Pajarito Environmental Education Center

Nature Notes

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Your Nature Center in Los Alamos

Deer in Our Yards

Linda Doolen posted the following three paragraphs in the online interest group PEECbirders, 11/27/13.

The big buck with the green #857 ear tag casually strolled down the sidewalk on 40th Street at about three o'clock one afternoon in late summer. He was one of a gang of five big bucks in the neighborhood who liked to bed down in my yard last summer. They also ate geranium blossoms, petunia blossoms, and a pot of basil from my front porch. Vegetable gardening was a challenge, too, and I started thinking of the deer as giant above-ground gophers.

Deer #857 reappeared on Halloween morning raiding bird feeders for sunflower seed. He stayed around through the first three days of November, mostly bedded down in the back of my garden during the day. On the morning of November 3, he and another slightly smaller buck were having a shoving match less than ten feet from my back door. I haven't seen him again since that evening.

The smaller buck reappeared the next morning, sleeping in the bed scraped out by #857, and was joined the next morning by yet another one with a badly broken antler. These two were around off and on, also sparring with each other until it started snowing. I thought they had moved out, but I noticed a bed scraped out through the snow under a pine in my front yard. They make lovely but somewhat destructive lawn ornaments.

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Elk biologist Stewart Liley gave information about ear tags on wildlife via a phone call to the *Nature Notes* editor. Tags are applied when an animal receives an injection of chemicals, such as a vaccination, a tranquilizer for rescuing or moving an animal, or a substance involved in research, population studies, or monitoring for data collection. Tags in New Mexico may be one of four colors. The green color might tell us the animal was tagged in the northwest quadrant of the state. However, a research animal would wear a purple tag.

The front of the tag has a unique number; the back has the words, "Do not consume," and a telephone number, according to Kerry Mower of the New Mexico Department of Game and Fish. The event is entered into a data base where a history of the animal can be maintained. If the animal is killed, hunters must report the number and receive information about the drug and its withdrawal period in order to know if it's safe to eat. This information can be recovered from the data base. Dr. Mower reported that deer #857 was tranquilized and tagged while being rescued from entanglement in a rope in someone's back yard in 2009, here in Los Alamos.

Tagging regulations apply to more animals than deer. In the department's periodical *New Mexico Wildlife*, Fall 2011, is a report about a bear given a green tag and relocated after refusing to move off someone's porch in Tijeras. The bear returned to Tijeras three times before it was moved 100 miles west to the Zuni Mountains. Later the bear was sighted living in the wild at Navajo Lake another fifty miles north, a much extended range.

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Not every relocation has such a happy ending. It can add to common problems of wildlife, such as disease, traffic on roads, fire, drought, loss of habitat and food, and possible overpopulation.

* * *

The Department of Game and Fish publishes useful natural history articles about wildlife. Below are excerpts from *Mule Deer of New Mexico*, http://www.wildlife.state.nm.us/publications/documents/muledeer.pdf.

New Mexico's mule deer population consists of two subspecies, the Rocky Mountain mule deer in the north and the desert mule deer in the arid south. Mule deer are considered browsers because they feed primarily on the nutritious leaves, stems, and buds of woody plants. Weeds and some grasses can also be important food items during parts of the year.

Mule deer possess keen eyesight and hearing, as well as an exceptional sense of smell. These senses are a deer's best protection against predators such as coyotes, mountain lions, and bears.

The breeding season, or rut, typically takes place from October through January. The males then leave the females and juveniles to spend most of the year alone or in bachelor groups. The bucks shed their antlers in early spring, and soon afterward begin growing new antlers for the coming year. Antler size varies greatly depending on the age and genetics of the buck, and the amount and quality of nutrients available to the buck during antler growth. Newborn fawns, heavily spotted to provide camouflage in vegetative cover, are born in June or July and are carefully hidden until they are able to join in their mother's travels. Mule deer typically rest throughout the day in protective cover. They are most often seen by humans in the early morning or late afternoon and evening when they are actively moving and feeding.

The status of today's mule deer population is of great concern to many New Mexicans, whether they are avid naturalists, weekend hikers or sportsmen. It is widely acknowledged that current populations of mule deer are declining throughout the west. Many biologists believe that the mule deer populations of the 1960s may have been unnaturally high. The number peaked at 301,000 or more in the mid-1960s. As land management and wildlife management practices changed in the 1960s and '70s, the deer population began to decline from its historical high. Today, New Mexico's mule deer population may be as high as 200,000.

Two possible factors in mule deer population declines are predation and the encroachment of human development into mule deer habitat. Current management practices have returned many deer-friendly shrub lands back to their original forest or grassland conditions. Extended periods of drought and competition with other species, such as elk, also have been important. Many studies in the western U.S. are currently looking at this phenomenon and its future implications. ☼

How Icicles Are Formed

Icicles usually form on days when the outdoor air temperature is subfreezing but sunshine warms and melts some snow or ice. As it drips off the roof, a water droplet freezes when it loses its heat to the cold air. An icicle starts with a few frozen droplets. When it reaches a certain size, drops begin to drip along the side.

"The water will run down the sides of the formation evenly in a thin film and freeze on the way down," according to University of Arizona physicist Martin Short. The thin fluid layer on the surface of an icicle gives off heat that warms the air around it through a process called conduction. As warm air rises, it removes heat from the liquid layer and causes it to freeze. The buffer of heated air is widest at the top of the icicle, where conduction is slowest.

The buoyant air layer is really the most important factor. Imagine the warm air as a blanket of differing thickness. The thinner part allows more heat to escape from the tip area than the thick part of the

blanket allows at the base. So, the tip grows faster than the base, making the icicle pointy.

Source: Livescience.com

Three interesting projects about ice:

Watch ice crystals form.
www.education.com/science-fair/article/icy/

Form an icicle with ripples by using salt.
www.sciencedaily.com/releases/2013/10/131009213939.htm

Make a candle-lit ice lantern.
www.instructables.com/id/Make-a-candle-lit-ice-lantern/ ☼

Herpetofauna Can Be Beautiful

by Sue Watts

herpetofauna: reptiles and amphibians of a particular region, from the Greek *herpeton* (creeping thing, reptile) + *fauna* (animal)

The Pajarito Environmental Education Center has published a new identification booklet for those people interested in exploring the natural aspects of our local region. Written by Jennifer Macke, curator of the live animals at the PEEC nature center, and Garth Tietjen, local life-long reptile enthusiast, it is easy to toss into a trail pack for on-the-trail sightings or to keep by the back door for identifying the denizens of your yard or nearby park.

Amid the well-produced books on PEEC's gift shop book shelf, the *Guide to the Reptiles and Amphibians of the Pajarito Plateau* stands out for its beauty, its simplicity, its usefulness to those of us who roam the Pajarito. From the brilliantly colored ring snake (*Diodophis punctatus*) on the front cover to the stunning petroglyph on the back, it is full of information to help a person get a handle on an observed animal. Next to clear color photos credited to many local naturalists, a simple description lists the physical characteristics, distinctive habits, and usually the typical habitats and elevations where a Pajarito explorer can find these.

Quite simply, this is a book to have if you are interested in the natural history of our plateau. Once you have identified what you are seeing, you can go to the internet, including the nature guides on PEEC's website (http://www.PajaritoEEC.org), for more in-depth knowledge. This book will increase your awareness of the richness of life that surrounds us here on the Pajarito Plateau. ☼

Two selections from *A Guide to the Reptiles and Amphibians of the Pajarito Plateau,* by Jennifer Macke and Garth Tietjen, published by PEEC in 2013, illustrate the usefulness of the booklet.

Chihuahuan Spotted Whiptail.

Aspidoscelis exsanguis. A medium-sized, slim, gray-brown to orange-brown lizard with a long, thin tail, and a slim, pointed snout. The body is marked with six muted, light gray-brown stripes and numerous light spots. [Note: a spotted lizard is one of the exhibit animals at PEEC, thus is available for "adoption" – see the PEEC web site at www.PajaritoEEC.org, under "Support PEEC."]

Photo by Jennifer Macke

Jemez Mountain Salamander.

Plethodon neomexicanus. This is a small, slender, brown salamander with gold flecking on the body. The Jemez Mountain salamander is worm-like with legs and eyes. They are found in and under rotting coniferous logs. This salamander lives its entire life cycle on land. This species is found only in the Jemez Mountains and is strictly protected.

Photo by Gary Nafis.

☼

Jemez Mountain Salamander Listed

Excerpts from article by Tom Jervis and the *Santa Fe New Mexican*, in *The Mountain Chickadee,* Newsletter of the Sangre de Cristo Audubon Society, v. 42, no. 4, Dec. 2013, page 4.

In September, the Fish and Wildlife Service listed the Jemez Mountain salamander as endangered under the Endangered Species Act (ESA). The action comes 12 years after the Service determined that the salamander, found only in the Jemez Mountains, was declining. The federal agency listed recreation (camping, off-road vehicles, and mountain biking) among the threats to the salamander's already limited mountain habitat.

Recent fires also have destroyed much of the salamander's habitat....

For Charlie Painter, who has championed the little salamander for more than two dozen years, the listing was long awaited and deeply welcome. "That's really great news," said Painter, who pointed out that the Jemez salamander is elusive and hard to count. It is difficult to know just how many exist in the mountains. Painter earned a national conservation award in 2013 for his efforts on behalf of New Mexico amphibians and reptiles.

* * *

Unusual information can be found at "Shelter Dogs Come to the Rescue for Rare Salamanders," on the Nature Conservancy web site: http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/newmexico/conservation-canines-come-to-new-mexico.xml.

"Conservation Canines" are trained at the University of Washington to find wildlife by smell. Two were brought to the Jemez in a project attempting to census Jemez Mountain salamanders. The dogs followed their scent, pointed at their hiding places when found, and contributed to the count. Anne Bradley, Forest Conservation Manager for the Nature Conservancy talked about this project during a program at PEEC on January 17, 2013. She pointed out that the salamanders have no lungs and rely on moisture, so they do not dig into the earth but seek crevices under rocks and in logs. Active during the monsoon season, the salamanders can be found by people following the dogs, using potato rakes and setting up artificial covers for salamanders to use. Nevertheless, Bradley told us that sadly each year fewer are found. A restoration of the Jemez River watershed, 210,000 acres, would help them survive. ☼

Caffeine in Nectar Gives Bees a Buzz

by James Gorman

Drawing from http://etc.usf.edu

Excerpts from an article in *The New York Times* for March 2, 2013. The article, including more research, is available online at http://www.nytimes.com/2013/03/08/science/plants-use-caffeine-to-lure-bees-scientists-find.html...

Nothing kicks the brain into gear like a jolt of caffeine. For bees, that is. A new study shows that the naturally caffeine-laced nectar of some plants enhances the learning process for bees, so that they are more likely to return to those flowers.

"The plant is using this as a drug to change a pollinator's behavior for its own benefit," said Geraldine Wright, a honeybee brain specialist at Newcastle University in England. Findings were reported in *Science*.

Plants are known to go to great lengths to attract pollinators. They produce all sorts of chemicals that affect animal behavior: sugar in nectar, memorable fragrances, even substances in fruit that can act like laxatives in the service of quick seed dispersal.

Dr. Wright did not set out to investigate the evolutionary stratagems of plants. Rather, her goal was to use the honeybee as a model to study drugs that are commonly abused. She said, "I ran across this paper on caffeine in floral nectar. This could be quite interesting because there might be some ecological interaction between the plants and the pollinator. That's how it started."

Several varieties of coffee and citrus plants have toxic concentrations of caffeine in leaves and other tissues, but low concentrations, similar to that in weak coffee, in the nectar itself. The toxic concentrations help plants fend off predators.

The effect of the caffeine was not obvious at first, but as Dr. Wright refined her experiments, it became more clear that the chemical had a profound effect on memory. "If you put a low dose of caffeine in the reward when you teach this task, and the amount is similar to what we drink when we have weak coffee, they just don't forget that the odor is associated with the reward," she said.

After 24 hours, three times as many bees remembered the connection between odor and reward if the reward contained caffeine. After 72 hours, twice as many remembered.

Insect and human brains are vastly different. Although caffeine has many effects in people, such as increasing alertness, whether it improves memory is unclear. ☼

Mountain School's Green Team News: Recycling Plastic

by Michele Altherr

Did you know that less than five percent of plastic shopping bags are recycled? Mountain School's Green Team wanted to do something to help change this. So we entered the school in the TREX Plastic Film Recycling Challenge.

We will be collecting as many plastic bags and overwraps as we can. The collected items will be recycled and turned into new items instead of being dumped in the landfill. If we collect the most plastic film items, we will win a TREX bench for our playground. If we don't win, we will still receive a birdhouse, which we will hang so that birds have a place to raise their young. We have some other fun ideas so that everyone in our school will learn about the importance of plastic recycling, including a Poly Plastic Trophy!

There are collection boxes throughout the school and we hope that you will help by sending in your plastic. We will be collecting plastic film items until Earth Day on April 22nd. Below is a list of some items that you can send in. The bags and overwraps should be clean, dry and residue-free. Thank you for helping!

1. Plastic grocery bags.
2. Bread bags, produce bags, cereal bags, ice bags.
3. Ziploc and reclosable bags
   (no messy gooey bags).
4. Case overwraps, such as for water bottles and
   paper towels.
5. Newspaper sleeves.
6. Dry cleaning bags.

[Note: Trex Company, Inc., is known as Trex or Trex Decking and is a forerunner in the use of recycled materials in the manufacture of wood alternative decking, railings, and other outdoor items.] ☼

The Best 10 Minutes I Spent this Month (or, How I Certified my Yard as a Wildlife Habitat)

By Laura Loy

When my family moved to Los Alamos, having a yard was important. We had spent a lot of time living in cities, and we were yearning for a quiet yard to enjoy. We hoped we would see some wildlife in it, too. My husband and daughter are very much into birding, so they immediately set about adorning the yard with bird feeders, suet, and the like. I myself wanted a pond with a waterfall, as I especially enjoy the calming sound of running water. Ours is a more mature yard, so we already had established pine trees, shrubs and fruit trees. We were loving our yard!

It never occurred to me, though, that in doing these simple things that enabled us to enjoy the yard ourselves, we were actually creating an important habitat for our local wildlife. We have birds, bunnies, squirrels, and deer that make their way into our yard. When we rented one of the PEEC Critter Cams recently, we were surprised to learn we also have visits from foxes and raccoons at night!

Recently I learned that I could actually certify my yard as a Certified Wildlife Habitat. While I originally thought it would take a lot of time, what I came to learn is that it's actually really quick and easy!

Hence the title of this article: "The Best 10 Minutes I Spent this Month." I decided to sit down one day with a pamphlet I had picked up at PEEC, and I brought it out at the dinner table. I read the four requirements to my daughter, asking her if she thought we met them. The requirements were to provide the following:

1. A minimum of three food sources, either natural or supplemental. Check! We have seeds, fruit, and bird feeders. We actually could have checked off six things on the list, but we stopped at the required three.

2. At least one water source. Yup, we have our pond! (But actually a birdbath or even a saucer full of water would fulfill the requirement, and it doesn't even have to be a year-round water source).

3. At least two places for cover. We actually could have checked off at least three, but we went with evergreens and a log pile.

4. At least two places to raise young. This seemed to me like it would be a difficult one, but not so! We have mature trees and shrubs, so we meet the requirement.

At this point, my daughter was really getting into it, so we went online and filled out the form. We paid $20 and the whole thing (including going through the checklist) only took 10 minutes.

So what do we get for our time and money spent? We get the pride and satisfaction of doing something good for our community and our wildlife, and the warm fuzzies from our $20 application fee going toward supporting the National Wildlife Federation. Oh, we also get a cool certificate that we can frame; we become a member of the National Wildlife Federation; we will receive a subscription to National Wildlife Magazine and a 10% discount on all NWF merchandise. Bonus!

In learning about all this, what I have discovered is that I am part of a larger effort by the community of Los Alamos to become a Community Wildlife Habitat. What that means is that Los Alamos County would need to have 100 yards, two schools, and three public places certified. It seems there has been a surge in interest lately, as another 15 or so yards in Los Alamos have been certified recently, putting Los Alamos at 78 certified yards. PEEC's wildlife habitat counts as a public place. So, our community is getting close to reaching its goal.

What can you do to help Los Alamos become a Community Wildlife Habitat? First and foremost, you can certify your yard. And when I say yard, I mean that in a very loose sense – believe it or not, even a balcony qualifies! Businesses and schools can certify their locations, too. In reality, you probably already meet the requirements; you would simply need to fill out the form and pay the $20 application fee.

The other way in which you can help is 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 also can help coordinate canyon cleanups, clear invasive weeds out of empty lots, help with kids activities, hold plant sales, etc.

Critter Cam photo in PEEC's Wildlife Habitat

So why not jump on the bandwagon? It's easy and fun! To get started, visit www.nwf.org/wildlifegardening, or contact Selvi Viswanathan (hariselvi@juno.com) or Michele Altherr (mjaltherr@gmail.com). You also can stop by PEEC for more information, and you can see PEEC's habitat as an example. It has a birdbath, brush pile, feeders, and birdhouses along with trees and shrubs.

Happy certifying! ☼

From the Executive Director: Katherine Watson

The beginning of the new year is a calm time in nature and at PEEC. Lots of animals are hibernating or have gone south for the winter. There are no wildflowers to identify and not much gardening going on. Here at PEEC, we've just come back from a relaxing holiday vacation and are ready to start fresh on a new year of exciting programs and events. For more information on that, see the included program flyer and mark your calendars!

The new year is also a good time to look back over the past year and see what worked and didn't, what lessons we've learned, and what successes we've had. Our official annual report, complete with lots of great pictures and charts, and the names of all of you – our members, donors, volunteers, and supporters – will be out soon.

My favorite numbers are the numbers of people we serve. December isn't yet over as I write this, so I don't have final numbers for 2013, but I can tell you that by the time the year ends we'll have served over 3,500 adults and 1,950 kids in our public programs and 3,700 school children in our school programs.

You may not know that we pay "rent" to the Los Alamos Public Schools for the building they let us use now for the nature center. Each school year we're required to provide $36,000 in services to the schools. This school year (which is only halfway-through, though it includes carryover from last year) we've already provided almost $60,000 worth of services free to the schools.

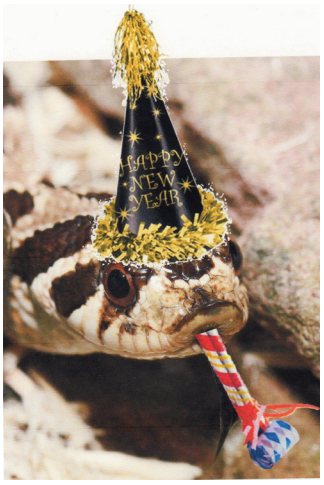
Many people see PEEC as a place "just for kids," but if you look at the numbers above, that clearly isn't true. Our public programs are largely designed with adults in mind, and we provide a wide variety of programs on nature, with something to fit almost every interest.

My second-favorite number is the number of volunteers for PEEC and the number of hours they work each year. I'm always staggered by how many people give so much of their time to PEEC, and 2013 was no exception. Over 330 volunteers provided over 6,500 hours of service! We're so grateful to them—PEEC would be nothing without them.

Not enough numbers for you? Here are a few more. This is the amount of food consumed by PEEC's critters each year:

1. 25 sweet potatoes,
2. 50 carrots,
3. 100 leaves of lettuce,
4. 500 worms,
5. 1500 algae wafers, and
6. 2000 crickets

Happy New Year! ☼



Foxxy, our hognose snake, celebrates.

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Enriching people's lives by strengthening their connection to our canyons, mesas, mountains and skies.

Joining or Renewing Is Easy!

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