Nature Notes

VOLUME 30, NUMBER 2, SPRING 2024 PAJARITO ENVIRONMENTAL EDUCATION CENTER, LOS ALAMOS, NM

A Promising Future for Pollinators — Los Alamos Declared Bee City USA Affiliate

By Dana Ecelberger

Los Alamos officially became a Bee City USA affiliate on January 9th, 2024, by a majority vote of the County Council and with lots of community support. Bee City Los Alamos will be hosted by the Pajarito Environmental Education Center (PEEC). PEEC is the ideal organization for Bee City Los Alamos because learning about and protecting our native pollinators is a key aspect of being an environmentally aware and sustainable community.

Why all the buzz about pollinators, you might ask? What do we even mean when we talk about “native pollinators," and what makes them so special? The answer is evolving as science and research learn more about pollinators, their importance in our environments, and how intimately connected and essential they are to our native plant communities.

Many of us have heard about the honeybee population collapse, and for many people this is what they think of when they hear the term “pollinator." While this is partially correct (honeybees DO pollinate, after all), what we are really referring to when we talk about pollinators in the context of Bee City are our “native” bees, wasps, butterflies, moths, other insects and — to a lesser degree — birds, bats, and other animals that also provide pollination services.

There is a lot of discussion about what a “native” plant or animal really is. Yes, plants and animals relocate and evolve over time, but the most widely accepted definition of “native” is a plant or animal that existed in North America pre-European contact. Why should we prioritize native plants and pollinators over honeybees and imported plants and cultivars? Honeybees are European and Asian in origin. They are NOT native to the North American lands. While they are not what we would term “invasive," meaning they don’t usually or extensively displace native species, recent research is showing that they DO compete for vital resources, which can harm our native species. They are also not in danger of extinction, as many native insects are.

Honeybees are generalist pollinators, meaning they can gather nectar and pollen resources from a wide range of plants. Because we have planted a vast number of European and other imported, non-native plants in most parts of the United States, they usually can find lots of resources. Many of our native bumblebees are also generalists. But the vast majority of our native pollinators are specialists. They can’t gather the resources they need from European imports or other non-native plants but rely entirely upon the native plant species with which they have co-evolved. As native plant populations are reduced and pushed into extinction through development, weeding, trampling, and climate change, the pollinators that rely upon them dwindle as well. Countless insects are killed every year by vehicles, pesticides, development, and more, in addition to losing their plant resources.

According to the Bureau of Land Management, “New Mexico lists 235 plant species as rare and imperiled, with 103 species that are considered globally imperiled, and 109 species that occur only in New Mexico and nowhere else in the world.” They go on to describe how there have been small native bees found pollinating endemic (species that occur only in one area) plant species that are endangered. Without their native pollinators, many of these rare and imperiled plants will perish, and vice versa.

Whether or not you think it is important to conserve and protect the native species of plants and pollinators of an area, we can probably all agree that having food, medicine, and fibers for clothing, paper, and other necessities is something we would like to continue to have in the future. Pollinators are responsible for the successful fruiting and seed production of around 90% of all plant life on the planet. Not only that, but insects are essential food for birds, fish, and other animals. Without our tiny insect workers, the entire food web would collapse. Native food, medicine, and fiber plants are still relatively unstudied and underutilized by the general public. Still, we know that they are often better adapted to local climates than imported plants, requiring fewer amendments, fertilizers, and water, and they could hold great promise for resilience in the face of a changing climate.

It isn’t necessary to remove existing landscapes in order to help your native pollinators, nor is it necessary to have only native plants in your yard or community, although natives are beautiful and low-maintenance choices if you are renovating or starting your landscape. By planting areas of native pollinator plants throughout our community, we will be providing essential resources for our native bees, butterflies, moths, and other hard-working insects. Dedicating a corner of your yard or apartment patio to native pollinator plants, reducing pesticide use, and slightly changing our garden maintenance habits will make a world of difference. Every little bit helps!

This is a short overview of the importance of protecting our native plant and pollinator resources. For more information, please visit Xerces.org and follow PEEC for updates on how you can become involved in Bee City Los Alamos as we move forward with this exciting project. We will be launching our Bee City Los Alamos webpage in the next few months and hosting a booth at PEEC’s Earth Day celebration on April 20th, 2024.

Pollinators on Horsetail Milkweed.
Photo Credit: Dana Ecelberger.

Road to Recovery (R2R) Emerges as Leader in Developing Recovery Strategies for North America's Avifauna

By Jenna Stanek

The Road to Recovery (R2R) was founded in 2020 in response to a landmark paper in *Science* reporting the net loss of 3 billion birds in North America over the past half-century. Although broad general threats to birds have been well documented (e.g., habitat loss, anthropogenic causes of mortality, invasive species), the specific causes of decline for most bird species or the specific conservation actions that would effectively address those causes and reverse declines still cannot be pinpointed. R2R provides a systematic approach to address declines in bird species that is centered on the premise that advancing biological knowledge on limiting factors driving population declines is integral to developing actionable science, with the stated goal of “combining targeted biological and social science to recover North American bird populations before they become endangered or extinct."

Furthermore, the R2R framework emphasizes the need for developing social science knowledge, such as understanding how social and economic interests vary across a species' full annual life cycle range. Through collaboration among managers, scientists, and other partners with a full annual life cycle conservation strategy for species, the framework hopes to eliminate

Western Yellow-billed Cuckoo nestling begging for food.
Photo Credit: Jenna Stanek / Southern Sierra Research Station.

the implementation gap that often exists in conservation efforts to build a sustainable recovery process.

The full annual life cycle describes a bird's ecology throughout the year. A migratory bird's annual cycle can be divided into four primary phases: breeding, migration away from the breeding grounds, an overwintering period, and migration back to the breeding grounds. Threats to migratory birds are often well-studied on their breeding grounds. However, identifying threats that exist to them during migration, during their overwintering period, or how these stages interact is also extremely important. Understanding that most migratory birds only spend a very small portion of their time on their breeding grounds and may have additional threats to their survival during other parts of their full annual life cycle is a critical piece to the puzzle of identifying potential limiting factors on populations. This highlights the need for international partnerships that span the full range of the species for recovery efforts.

Identifying limiting factors driving population growth or decline is essential to being able to target conservation actions that will be meaningful for a population. In the simplest terms, if the birth rate is higher than the death rate, then the population will grow; if the death rate is higher than the birth rate, then the population will decrease. For example, if a migratory bird species has high death rates that occur on their non-breeding grounds in a specific area for a specific reason, then targeted conservation actions to reduce those specific high death rates will (over time, in theory) increase the overall population.

We need to be targeted, strategic, and swift if we are to recover these species—there are only so many financial resources and years. In addition, just as the full annual cycle of avian species collectively connects multiple nations and cultures, our solutions to reverse declines must also more fully engage a broad spectrum of collaborators. It is essential that scientific research efforts engage social scientists, users of the science (e.g., land managers, private landowners), and affected local communities initially and throughout the process—effectively eliminating the gap between research and conservation action and thereby accelerating sustainable species recovery.

Scientists for the R2R initiative have identified 104 bird species that require immediate, focused scientific action to pinpoint causes of declines and develop strategies for recovery. Additionally, R2R has begun supporting the recovery of “Tipping Point” species with four pilot projects, one of which is for the Yellow-billed Cuckoo. With support from the Road to Recovery Initiative, scientists are working to understand the drivers of population declines across the full annual life cycle range of the Yellow-billed Cuckoo. The main projects are to develop a range-wide population model, address knowledge gaps about the non-breeding ecology of the species, and advance the social science knowledge needed to advance the recovery process in their overwintering areas. Using a combination of techniques, including satellite tracking, population modeling, and social awareness campaigns, collaborators hope to address the biological and social factors contributing to Yellow-billed Cuckoo declines. The R2R projects involve

A Western Yellow-billed Cuckoo.
Photo Credit: John Stanek / Southern Sierra Research Station.

collaborators from universities and non-governmental organizations across the United States, Paraguay, and Argentina, and working closely with the Western Yellow-billed Cuckoo Working Group to coordinate recovery efforts for the western subspecies.

Visit the Road 2 Recovery – Saving Our Shared Birds website **r2rbirds.org** to learn more about and support this fascinating and practical initiative.

To learn more about Western Yellow-billed Cuckoos, visit **yellowbilledcuckoo.org.**

Who Is the PEEC Nature Youth Group?

By PEEC Nature Youth Group

We are your friendly neighborhood PEEC Nature Youth Group, made up of 9 high schoolers who all share an interest in preserving the great outdoors in our amazing town. We've started working on several projects centered around solving environmental problems on both a local and global scale. From testing water quality in burned areas to developing an effective way to deter wildlife and livestock interactions at our local stables, we have many projects that apply science to societally impactful problems.

The PEEC Nature Youth Group aims to better the Los Alamos ecosystem with science-informed innovative solutions. Wildfire prevention, water quality testing, and protecting wildlife are all important goals we are striving to achieve. By combining service projects with STEM-based research, we are protecting our community.

If you are interested in learning more, please visit the PEEC website for details on our projects and us.

PEEC Nature Youth Group members.
Photo Credit: Ryan Ramaker.

Piedra Lumbre. Flint.

By David Fox

You and I
Appeared once
Only once
It seems
On the edge of a dream
Chipped to perfection.
As thoughtless as rested purpose
Meaning no harm
Smooth as morning's
Freshest rising sun
Shining soft as evening.
Impossible.
It carries light
Like a feather waxed
To astonish just so
As useful perfection
Its permanent shapes
Washed clean
Intended to aim at a returning sun
In the polished shine
Of every moon risen
Flawless as surfaces
Of dreams edges
It shares as ebony supposed to perfection
Worked smooth
Keen sculpted with unthinking care
In the doubt free waters'
Luster
Of unimaginable time.

A fact
Observable with delight
In a dream of yours
With any luck
At all, too
In dreams of mine

The Luster.
My lord the luster,
Of unimaginable time.

In memory of David Fox, long time PEEC supporter, friend, and eloquent poet.

Living With Wildlife

Welcome to the wild side of Los Alamos! Here, it's a regular occurrence to spot deer casually sauntering down sidewalks or catch a glimpse of a black bear waddling through your neighborhood. Living amidst such vibrant wildlife is a privilege and a gift, but it also comes with great responsibility.

To enhance safety in our community for both humans and wildlife, here are some tips:

Raccoons

- **Don't feed raccoons.**
- **Keep pets indoors at night.**
- **Keep garbage out of reach.**

Coyotes

- **Remove food sources.**
- **Keep pets secure.**
- **Hazing — The simplest method of hazing a coyote involves being loud and appearing large.**

Mountain Lions

- **Supervise children outdoors.**
- **Remove food sources.**
- **Do not approach them. Most mountain lions will try to avoid confrontation, give them a way to escape.**

For more information on living with wildlife in Los Alamos, **scan the QR code** or **visit losalamosnm.us.**

Tree Squirrels of New Mexico

By Terry Foxx

There are four species of tree squirrels that are found in New Mexico. Their forgotten caches can be partially responsible for the abundance of small or growing trees. Once a planted seed or nut is forgotten, it sprouts and can fill the forest with little trees, especially in open areas. These small trees can become fire hazards! When the forest is filled with small trees, they can carry fire, leaving the forest vulnerable to large fires. When the canopy of the small trees reaches the lower branches of a mature tree, a canopy fire can be ignited. The fire moves from the lower branches of the mature tree to the crown, causing a crown fire. These fires move rapidly and can fill a forest with fire.

Abert's squirrel, *Scrurus alberti*, named after environmentalist James John Abert, also called the tassel-eared squirrel, is the most common species in the Jemez Mountains. It is most often found around the Ponderosa pines of the Jemez and Manzano Mountains. It is gray, with a reddish stripe down its back and tufted or tassel ears. The other three species are the Fox Squirrel, found mostly in the pecan and walnut orchards near Roswell and Carlsbad; the Red Squirrel, found in spruce and fir trees in the Sangre de Cristo, San Juan, Sacramento, Capitan, and San Mateo Mountains; and the Gray Squirrel, found in broadleaf riparian areas of the Gila National Forest.

Before I moved to Albuquerque, I loved to watch the tassel-eared squirrels along Frijoles Creek in Bandelier National Monument. I would watch them scurry from tree to tree, hiding food and flicking their tails.

Did you know that tail-flicking is a way of communicating? Squirrels have a great memory, so they don't often forget where they planted their cache! In times of hunger, the squirrels will eat fruits, insects, fungi, and carrion. Generally, they prefer nuts and seeds. They can even be found in small colonies. Mamma squirrels will share the raising of young. Those incisors are growing continuously, so you will see they are gnawing continuously.

I marvel at the complexity of a creature so small, so busy, and so often seen.

Interested in Becoming a PEEC Board Member?

Applications are now open!

PEEC is accepting board member applications for terms starting in October 2024. Board members come from a variety of backgrounds such as law, human resources, science, fundraising, finance, technology, and more. Board terms are two years and can be renewed up to three times. PEEC board members are active in the organization, approving a yearly budget, reviewing strategic plans, and adopting policies.

Board meetings are held on the second Monday of the month – at 6:15, in a hybrid format. Board membership might include volunteering on committees, attending monthly board meetings, and helping at events like Earth Day, Bear Fest, or PEECnic. In return, you get to work with a variety of people who love nature and help shape the future of PEEC.

If you are interested in becoming a PEEC board member, you are welcome to visit a board meeting or use the QR code to fill out an application.

Questions? Contact PEEC Visitor Services Manager, Ryan at ryan@peecnature.org

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

PEEC Board of Directors

Linda Zwick, President
Shelly Wiemann, Vice President
Janet Griego, Secretary
Bonnie Klamm, Treasurer
Directors: Elizabeth Allen, Galen Gisler, Jennifer Macke, Trey Pereyra, Ed Santiago, Nan Sauer

PEEC Staff

Izza Bello, Early Childhood Educator
Beth Cortright, Operations Manager
Ashleigh Lusher, Gift Shop & Programs Coordinator
Kehar Koslowsky, Marketing & Communications Manager
Kristen O'Hara, Director of Programs
Ryan Ramaker, Visitor Services Manager
Jillian Rubio, Executive Director
Beth Sanchez, Education Programs Coordinator
Sarah VanHoosier, Environmental Educator
Elizabeth Watts, Educator, Planetarium Manager

"This center is fabulous. We loved it. [My] kids are under 7 and it was just right for all of them. Your kids will LOVE this place and they will learn so much... "

— Los Alamos Nature Center visitor

Nature center hours:

Monday: 10 – 4
Tuesday: Closed
Wednesday: 10 – 4
Thursday: 10 – 4
Friday: 10 – 4
Saturday: 10 – 4
Sunday: Closed

Visit us online!

peecnature.org
facebook.com/peecnature
instagram.com/peecnature
youtube.com/c/peecnature
linkedin.com/company/peecnature/

Leave us a review on Trip Advisor, Google, or Yelp

PEEC
Pajarito Environmental Education Center

PEEC at the Los Alamos Nature Center
2600 Canyon Road
Los Alamos, New Mexico 87544
505.662.0460
www.peecnature.org

PRESORTED
STANDARD
U.S. POSTAGE PAID
LOS ALAMOS, NM
PERMIT NO. 152

Get groovy with Recycle Man at PEEC's Earth Day Festival 2024. Photo Credit: Jillian Rubio.

INSIDE

UPCOMING EVENTS

Earth Day Festival **APRIL 20**

Los Luceros Bird Walk **MAY 5**

Summer Family Evening: Rattlesnakes **JUNE 5**

Do you want to go green for your quarterly Nature Notes mailing?

LET US KNOW!

Please contact admin@peecnature.org if you'd like to opt out of paper newsletters.