheet, and the adopter's name displayed on the animal's enclosure. Animal adoptions help to defray the expenses of having live animals at the center. At just $25, animal adoptions make a great holiday gift. ☼

Prefer to receive *Nature Notes* by e-mail? *Nature Notes* is also available to PEEC members by electronic delivery, via Jennifer Macke, webmaster. With graphics in color! Sign up on the *Nature Notes* web page at www.PajaritoEEC.org/publications/newsletter.php.

Family Nature Connection:

Secrets of the Leaves

by Michele Altherr

Autumn is the time of year for great walks in nature. The sun is low in the sky and its rays slant through the forest warming the crisp air. It's an extra special treat when we spy a patch of gold. Soon, in the quiet of the forest, we are imagining what could be hidden in that shimmering world. Could it be a knight's castle or a unicorn's secret glade? A closer look and the gold turns into leaves of different shapes and sizes. Some are shaped like hearts and spades, while others are shaped like feathers and hands. Some have smooth edges, while others have wavy and toothed edges. Some are made up of leaflets and others hang alone. We might even find a few red *(continued on page 4)*

and orange leaves. Before we know it we have picked a bouquet of leaves to add to our nature treasures at home.

Why do deciduous trees turn color? In autumn, daylight hours shorten and temperatures cool. Trees can sense this just as people do. They start preparing to survive the winter and go into a resting phase called dormancy. During this time the leaves no longer need to produce food and the flow of water to them is cut off, which causes their change in colors.

The leaf's color comes from pigments made by its cells. In summer, green pigments called chlorophyll are important for photosynthesis, a process that turns the sun's energy into food energy for the tree. Also hidden within the leaves are yellow, orange, and brown pigments called carotenoids and they also have important jobs. For example, the yellow carotenoid is called xanthophyll and it prevents the leaf from absorbing too much sunlight and getting burned. In autumn, deciduous trees stop producing chlorophyll and the green color disappears. When this happens the carotenoids finally get to show off, which results in a spectacular visual treat for us.

You can separate and see the pigments hidden within a leaf with an experiment at home. You will need your parent's help. First, tear a few leaves from one tree into small pieces. Put the pieces into a glass and cover them with rubbing alcohol. Place the glass in a pan of hot water for 30 minutes or until the alcohol changes color. While you are waiting, cut a one-inch wide strip from a coffee filter paper and tape one end of it to a pencil. When the alcohol is ready, take the glass out of the hot water and set the pencil across the top of the glass. The paper strip will dangle into the alcohol. You should see the color start to spread up the paper. If you wait and watch, you may see more than one color. This is because you are separating the pigments, which move at different speeds up the paper. After testing one tree you might become curious about other trees or you might wonder about how pigments change with the seasons. With this method you can explore lots of questions about trees and their leaves. Happy autumn!

A detailed description of the experiment can be found at http://www.hometrainingtools.com/fall-leaf-science-projects/a/1546/ Clip art source: parenting.leehanson.com ☼

Night Watch on Gray Foxes

by Hari Viswanathan

Gray foxes do not migrate and they are not common in most parts of the United States. Red foxes tend to dominate and take over in areas where both species overlap. Both are present in New Mexico but we have not seen any red foxes at the camera traps mentioned here. Gray foxes eat rabbits, fruits, corn, berries, grass, insects, and live up to their legend of "fox in the henhouse." They are members of the dog family but are able to climb trees to escape predators, reach prey, ambush a critter from above, or just watch what's going on below.

Growing up in Los Alamos, I have seen fleeting glimpses of most of the wildlife in the area, including bears, bobcats, ringtails, skunks and coyotes. I knew gray foxes resided in Los Alamos but I had never seen one and assumed they were rare and mostly nocturnal. I always loved watching red and gray foxes in nature videos and hoped that I'd see them someday.

In December 2011, a tragic, rare cougar attack killed our dog in our backyard. The event left our family quite shaken. I started wondering what animals were visiting our backyard on Pueblo Canyon and my parents' backyard on Barranca Canyon at night. We purchased a fairly inexpensive trail camera for $180. I decided to set up the camera at my parents' house; within a few days we had a photo of a gray fox at the pond. I was very excited; I had no idea they were visiting. The trailcam we purchased took black and white photos – it had an IR (infrared) flash. (See photo.) IR flashes give off a dim red light with the advantage of not spooking an animal, but with the drawback that night time pictures are not of high quality and are black and white. Daytime IR pictures are in color but not close to the quality of SLR (Digital Single Lens Reflex) photos.

Gray foxes were one of the most common critters visiting both our backyards. It was clear there was a lot of activity, including deer, raccoon, ringtail, skunk, bobcat, bear, mice, foxes and once, on May 6, a mountain lion at Barranca. I had built this "Warbler Pond" at Barranca Mesa 12 years ago but never realized that there were so many visitors at night. Since photography is my hobby, I decided to find a way to hook up my SLR to a motion sensor in order to get high quality color pictures.

A device called Phototrap (www.phototrap.com) is available to trigger a camera if an object breaks a beam between two detectors (much like the beam on a garage door opener that prevents the door from closing if someone is blocking the beam). It became clear that this would give new opportunities for photos of birds, animals that visit at night, and even insects. The beams are great for photographing a subject if one knows exactly where the subject will arrive: for example, a hummingbird at a feeder or a bee at a flower. However, animals approach the pond in a number of different directions. I spoke to Bill Forbes from Arizona, the designer of Phototrap; he rigged up a motion sensor trigger and sent it to me for free.

The motion sensor senses both heat and motion. This gave amazing results, leading to the pictures many have seen on PEEC Photostream on Flickr (www.flickr.com/photos/peec_nature/). The motion detector was well tuned and rarely fired due to wind but was sensitive enough to pick up even a small mouse. The location of my parents' pond was perfect since the motion detector nicely covered the entire pond, turning it into a photo studio for wildlife. The digital SLR could be set to manual focus and could obtain sharp pictures anywhere in the pond in perfect color. Most of the animals seemed to ignore the flash, with coyotes being the most cautious.

Many of the visitors to the pond were sporadic; mice and foxes were among the most common visitors. This resulted in the interesting action of an occasional game of fox and mouse.

Soon it became clear that a pair of foxes considered the pond their territory. ☼

[More photos by Hari: "Bear Bath" promotes more than just a drink at "Warbler Pond." See the sybaritic series (and other photos from articles in this issue) at www.PajaritoEEC.org/Publications/Newsletter.php]

Studies Show Water Development Is Good

by Esta Lee Albright

Watery topics in this issue led me to look for studies about making water available for wildlife: water development. This is used to replace sources that were lost or made inaccessible to wildlife due to development and land use. One study by a team of scientists led by Steven S. Rosenstock began when water development projects had received negative suggestions by critics. Results of the study did not support the negativity. The study did not find significant evidence of water quality problems, toxins in blue-green algae, parasites, and other concerns. Using three of the 800 sites spread over 8000 km, the study logged 37,989 hours of video, capturing footage of 29 species, including mammals, birds, amphibians, and reptiles. Special studies were made on bats and feral and native bees. There were few drownings and infrequent predation events. The number of visits by non-game animals exceeded those by game. The water was used during and outside the summer season. The report of the study includes drawings of water developments, water analysis, and lists of animals. See www.azgfd.gov, and search on Rosenstock for "Studies of Wildlife Water Developments in Southwestern Arizona," Tech Guidance Bulletin #8, December 2004. ☼

Ashley Pond 30% Design Review

by Dave Yeamans Member, PEEC Board of Directors

According to the county's online report, *Ashley Pond Park Renovation,* "Ashley Pond … is in the early stages of eutrophication - a depletion of oxygen in the water; it is the process by which a body of water becomes rich in dissolved nutrients from fertilizer or sewage, thereby encouraging the growth and decomposition of oxygen-depleting plant life and resulting in harm to other organisms. The causes of eutrophication in the pond are: overabundant fish population, limited circulation and inadequate recirculation of water, limited introduction of fresh water and pollutants conveyed by the collection of storm water runoff." Another cause is due to the resident population of waterfowl. Rectifying eutrophication involves making the pond deeper, adding sub-surface aerators, adding trout and bass, planting aquatic vegetation, and installing pumps for a waterfall.

The plan for fixing Ashley Pond and making a pleasant park are moving ahead. While it has a few obvious lapses in ecological soundness, the self-sustainability of water quality seems to be well in hand. Comments regarding pond ecology were considered at the 30% design review stage only if they involved minor, some would say trivial, changes to the approved scope, schedule, and budget of the project. An example of an out-of-scope idea is to merge two of the four proposed "wetlands" into one for the benefit of visiting species. Such a change would alter the water cleaning ability of the existing design. The existing design is "known" to clean the water adequately without regard to optimizing habitat. After all, we don't know what would happen if we had a broader ecosystem approach. Well, I've always been one to think that more diversity is better than less.

I think the design is very fine. When refurbished, Ashley Pond will be a far better social and ecological place than it is now. The County staff agreed that some ecological niceties might be added after the major building has taken place. These could include some section of the vertical-walled water enclosure that is changed to be a gentle shoreline attractive to shorebirds. Also adding a peek-a-boo wall that would separate the "wetlands" from the pedestrians along a small portion of the through-going boardwalks would improve nature viewing without compromising the engineered wastewater management systems. We might also want an interpretive sign or two.

Maybe the new and improved Ashley Pond will encourage more visits from interesting rarities like the egrets, gulls, and sandpipers we've noticed in the last two years. Wouldn't it be fine to also see osprey, marsh wrens, and salamanders at the pond? If we build it, they will come. ☼

PEEC Finds Monterey Is for the Birds

by David R Yeamans (rearranged, "My Dad is a Raven")

Four of us PEECbirders went to Monterey for the Monterey Bay Birding Festival, September 13 -16, 2012. Mounting such a trip is a benefit of being a PEECbirder. See the PEEC website for information on this group.

On day one we had planned to check in with the festival but our group's leader, Esta Lee Albright, had been asked to search for a female sea otter tending a dead pup, which was of concern to the Monterey Bay Aquarium otter research project. We ended up roaming around the harbor jetty looking for the sea otter. No luck on the otter, but we enjoyed some black turnstones, Brandt's cormorants, brown pelicans, and sea lions. While our binoculars were on a flock of gulls and elegant terns chasing a school of anchovies to seaward, a humpback whale swam across our field of vision. Monterey birding often is a multi-species event.

Day two found three of us at the tip of the Monterey Peninsula with, among many other fine birders, Greg Miller of *The Big Year* book fame. On the following morning we gathered at a wetland with one of the young leaders who cared a great deal whether we all saw what he was pointing out. As a result we all enjoyed long-billed curlews, black-bellied plovers, western and least sandpipers, semi-palmated plovers, elegant terns, and a bunch of other birds at Kirby Park along Elkhorn Slough. Then we covered more of the upland area at the preserve headquarters where there were Nuttall's woodpeckers, Brandt's and pelagic cormorants, red-shouldered hawks, and a few birds we know from around here. With the afternoon off, three of us walked Sunset Beach, where we stumbled upon the threatened snowy plover attended by a single sanderling. Gulls aplenty, Cassin's variety of white-crowned sparrow, and a couple of loafing vultures made for a pleasant excursion on our own.

No rest for the weary, we slept in until 5:30 and met the birding boat at the dock. Our boat had more staff than guests -- 5 bird bums (on minimally paid holiday as bird guides between gigs as biologists in the four corners of the world), a captain, deck hand, and chummer. Throwing anchovies and buttered popcorn for eight hours is so romantic. But he was good at it, keeping the gulls excited so well that they, in turn, attracted three species of jaeger and shearwater, plus skua, and two kinds of albatross. I got a photograph of the very rare (in this area) Laysan albatross with orange color band #1K5 sitting right beside the boat.

Laysan Albatross photo by Dave Yeamans

Two of our group went into the Elkhorn slough on an electric barge on Monday after the pelagic trip. It was a surprise to find a crowd of resting birds, such as 50 white pelicans sitting around among lots of brown pelicans and looking much bigger.

Join us at PEECbirders@yahoogroups.com and let's have some more really fine outings. How about more trips on Cochiti reservoir next spring? ☼

Water Birds Show Up Inland, Including Here

by Esta Lee Albright

Following up on Dave Yeamans' reference to unusual water birds seen at Ashley Pond, I found something called "Intermountain West Regional Shore Bird Plan." (iwjv.org/sites/default/files/shorebird_plan_iwjv_2012.doc) The following are three direct excerpts.

- The Intermountain West (IMW) is a huge region, stretching from Canada to Mexico and from the Rocky Mountains to the Sierras and Cascades. Perhaps a million shorebirds breed in the IMW, and millions of additional shorebirds migrate annually through the area. No inland region of North America is more important to maintenance of the continent's shorebird populations than the IMW.
- The most important issue facing shorebird conservation in the IMW is the very great human-driven competition for water. Finding ample high quality fresh water will be the greatest challenge faced by future shorebird conservation interests.
- *Arizona-New Mexico Mountains.* The area's high elevation lakes and reservoirs host moderate numbers of transients, especially in low precipitation years... 100's of spring and fall transients, the most common species being Black-necked Stilt, American Avocet, Western Sandpiper, Least Sandpiper, Long-billed Dowitcher and Wilson's Phalarope. ☼

PEEC
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PEEC This Week
are weekly e-mail alerts about classes, events, nature, and the environment. They always include PEEC activities and local information about nature.

Anyone who has an e-mail account can receive them.

You also can contribute appropriate notices.

To start, send a message to Webmaster@PajaritoEEC.org.

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PEEC's Mission Statement:

To inspire people of all ages to explore the natural and cultural heritage of the Pajarito Plateau and to strengthen their connection to the natural world.

Joining or Renewing Is Easy!

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

Name(s): _____ Address: _____

Phone: _____ E-mail to send receipt: _____

Subscribe this email address to PEEC This Week (circle): YES / NO / Already subscribed

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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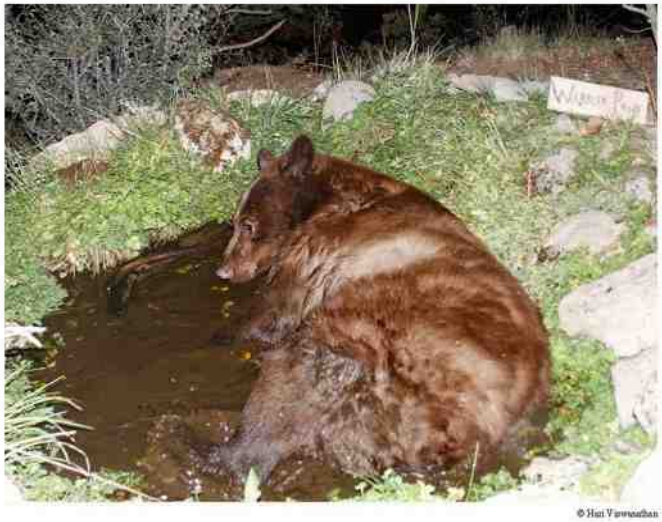
Nature Notes Fall 2012 Photo Supplement

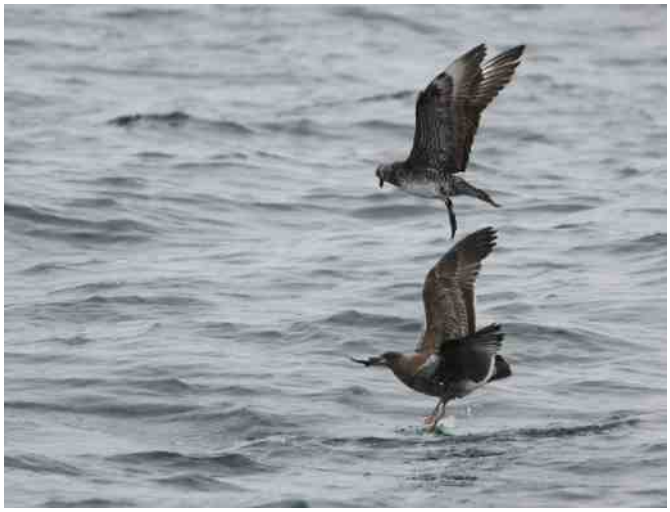
There were many excellent photographs possible for the current issue of *Nature Notes*. We had to make hard decisions so couldn't resist adding this supplement online.

Photographer: Hari Viswanathan
Hari Viswanathan's article about wildlife photography features gray foxes. However, here also are his recent photographs of a black bear's blissful enjoyment of "Warbler Pond."

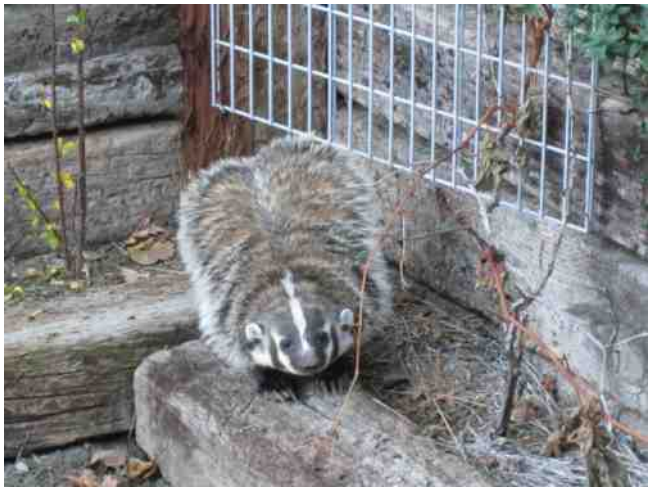


Bears, birds, landscapes and more – enjoy Hari's work at
http://www.harisphotos.com/index.html

Photographer: Dave Yeamans
In Dave Yeamans' report of a pelagic (offshore) birding trip, he mentioned jaegers near the boat. They will try their best to steal food from another bird. In this case, a jaeger (upper bird) wants the anchovy in the bill of a juvenile western gull (lower bird)

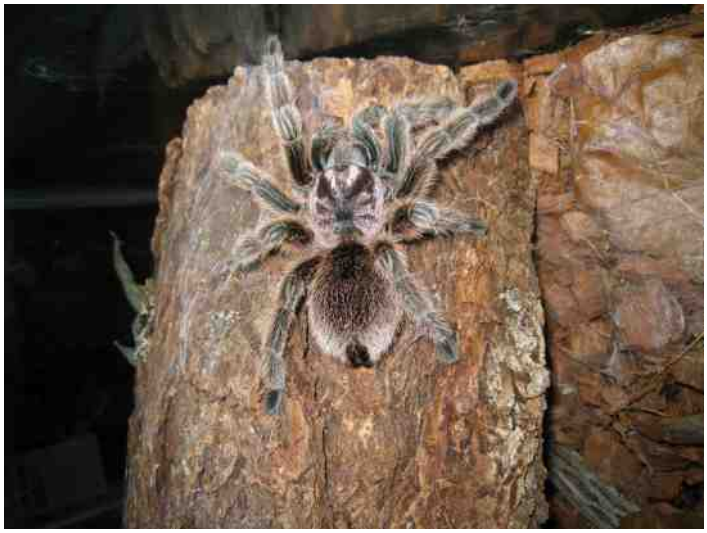


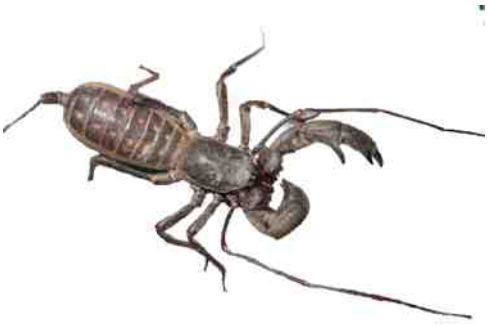
Photographer: Katherine Watson
Katie, PEEC's executive director, wrote about good things to be done at PEEC. Let's hope this badger, found in her yard as she wrote, will do her the favor of ridding her yard of rodents.



Photographer: Jennifer Macke
The director of animal exhibits has taken photos of PEEC's interesting new animals. In addition to those on page 3 of the newsletter, here are more. Adopt a critter for someone for Christmas!

Rosey, the Tarantula





The Whip Scorpion, or Vinegaroon

The Milk Snake takes a ride on a staff member's hand during a public event at PEEC. Firmly twined around fingers and palm the comfortable snake shows topside and underside.