



Refuge Update

October 2023

Published quarterly by the Amigos de la Sevilleta

Board meetings are held the third Tuesday of every month; all are welcome. The next Board meeting is Tuesday, October 17th at 2:00PM at the Visitor Center.

Refuge Manager's Update

Jeff Sanchez

Normally, I prefer to discuss field work occurring on Sevilleta NWR that relates to cool projects we are working on or plan to focus on in the future. However, the last few months have been extremely active for us administratively, and I would like to share with you some of the special highlights we recently participated in as well as a few staffing updates.

First of all, join me in providing a warm welcome to our newest member of the Sevilleta team, Facilities Maintenance Worker, Chris Scarborough. We are very happy to have Chris join the team! He comes with a ton of experience in construction, electrical work, road work, and even coaching high school football in Socorro. He is a respected member of the local community, which was evident when I went to lunch with him one day in Socorro and just about every person in the restaurant came and said hello. Chris is a native New Mexican, a great person and an asset to the refuge. I hope you all get a chance to

come out and meet him someday soon.

With gain there is also loss. Visitor Services lead, Jeannine Hunter, has moved on to the Army Corps of Engineers in Albuquerque. Jeannine literally built the volunteer and environmental education programs here at Sevilleta NWR and has done some amazing things for the Service during her long tenure here. Her energy and knowledge of this refuge will be greatly missed. A big congratulations goes out to Jeannine on her new and exciting career path.

I would also like to send out a special THANK YOU to Rex Myers and Susan Richards for really stepping things up and supporting the refuge Visitors Services, and the Volunteer and Environmental Education programs in the absence of a Visitor Services lead. The Visitor Center would not be open right now without their efforts, from organizing our gracious volunteers to filling in while we find some help.

And this doesn't even mention the programs they have led for Sevilleta and the support they have provided at other refuges, such as Bitter Lake NWR. Rex and Susan, we owe you one!

Another thing I would like to share is that we are in the process of hiring our new refuge Biologist for the station. At this point, I can only say that we have some great candidates on our list, which makes the decision VERY difficult, but also means we are going to have a great person here in the coming months. Honestly, making the notification phone call to all the deserving applicants who

biological priorities and make progress on our focuses.

Finally, we were recently very fortunate to host the Secretary of the Interior, Deb Haaland, and Congresswoman, Melanie Stansbury, at Sevilleta NWR. We had great discussions about the importance of Sevilleta NWR, Amigos de La Sevilleta, the Long-Term Ecological Research program, and our coordination with the University of New Mexico. We also visited the SunZia Transmission Line project. This was the first time the Secretary of the Interior has visited



Jeff with (l-r) USFWS Southwest Regional Director Amy Leuders, Secretary of Interior Deb Halland, and BLM Director Tracy Stone-Manning

were unfortunately not selected is my *least* favorite part of my job. I wish I could hire them all! Additionally, we are also in the process of flying a Wildlife Refuge Specialist position (which is like an Assistant Manager), an Administrative Officer position, and we will soon start the paperwork for a new Visitor Services lead. All positions are greatly needed at this 230,000 acres refuge, and I cannot wait to have a full team so we can really move forward, re-work our

Sevilleta NWR, so we felt honored for the opportunity to share some of this special place with a few of our high-level decision-makers.

As you can probably tell, it has been a very active several months for us here at Sevilleta NWR. I am excited for the future and the amazing things we can all accomplish here. I hope you all find some time this fall and winter to visit us and meet the new staff, as we begin to bring people on. ♦

President's Message

Colin Barnett

Refuge Visit

On August 31, Secretary of Interior Deb Haaland visited the refuge. Refuge Manager Jeff Sanchez took her on a tour and pointed out the route of the planned SunZia transmission line through the refuge. Secretary Haaland also met with the refuge staff, LTER researchers, and Amigos volunteers. As President, I had the opportunity to describe the role the Amigos plays in supporting the refuge with funding and volunteer labor. We were joined by Congresswoman Melanie Stansbury, who represents the 1st Congressional district. (The district includes most of Albuquerque and most of its suburbs.)

Both the Secretary and the Congresswoman were very friendly and engaged, taking time to chat with volunteers and staff. They also visited

Bosque del Apache and Valle do Oro, giving them a good understanding of the three middle Rio Grande refuges.

Research Experience for Undergraduates

Each summer, the UNM Research Facility at Sevilleta NWR sponsors a dozen or so college students who live on site and conduct a research project under the mentorship of a faculty member or graduate student. Two of the students are artists, who endeavor to create a work inspired by the refuge and the research done there. The NSF-funded program that brings the students to the refuge is called Research Experience for Undergraduates (REU). Dr. Scott Collins of UNM has written the multi-year grants that has kept the program going for many years.



Deb Haaland (white jacket) and Melanie Stansbury (maroon top) pose with Amigos volunteers and Sevilleta and LTER staff members in front of the Visitor Center.

In 2023, there were 15 REU's (as they are colloquially called). On August 3, they participated in a Poster Symposium. Each student created a poster summarizing their research (or art project). The students were available to answer questions. I attended the Symposium and talked to all of the presenters. I'd like to profile them here. We'll meet seven now, and eight in the next Amigos Newsletter.



[UNM Field Station](#) at Sevilleta NWR



Poster Symposium at UNM Research Facility



Sam Fertik explains his art project.



Kevin Castelluccio discusses his research with Dr. Scott Collins

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Walk for Sevilleta, Walk for the Wild

Celebrate National Wildlife Refuge Week, October 8-14. Register for free to support the Amigos de la Sevilleta NWR team. Walk in your own neighborhood anytime during the week, or join us October 13, 10 a.m. at Sevilleta for a hike. Take I-25, Exit 169. You can also make a donation to our efforts. Your financial contribution supports Sevilleta NWR directly, a place that provide some of the best birding and hiking opportunities in New Mexico.

Walk for the Wild is a national event to get people moving in support of their local national wildlife refuge. Funds raised from this event will directly support wildlife habitat conservation, hiking/nature trails, and environmental education at Sevilleta.

Sign up today to walk and support our efforts at:

<https://support.americaswildliferefuges.org/teamsevilleta>



Holding Down the Fort— I Mean the Visitor Center

Penny Lommen

At the August board meeting, we were surprised to hear that Visitor Services Manager, Jeannine Hunter, had taken a job with another government agency. Our first concern was what would happen at the Visitor Center. The initial decision was to close the VC for an unknown amount of time. The board did not want this to happen. After all, the VC is where first time visitors learn about the refuge, its history and purpose for being. After lots of consultation we decided we could be open three days a week, Wednesday, Thursday and Friday. Fortunately, several of our members agreed to work half day shifts to keep the place open. They were given a crash course in the operation of the cash register at the Nature Store as well as the daily opening, closing and cleaning routines.

I work on Friday afternoons. My duties include dry mopping both exhibit rooms, vacuuming the carpet in the Nature Store and office area and making sure that the restrooms are properly stocked. I'm also supposed to take the flag down but that's the one thing I can't do! The halyard (rope) on the flagpole is very tight and I don't have the strength to pull it free. Fortunately, our new maintenance man Chris and RV volunteer Joe are there to do it for me. Thank you so much guys! The flagpole was a Boy Scout project in 2003. Jim and I just happened to be at Sevilleta for the dedication of the flagpole and the first time the flag was raised. I never would have dreamed that 20 years later I would be responsible for lowering the flag at Sevilleta! What an honor!

I also want to thank the following people who



have stepped in to keep the Visitor Center open: Colin Barnett, Alesia Hallmark, Rex Myers, Marj Richards, Susan Richards, Allan Sauter and Joe Workman. We wish we could be open more days but at least we are still open! We don't know how long this will be for, our hope is that the Fish and Wildlife regional office will send a temporary employee to help us out. We will just have to see what happens.

The weather is changing, it's getting cooler thank goodness. Come to Sevilleta, enjoy the quiet, check out all the new merchandise in the Nature Store. Let us know that you're an Amigo. We can't wait to see you! ♦

Visitor Center hours are W-F, 8-4:30.
*Any changes to these hour
will be posted [here](#).*

Summer's RV Volunteers

Rex Meyers

Margaret Stocker

If you visited Sevilleta's Visitors Center this summer, chances are good the friendly face you saw at the desk was Margaret. After a career in the Department of Defense, the Florida native has been an RV volunteer on and off for 20 years. This is not her first time at Sevilleta – she volunteered here in 2016, and is happy to be back. "I like Sevilleta's mission to preserve nature and I really like the University of New Mexico presence at the Field Station," she says, then adds, with a smile, that the kitchen area is one of her favorite places where people gather for lunch, conversation, and water bottle refills at the ice machine. Her smile and enthusiasm are contagious.



Phil Luoma

Less visible to the public, but equally busy at Sevilleta has been Phil, who devotes most of his effort to helping fix fences, mowing, and maintaining the physical plant. One day he is driving an ATV in the back country to reach a fence break in an isolated part of the refuge, the next day he is mowing weeds and brush in the wetlands. Phil is a New Hampshire native who calls Florida home. He spent his career



in the U.S. Army, retired five years ago, and has been an RV volunteer since 2019. This is his first wildlife refuge but probably not his last. Asked what he enjoys most, he smiles and says "mowing in the wetlands. It's a beautiful area." Hike the birding trails in Sevilleta's wetlands and you can admire Phil's work. ♦

New Face in Sevilleta's Staff

Rex Meyers

Chris Scarborough



If something breaks at the refuge and you want it fixed who you gonna call? Chris. The Polvadera resident recently joined Sevilleta staff as Facilities Maintenance Worker. In the same day he could be fixing a broken toilet at the Visitors Center, repairing one of the gas pumps, off-loading new equipment, or out in the field helping with machinery. Chris worked previously at White Sands and knows this part of the Rio Grande valley very well. “Sevilleta is such a beautiful place – great views and vistas.” He then adds, “And I really like the people I work with. Great place.” Welcome to Sevilleta. We are delighted to have you on board. ♦

2023 Annual Butterfly Survey

Colin Barnett

The North American Butterfly Association (NABA) has run a Butterfly Count Program in the United States, Canada, and Mexico since 1993. The annually published reports provide a tremendous amount of information about the geographical distribution and relative population sizes of the species counted. Comparisons of the results across years can be used to monitor changes in butterfly populations and study the effects of weather and habitat change on North American butterflies.

The Sevilleta National Wildlife Refuge participates in these counts. Amigos President Colin Barnett and local butterfly expert John Wilson organized a count on August 31, 2023 (The counts are held on the same

day each year.). A team of volunteers counted butterflies around the Visitor Center and surrounding area (upland). Another team did the same down by the Rio Grande (riparian).

The results, which were submitted to NABA, are given below. 2022 results are included for comparison. It is obvious that considerably fewer butterflies were seen this year. This is likely due to the extreme drought conditions present on the refuge. Although there was some rain a few days before the count, the added moisture did not result in flowers blooming (and butterflies feeding) when the count was conducted.



Sleepy Orange (r)
and Checkered
White (l)



Amigos members Cynthia Connolly, Kelly Aldridge (with camera), and Chuck Kooshian find and record butterflies in riparian habitat.

All photos taken on the refuge are by the author.

Species	2022 Total Species 18 Total Individuals 1674			2023 Total Species 8 Total Individuals 42		
	Upland count	Riparian count	Total	Upland count	Riparian count	Total
Checkered White	149	120	269		17	17
Cabbage White	4		4		15	15
Orange Sulphur	11		11			
Southern Dogface		4	4			
Sleepy Orange	191	52	143	3		3
Cloudless Sulphur	5		5			
Dainty Sulphur	13	3	16			
Gray Hairstreak	4		4			
Western Pygmy-blue		1105	1105	1	1	2
Reakirt's Blue	15		15			
Mormon Metalmark	1		1			
American Snout	7		7			
Common Snootywing					2	2
Variegated Fritillary	1	2	3			
Mourning Cloak		2	2			
Painted Lady		10	10		1	1
Viceroy		11	11			
Monarch		33	33		1	1
Queen		31	31		1	1



Pueblo of Isleta 2023 Environmental Fair

Colin Barnett

The Pueblo of Isleta hosts an Environmental Fair each year to offer the Pueblo's residents the chance to learn about various local groups whose activities are related to the environment, such as the USDA Forest Service, Petroglyphs National Monument, NOAA, and New Mexico Wild. The three mid-Rio Grande refuges had displays at the

fair. The Sevilleta NWR table was staffed by Amigos board members Colin Barnett, Sandy Barnett, Penny Lommen and her husband Jim, and Allan Sauter. Since Isleta and Sevilleta are neighbors, it was wonderful to be able to share the refuge with the residents of the Pueblo.



2023 ENVIRONMENTAL FAIR!

Saturday July 29th 2023

10am - 2pm

Isleta Recreation Center

Environmental Education

Fun Activities

Lunch Provided

Prize Giveaways

And Much More!

For more info call
Environment Department
505-869-9814



(Continued from page 4)

Kevin Castelluccio

Mycorrhizal Fungi and Their Influence on Mortality of *Boueloua gracilis* Seedlings Under Water Stress

Kevin is a senior at Shippensburg University (PA). An avid hockey player, he founded a Street Hockey club (which is hockey played on a concrete court). Kevin keeps a terrarium with axolotyls (the very remote ancestor of his German-Shepherd Husky pet). He is particularly interested in fungi, and plans to attend graduate school to further study them.

For his project, Kevin investigated the impact of mycorrhizal fungi on the growth of two grasses that grow at the border between the Chihuahuan Desert Grassland and the Prairie Grassland. He noted that various individual plants were colonized by different communities of fungi, and asked if this difference affected the growth of the grasses. Unfortunately, despite continuous watering for two weeks, his study specimens died. He could not make any conclusions about the effect of the fungi.



In his analysis, he speculated that the seeds may have been inviable, or the tap water used for watering was not appropriate, or there may not have been enough water to keep the seeds alive. Not all scientific experiments succeed the first time; unfortunately, the internship period was too short to repeat the experiment under different conditions. Despite the inability to test his hypothesis, his poster presentation was an excellent summary of the problem, methodology, results, and analysis.



Sam Fertik

Light Transmission: Details of Plant-Environment Interface

Sam is one of the two artists among this year's REU students. He studied plant biology at the University of Vermont and is now a junior at the Rhode Island School of Design. His interest in science-centered art comes in part from his observation that scientists have, an "external focus", whereas artists have an "internal focus". Sam is an active kayaker and mushroom forager.

He is a member of the Foraging Club at his school.

Sam took microscope photographs of plants, and made artistic sketches denoting color, structure, and architecture. He created a “root” sculpture

from rebar and scrap metal that is now installed in the lab building at the UNM research facility on the refuge.



Root sculpture by Sam Fertik

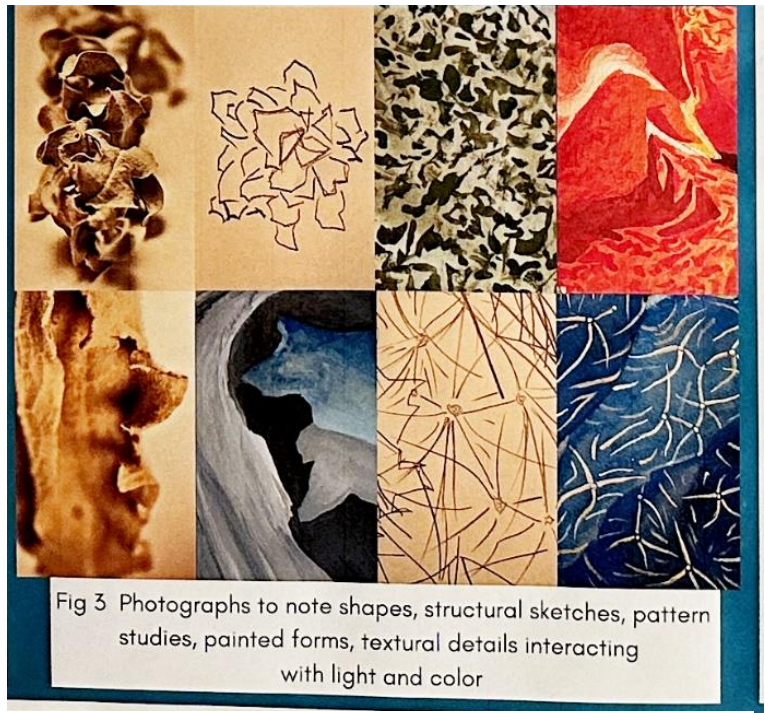


Fig 3 Photographs to note shapes, structural sketches, pattern studies, painted forms, textural details interacting with light and color

From Sam Fertik’s poster presentation



Saria Garcia

Unveiling Harvester Ants as Dispersers of Creosote Seeds in the Northern Chihuahuan Desert

Saria is a junior at Grinnell College in Iowa, majoring in biology. Before coming to Sevilleta, she spent time in Costa Rica studying the foraging behavior of tapirs. (Being fluently bilingual in Spanish helped). Saria loves to cook, and in 2020 started a small baking business.

Saria's project at Sevilleleta led to a new discovery: Harvester ants are important dispersers of creosote seeds. Prior to Saria's work, it was believed that creosote seeds were dispersed by wind and small mammals, but those dispersal methods did not seem to account for the extent of creosote's encroachment on grassland.

Saria set out petri dishes with creosote seeds near 10 ant hills, then counted the seeds remaining after 3 days. She also observed ants take seeds that had fallen from creosote bushes and attempt to access the contents.

Construction: <https://youtu.be/3Wh90REQacM>
Attacking: https://youtu.be/n58_TxwbtkA

Interestingly, it did not matter how far the petri dishes were placed from the opening of the ant hill. Whether 1, 2, 3, or 4 meters away, the number of seeds collected was statistically the same.

This relatively simple experiment yielded a significant new finding about creosote dispersal, one that was in plain sight for those who looked closely.

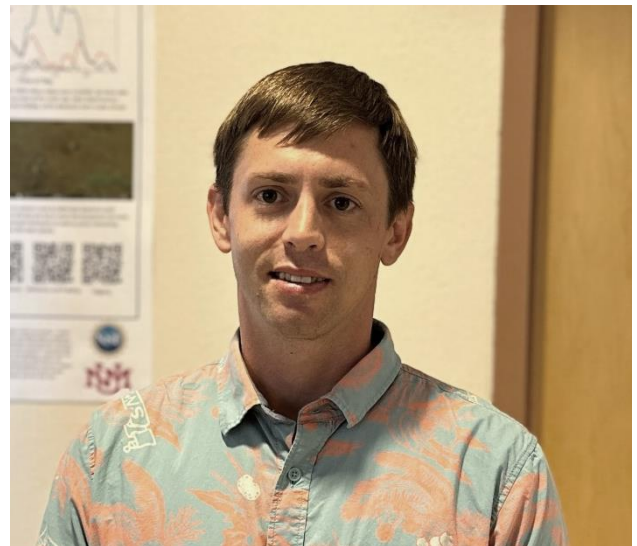
James Loomis

Burrowing Owls of the Sevilleleta National Wildlife Refuge and How They Make Their Living

James grew up in Southern California, but is now an ecology and field biology major at Pittsburgh State University. He has applied for an NSF Graduate Research Fellowship to support a future doctoral program, location undecided.

The burrowing owl has been quite successful despite agricultural and other human-generated encroachments on their populations. James decided to study their choice of habitat and diet in the more natural environment of the refuge. He found that owls primarily used kangaroo rat and prairie dog burrows. These burrows offer protection not only from the heat of the day, but also from coyote and badger predation.

To determine what the owls ate, trail cameras captured owls foraging. James also collected owl pellets. (When owls eat small animals and insects, their gizzard performs a kind of sorting operation:



Soft tissues pass through to be digested, while indigestible sharp and hazardous bits like bones, teeth, and exoskeletons are formed into an oval mass. They pass back up the digestive system and are regurgitated as a pellet. Examination of the pellet can indicate what type of food the owl has eaten.)

Prey species identified were flies, grasshoppers, locusts, crickets, wasps, bees, ants, beetles, rodents, lizards, snakes, and millipedes.

Examination of the camera data (10,000 images), showed the following behaviors peaked around midday: nest attentiveness, sunbathing, and digging. Food deliveries to the nest were made almost consistently throughout the day.



Natalie Lucero

Freshwater Turtle Diet Analysis on Sevilleta National Wildlife Refuge Using Stable Isotope Analysis

Natalie is a junior at Southern Utah University (Cedar City, UT). After graduation, she'd like to work for the US Fish & Wildlife Service. Natalie is a weightlifter, hiker, and runner, and the caretaker for her 3 dogs.

Natalie asked the question: What do turtles on the refuge eat? One way to answer this is to take samples of potential food items as well as samples of tissue from a turtle and measure the ratio of carbon and nitrogen stable isotopes in each sample. The assumption is that the ratio in the turtle sample reflects the ratio in the food items that they eat over their lifetime. If the stable isotope ratios in two different species of turtles are

significantly different, that implies that their diets are different as well, in other words, that they are eating different food types, or different proportions of food types.

Natalie looked at two species that live on the refuge: Spiny Softshell and Painted. She set out 7 traps, which she monitored for 5 days. She took tiny samples from the nails of the turtle (a non-invasive, non-harmful method). She also sampled potential food items such as, caterpillars, crayfish, damselflies, dragonflies, and various algae, grasses and cattails.

There was a clear separation in diets, supporting the hypothesis that these two species, although living in the same habitat, are not competing for food.



Signe Renstrom

A Survey of Natural and Artificial Springs in the Northern Chihuahuan Desert

Signe attends Eckert College (St. Petersburg FL), majoring in biology and environmental studies.

Growing up in Boardman, Ohio, her interest in biology was sparked by an 8th grade field trip. (Editorial note: While it may seem that teenagers on field trips are interested in anything but what the teacher wants to show them, a few will find inspiration for a career.) Signe plans to continue her biological studies in graduate school in Florida or North Carolina.

Desert springs are home to many endemic and endangered species, as well as a source of water for native flora and fauna. Drought persistence

has reduced water in these springs, so Sevilleta management has constructed artificial springs and drinkers. Signe compared water quality and invertebrate composition in both natural and artificial water sources. Plant cover in natural springs was almost 30 times greater than plant cover in concrete drinkers, and twice as great as in artificial springs. On the other hand, artificial springs exhibited greater species richness. As the refuge continues to maintain artificial water sources, Signe recommends continuous testing of water parameters.



working as a sculptor and painter, in both gauche and watercolor.

Samantha investigated the effects of removing Blue Grama and Black Grama grasses on soil characteristics such as carbon and nitrogen content, microbial biomass, and pH. During the REU time frame, Samantha was able to measure pH levels prior to grass removal. As of the end of the REU program, she had not yet completed the processing of carbon/nitrogen content or soil microbial biomass. She has remained at the refuge through the fall to complete her initial experiments. ◆

Samantha Veloz

The Effects of Dominant Species Removals on Soil Biochemistry in Two Semi-Arid Grasslands

Samantha is a senior at the University of Texas at El Paso, where she studies biological and biomedical sciences. Graduating this December, she has applied for a job as an agricultural inspector. Samantha is an accomplished artist,

At the Nature Store

Stuffies for Everyone!



Store Hours: Wednesday-Friday, 8 a.m. - 4:30 p.m.



Spectacular sky over the refuge maintenance area. Photo: M. Stocker



Visitor's Center. Photo: M. Stocker



Facebook Activity

Susan Richards

We currently have 937 followers. Recent Posts Include:

- ❖ Visit to the Refuge by the Secretary of the Interior
- ❖ Javelinas on the Refuge
- ❖ Montosa Drinker
- ❖ Walk for Sevilleta, Walk for the Wild, October 8 through 14

Contacts

Amigos web site: <https://www.amigosdelasevilleta.org>

Amigos on Facebook: <https://www.facebook.com/amigossevilleta>

Refuge web Site: <http://www.fws.gov/refuge/sevilleta>

Editor's Note

Items for consideration in the *Refuge Update* are encouraged.

Please email your submission in Word format to sdrandl72@gmail.com.

Past editions of this Newsletter are available at the Amigos website:

<https://www.amigosdelasevilleta.org/contacts>