Nature Notes

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Feeding Wildlife vs. Seasonal Foraging

By Leslie Bucklin, Los Alamos County Communications

Feeding wildlife is very different than allowing wildlife to forage for seasonal, natural foods. It is almost always detrimental to the animals, the environment, and human safety.

Dangers of feeding wildlife:

Health problems for animals

Human foods often lack the necessary nutrients for a wild animal's health and can lead to deficiencies. Feeding the wrong food, like bread to ducks, can cause bone deformities like "angel wing," while feeding corn to elk can disrupt their digestive systems and can be fatal. Many animals' digestive tracts change seasonally to adapt to different foods. Feeding nutrient-dense food during winter, for instance, can disrupt these changes and sicken the animal.

Behavioral changes

Animals that become dependent on human food handouts may lose the skills needed to find food on their own, making it harder for them to survive if the artificial food source disappears. When animals lose their natural fear of humans, they may approach people aggressively for food, posing a threat to human safety. This can cause authorities to destroy the animal to protect the public. Habituated animals may become "pests," raiding garbage, damaging property, or entering homes. This leads to an increase in vehicle collisions and aggressive encounters.

Environmental and ecosystem disruption

Artificial feeding congregates animals in unnaturally high numbers, increasing the potential for diseases to spread through saliva, feces, and direct contact. This is a risk for both wildlife and humans. A consistent human food source can lead to an unnaturally high population density, which damages the native habitat through over-browsing and can lead to starvation if the food source is removed. Feeding wildlife can attract predators like bears, coyotes, and mountain lions into close proximity with humans and domestic animals.

Benefits of seasonal, natural foods:

Nutritional health for animals

Wild animals have evolved to thrive on a specific, seasonal diet of plants, insects, or other prey found in their natural environment. Their bodies are

Photo Courtesy: Leslie Bucklin

adapted to digest these foods efficiently. A natural diet provides a wide range of vitamins, minerals, and other essential nutrients that human-provided food cannot match.

Healthy behaviors

Relying on seasonal food sources ensures animals must forage naturally, maintaining vital survival instincts and physical fitness. Natural food availability regulates the wild population. When food is scarce, reproduction and survival rates naturally decrease, preventing overpopulation. Foraging naturally keeps animals cautious and wary of humans, which is crucial for their long-term survival.

Ecosystem support

Animal foraging is a critical part of maintaining a balanced ecosystem. It influences the distribution of plants and helps with seed dispersal. Seasonal food scarcity is a trigger for some animals to migrate, and human feeding can disrupt these vital migratory patterns.

Foodstuffs Monitoring by Los Alamos National Laboratory

By Jenna Stanek and Shannon Gaukler, Ecologists at Los Alamos National Laboratory

Farming, hunting, and fishing have long been fundamental to Northern New Mexico's culture, and many communities rely on local food sources. Recognizing this importance, Los Alamos National Laboratory (LANL) monitors its potential environmental impact on food and agriculture through its Soil, Foodstuffs, and Biota (SFB) Program. It's goal is to determine whether LANL operations influence chemical concentrations in soil, food, plants, and animals and to determine whether LANL operations are impacting human health via the food chain. LANL samples food crops and fish on a three-year cycle and collects deer and elk through roadkills or hunter donations.

The SFB program collects samples from multiple areas: LANL property, perimeter communities (such as Los Alamos, White Rock, and nearby pueblos), downstream locations irrigated by the

Soil, Foodstuffs, and Biota Program personnel collect and weigh apricots during a sampling campaign. Photo Courtesy: LANL

Rio Grande, and more-distant "background" sites at least 15 kilometers away that serve as baselines.

The foodstuffs collected and analyzed include the following:

- Fruits and vegetables grown in gardens and farms
- Wild foods such as chokecherries, lambsquarter, and cota tea
- Animal products such as milk, chicken eggs, and honey
- Fish and crayfish
- Wild game, such as deer and elk

LANL collects these samples, which are then analyzed by a third party for a variety of constituents, including radionuclides, metals, polychlorinated biphenyls (PCBs: industrial chemicals banned in the U.S. but persistent in the environment), and per- and polyfluoroalkyl substances (PFAS: long-lasting chemicals used in

Soil, Foodstuffs, and Biota Program personnel sample chicken eggs from the local community. Photo Courtesy: LANL

many consumer products, including cookware and firefighting foams).

Across foodstuffs, wild game, and fish sampling, the majority of radionuclides, metals, PCBs, and PFAS levels were either not detected, were found at low levels consistent with background amounts, or were below human consumption safety standards. These findings match past monitoring results and show that LANL operations are not harming local food supplies or aquatic ecosystems.

By continuing long-term monitoring, LANL demonstrates its commitment to protecting the environment, supporting local agricultural communities, and ensuring that residents can consume locally sourced food safely. View LANL Annual Site Environmental Reports at *osti.gov* for more information and results from sampling campaigns.

Her Space, Her Time

By Ed Santiago, PEEC Board Member

"Good morning, gentlemen." Imagine your undergraduate professor greeting his class with those words. In a U.S. university. At the turn of this millennium. In a room where you, a young woman, are sitting as an enrolled student. "I would quip that my superpower had to be invisibility," writes Shohini Ghose, today a quantum physicist and professor. Joking helped her cope, but the experience left its mark.

In *Her Space, Her Time: How Trailblazing Women Scientists Decoded the Hidden Universe* (MIT Press), Ghose profiles twenty or so women who dramatically grew our understanding of the Universe despite countless barriers: universities who would not admit women; laboratories who would not employ them; jobs terminated upon their marriage or pregnancy; and, of course, discouragement and disparagement from those in positions of power. Women who fought against invisibility.

Some names might be familiar to Los Alamos residents: Henrietta Leavitt, whose insights directly led to learning the size of our galaxy, and, later, Universe; Vera Rubin, discoverer of invisible matter; and of course Lise Meitner, the first human to understand uranium fission (her moment of realization came, like so many such moments, during a walk in the woods. We at PEEC approve). Many of the other names will be less familiar but no less vital to our present-day sphere of knowledge. Inexplicably--or is it?--out of all the Nobel Prize-worthy work chronicled in these pages, only one of the subjects actually won said prize.

All of the book's subjects are remarkable. All of them demonstrated strength, courage, determination, perseverance, and grit. Every story describes obstacles that make us shake our heads in dismay. At the end, some readers may be left with the lingering question: what if those women hadn't needed to spend so much effort overcoming those obstacles? What would they have learned, discovered, invented if they'd had tailwinds? Most concerningly: how many countless others dropped out, discouraged or prevented from having their chance to develop their curious minds? We can't reverse time, but we can--and must--look forward. It's our responsibility to identify and remove obstacles so that today's youths, whatever their gender, can focus their energies on fulfillment.

Technical and scientific concepts are explained accurately but not deeply, and the language is suitable for many audiences: a middle schooler with an inclination toward the physical sciences; a parent, educator, or administrator in a position to learn about roadblocks of the past so as to dismantle them and prevent future ones; or simply anyone curious about our cosmos, what we know of it, and how we came to that knowledge. I found it informative, inspiring, and entirely riveting.

See the insert in your Nature Notes this month--and every month!--for a list of nature walks, astronomy-

themed events, and more opportunities to explore wonders near and far.

The One Los Alamos Book Club meets every other month at the nature center. https://linktr.ee/OneLosAlamos

Our Autumn Skies

By Galen Gisler, PEEC Planetarium Volunteer

As our nights get cooler and the leaves on our aspens turn to gold, we bid farewell to the stars of Spring and Summer and welcome the glories of our Autumn skies. The Milky Way that we have been enjoying all summer long is now heading to the west, along with the bright stars of the Summer Triangle (Altair in Aquila, Vega in Lyra, and Deneb in Cygnus). By October, we will have lost the southern Milky Way (Scorpius and Sagittarius), but early evenings in December still offer the northern Milky Way before the Summer Triangle bids adieu.

Already in October, our nearest neighbor galaxy Andromeda will be high in the East, to the left of the large empty square, which is the body of Pegasus. In these evenings, we begin to capture a glimpse of one of our Autumn and Winter favorites, the young Pleiades star cluster in Taurus. After the Pleiades, we begin to spy the bright stars of the Winter Hexagon, Capella first in the northeast, and Aldebaran below the Pleiades in November. In December, Orion makes its first evening appearance with bright orange Betelgeuse and blue Rigel at its opposite extremities, and Pollux in Gemini north of Orion. For the remaining stars of the Hexagon (Sirius and Procyon), we have to wait until January.

The planet Saturn has been rising earlier and earlier these past few months, and it reached its opposition (when it was directly opposite the Sun) on September 21st. It should be a good target for binoculars and amateur telescopes, but be aware that its ring system is almost edge-on to us this year, and therefore almost invisible. You might see the rings as slight extensions to its equator--if the seeing and the resolution of your instrument is good quality. You can also watch for a couple of its moons, Titan and possibly Hyperion. Neptune starts the Autumn fairly close to Saturn but Saturn orbits faster, so the separation increases as we move into Winter. Uranus is close to the Pleiades and may be worth looking for.

Photograph of the Pleiades last winter with Seestar S30
Photo Credit: Galen Gisler

Jupiter returns to our evening sky in December, rising towards its opposition on January 26th. It will be in Gemini, far outshining the bright stars Pollux and Castor. In your binoculars, watch for the positions of the four Galilean moons, how they change positions from night to night. In your telescope, look for the cloud bands, stripes parallel to the equator, and the Great Red Spot.

Meteor showers to occur this fall are the Orionids, peaking October 21-22 under a new moon, and the Geminids, peaking December 13-14 under a waning crescent moon. As always, meteor showers tend to be more productive after midnight, when our side of the Earth is heading along our orbit, adding our orbital

AT THE NATURE CENTER

FRI, OCT 24 4-6 PM

Stop by during Trick-or-Treat on MainStreet for spooky animal encounters & sweet treats, provided by the Pajarito Environmental Education Center.

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velocity to the speed of the meteors that encounter our atmosphere.

There are a couple of potential comets, none very bright, but binocular targets: C/2025 K1 (ATLAS) in early October before dawn; C/2025 A6 (Lemmon) in October and November in the evening; and then our famous interstellar visitor 3I/ATLAS which may start to become observable in an 8-inch telescope under dark skies. It is not an alien spacecraft (as some have speculated).

The event I invoked as a possibility in the last edition of Nature Notes, the eruption of the star T Coronae Borealis, has not occurred. It is moving out of our evening skies, so it might happen while we're not looking, or perhaps we'll see it go boom next summer. The predictions are far from certain.

The County-sponsored Dark Nights, hosted by the Pajarito Astronomers, continue to be held at Overlook Park in White Rock. Dates remaining are **October 11th** and **November 15th**, weather permitting. These are usually held on the Saturday evenings closest to the New Moon. There will be telescopes available for public viewing. And if you bring your own telescope, and need help with it, you'll meet some friendly experts!

Love Nature and Community? Join our Volunteer Team!

Opportunities: Docents, Bird Feeders, Animal Caretakers, Gardeners & More.

Make a Difference! Gain experience while connecting with nature and your community.

Questions?
Email our Visitor Services Manager, Nic, at nicole@peecnature.org or scan the QR code.

Volunteer Craig Martin leading a Wildflower Walk Spring 2025
Photo Credit: Beth Cortright

Apple Cider Caramels

By SmittenKitchen.com

4 cups (945 ml) apple cider
1/2 teaspoon ground cinnamon
2 teaspoons flaky sea salt, such as Maldon, or less of a finer one
8 tablespoons (115 grams or 1 stick) unsalted butter, cut into chunks
1 cup (200 grams) granulated sugar
1/2 cup (110 grams) packed light brown sugar
1/3 cup (80 ml) heavy cream
Neutral oil for the knife

Photo Courtesy: SmittenKitchen.com

Step 1: Boil apple cider in a 3- to 4- quart saucepan over high heat until it is reduced to a dark, thick syrup, between 1/3 and 1/2 cup in volume. This takes about 35 to 40 minutes. Stir occasionally. Meanwhile, gather your remaining ingredients, because you won't have time to spare once the candy is cooking.

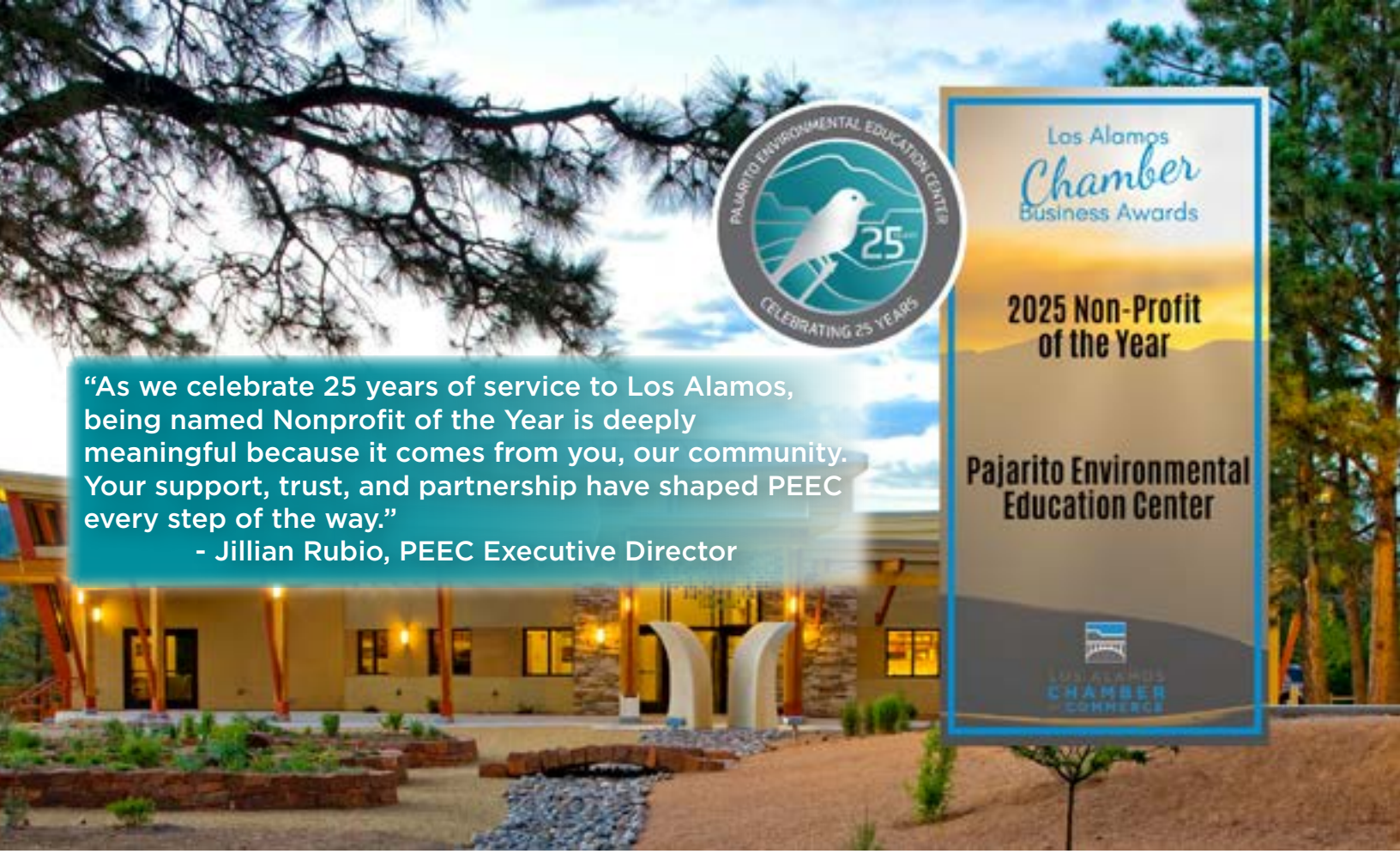
Step 2: Line the bottom and sides of an 8- inch straight- sided square metal baking pan with 2 long sheets of crisscrossed parchment. Set aside. Stir the cinnamon and flaky salt together in a small dish.

Step 3: Once you've reduced the apple cider, remove from the heat and stir in the butter, sugars, and heavy cream. Return the pot to medium-high heat with a candy thermometer attached to the side, and let it boil until the thermometer reads 252 degrees, only about 5 minutes. Keep a close eye on it.

TIP: Don't have a candy or deep-fry thermometer? Have a bowl of very cold water ready and cook the caramel until a tiny spoonful dropped into the water becomes firm, chewy, and able to be plied into a ball.

Step 4: Immediately remove caramel from heat, add the cinnamon-salt mixture, and give the caramel several stirs to distribute it evenly. Pour caramel into the prepared pan. Let it sit until cool and firm—about 2 hours, though it goes faster in the fridge. Once caramel is firm, use your parchment paper sling to transfer the block to a cutting board. Use a well-oiled knife, oiling it after each cut (trust me!), to cut the caramel into 1-by-1-inch squares. Wrap each one in a 4-inch square of waxed paper, twisting the sides to close. Caramels will be somewhat on the soft side at room temperature, and chewy/firm from the fridge.

Step 5: Store caramels in an airtight container at room temperature for up to two weeks, but really, good luck with that.



Our Mission: Enriching people's lives by strengthening their connections to our canyons, mesas, mountains, and skies.

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"Had a wonderful talk with the volunteer there telling me about her story and the town's. Love the maps in the center. My kids had fun seeing the different animals."

— Los Alamos Nature Center Visitor

Nature Center hours:

Monday: 10 – 4
Tuesday: Closed
Wednesday: 10 – 4
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Sunday: Closed

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Mother and Child Dressed up at PEEC A BOO in 2024
Photo Credit: Casey Lundberg

INSIDE

UPCOMING EVENTS

- PEECnic **OCT 18**
- PEEC A BOO **OCT 24**
- Small Business Saturday **NOV 29**
- Home Alone & Hot Chocolate Bar **DEC 13**
- Winter Solstice in the Planetarium **DEC 19**

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