



Bloom

*In Santa Rosa, a rare
and residents to preserve*

STORY & PHOTOGRAPHS



Town

*sunflower inspires botanists
the spirit of the ciénega.*

BY CHRISTINA SELBY

A bird's-eye view
of the Pecos sun-
flower bloom this
past September.

On a sunny day in March 2019, I drive past historic Route 66 signs and pull into the parking lot of Blue Hole Lake, in Santa Rosa.

Several visitors surround a pool of crystal-clear water, 80 feet wide and deep. Some snap pictures. One guy strips down to swim trunks for a cliff dive into the 62-degree water. This sinkhole lake, fed by an underground spring, is a famous scuba diving destination. But it also produces another marvel: sunflowers so rare that scientists have found them in only seven locations in the world.

A New Mexico State Forestry truck pulls up next to me. Daniela Roth, coordinator of the state's Endangered Plant Program, and her assistant, forester Nick Jarvis, have driven almost two hours southeast from Santa Fe.

"Ready to see the sunflowers?" she asks, pointing across the street. The water from the Blue Hole exits the lake into a straight canal, passes under the road through a culvert, and takes a meandering path through a large field of what looks like brown grass. I raise a skeptical eyebrow but agree to follow her to a nearby parking area.

We climb a metal fence with a humble sign that announces BLUE HOLE CIÉNEGA NATURE PRESERVE. This 116-acre patch of land was purchased by State Forestry to protect critical Pecos sunflower habitat from development that would drain the wetlands—one of the major threats to its survival.

"This is the only piece of property that State Forestry owns and manages for the specific purpose of enhancing the habitat for en-

dangered plants," says Roth, whose job comes with the unofficial title of state botanist.

Roth and Jarvis carry a one-meter-square quadrant of PVC pipe, a tape measure, notepads, pencils, and an iPad—the tools of modern field botany. We walk over uneven and sometimes wet ground to a metal post. Roth explains their mission for the day: to count emerging Pecos sunflower seedlings. They stretch the tape measure about 100 feet between two garden posts and place the quadrant at five random locations along the transect.

Sifting through the thick mat of salt grass, they count seedlings and note the percentage of the ground covered by plants and other species. As they move up and down the transect, Roth thinks out loud. "Is the Pecos sunflower really adapted to fire, as is commonly believed? How is it that so many seedlings are growing in the shade under the salt grass? And why

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Facing page, clockwise from top left: A western meadowlark. State botanist Daniela Roth. A spring-fed creek at the Blue Hole. Historic Route 66 still fuels nostalgia in Santa Rosa.

the heck is asparagus growing here?"

She works through her theories, looking for patterns on the ground like a crime investigator searching for clues. As a scientist, her task is to collect data related to a hypothesis. Her central question: What does this wildflower need to thrive? One of the surprising answers, it turns out, is people—the residents of Santa Rosa and those of us who visit it.

To the untrained eye, the Pecos sunflower (*Helianthus paradoxus*) looks a lot like its close and more abundant relative, the annual sunflower. To Roth, the differences are apparent.

The first giveaway is its habitat. It's found only in seven locations in New Mexico and western Texas, all of them saline or alkaline arid-land wetlands known as ciénegas. It grows up to 10 feet tall and has lighter yellow flowers than the common annual. Another signature is its leaves, which have three distinct parallel veins.

"It has its own gestalt," says Roth, the German word for *form* or *appearance* rolling easily off her tongue.

Roth herself is from Germany. She moved to the U.S. at 19, enrolled in college, and never left. "I grew up in a place where we don't have endangered plants and animals. They disappeared a long time ago," she says. "It's a



highly civilized and boring place, Germany. I find great value in places that have unique assemblages of species. It makes for a very special place.”

She started working as the state botanist in 2012, after several years at the U.S. Fish and Wildlife Service in Utah and 12 years with the Navajo Nation. “I’ve been working with endangered plants my entire career,” she says.

Although Roth often speaks softly, it’s apparent that working for decades as one of the few women in agencies dominated by men has given her a determination to use every tool at her disposal to protect the 235 rare plants in New Mexico, 109 of which are found nowhere else in the world, including 13 federally listed and 37 state-listed as endangered.

Roth took over the job from Bob Sivinski, who in the mid-1990s was the first to identify Santa Rosa’s sunflower. He listed it as a state endangered plant and then spent four years surveying wetland habitats in New Mexico as part of the federal listing process. Outside of Santa Rosa, he and others discovered additional populations, including two large stands at Bitter Lake National Wildlife Refuge, near Roswell, and La Joya Waterfowl Management Area, north of Socorro along the Río Grande.

Still, its total worldwide distribution comprises less than 400 acres. As an annual plant, its numbers can fluctuate greatly from year to year. And ciénegas have been disappearing for the past 150

years, mainly due to development. “That’s what makes the Pecos sunflower rare and endangered,” Sivinski says. “Its habitat is endangered.”

Pecos sunflowers, listed as federally threatened in 1999, are not the only rare or endangered species in this unique ecosystem. Two other state endangered plants live on Blue Hole Ciénega: Wright’s marsh thistle and Great Plains lady’s tresses orchids. There are also non-plant species in the wetland: an as-yet-unnamed fairy shrimp and a round-nose minnow. According to University of New Mexico scientist Steve Platania, this pinkie-size fish has been recognized as genetically distinct from all other known species of roundnose minnows.

The listing of the Pecos sunflower as federally threatened sparked a conservation management plan to preserve the flower’s habitat, which also benefits these other species.

In addition to creating the preserve and monitoring the sunflower population, the plan involves fencing and removing livestock, using prescribed burns, monitoring water levels, and removing invasive trees like Russian olives, tamarisks,

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and Siberian elms that shade out native plants and suck up water.

“We are trying to figure out what it takes to not only conserve this plant, but make it thrive,” says Roth. “There’s a pervasive philosophy in the conservation community that if we put a fence around an endangered species, we’re good. I don’t think I ever truly observed that with any of my rare plants. It’s not that simple.”

Possibly the most important aspect of her work is engaging residents in it. The Pecos sunflower is protected only at the preserve, but it also lives on private and city lands. “This cannot just be an island in the middle of Santa Rosa,” she says. “Everybody has to participate and take pride and ownership in the wetlands and in the sunflowers.”

In September, I return to Santa Rosa to see this side of Roth’s work in action. We pull onto Chano and Polly Robinson’s ranch, just south and across the road from Blue Hole Ciénega Nature Preserve. Their property follows the curve of El Rito Creek, which borders the preserve to the west.

The Robinsons have agreed to let Roth monitor their sunflower population. They’ve also joined State Forestry’s voluntary program to remove Russian olives. “We had the flowers for so long before we found out they were protected,” Chano says. “We have more on our property than they do across the street [on the preserve] and other places. They like it over here, either because of the alkaline water and the soil or who knows what.”

The Robinsons graze cattle and horses year-round. Roth is investigating whether that hinders or helps the sunflowers, which seem to need some level of ground disturbance to thrive. Her program

SAVING BEAUTY

Learn more about the Pecos sunflower and Christina Selby’s forthcoming documentary and photo gallery about it at savingbeautyfilm.com.

The Pecos sunflower
bloom brings new
verve to Santa Rosa.





strives to work with the community on management techniques that help the sunflower without interfering in traditional land uses.

Roth and another forester walk the property, marking trees for removal. The orange tape tells work crews where they need to be careful not to crush Pecos sunflowers, of which there seem to be millions.

“Congratulations,” Roth says to the Robinsons. “You have the best stand of sunflowers in the city of Santa Rosa.”

“It’s beautiful,” says Polly. “I love flowers, color, trees—we love all that stuff. To me this is paradise. People are always pulling in and looking at the flowers from our road. We’ve had people ask to go out and take pictures, like they are at the beach, but it’s in the sunflowers.”

Vince Cordova, who grew up in Santa Rosa and now chairs the Guadalupe Soil and Water Conservation District, partners with Roth and State Forestry to remove invasive trees on city and private lands like the Robinsons’ ranch.

“The connection between people

in this community and their land has been there for generations,” he says. “It goes back to the 1860s, when they’d say, *‘La agua es vida,’* or ‘Water is life.’ We were so separated from the rest of the world, we had to grow all our food. We’ve lost that here a bit, but there are still people that understand the importance of the land and have a strong connection to the land.”

The sunflower’s threatened state, he says, “really forced us into paying attention. For so many years, we just took it for granted that this sunflower was no different than any other sunflower. Now we are aware that this is a very unique and special plant, and we should take efforts to protect it.”

“This is what we want to have in Santa Rosa,” says Mayor Nelson Harrison Kotiar. “We want to plant flowers everywhere to bring people in to see them.”

After a lunch of chiles rellenos at Joseph’s Bar and Grill, where the walls are covered in Route 66 memorabilia and fifties music plays, I follow Roth to City Hall to meet with Santa Rosa’s mayor. Nelson Harrison Kotiar, a truck driver originally from India, welcomes us into his office with a big smile and a handshake.

He expresses his enthusiasm about meeting with “the sunflower people,” as he calls Roth and her team. Working with the local government, Roth recently secured a 25-year agreement to protect 15 acres of sunflower habitat through a conservation easement on city land now dubbed El Milagro (the Miracle).

The two bat around ideas for a new parking lot and fishing ponds at Blue Hole Ciénega that could impact the sunflower’s critical habitat, then talk about ways to expand the town’s existing ecotourism with a possible festival to celebrate the sunflower bloom in September. Roth shares her

vision of building a boardwalk trail and interpretive signs to give locals and tourists access to the preserve without anyone stepping on flowers.

Kotiar takes out his cellphone to show a picture of the superblooms in California that attract hundreds of tourists to small towns there each year. “This is what we want to have in Santa Rosa,” he says. “We want to plant flowers everywhere to bring people in to see them.”

The next week, Estela Thompson, a local rancher and high school science teacher, takes the lead by hosting her own “inaugural Sunflower Festival” at the town’s Blue Hole Dive and Conference Center. It starts with a slideshow where Thompson and her students describe life in Blue Hole Ciénega preserve to about 100 fourth and fifth graders. They flash pictures of the Pecos sunflower in bloom, as well as the Wright’s marsh thistle and the

The 116-acre Blue Hole Ciénega Nature Preserve (right) protects a unique wetland habitat for the Pecos sunflower (below). **Facing page:** Daniela Roth discusses conservation work with Santa Rosa High School students.



Great Plains lady’s tresses orchid, and explain endangered species and why they matter. Then they break into groups for activities.

“It’s extremely important that the students come to appreciate their surroundings and their community,” says Thompson. “It’s my ultimate goal to have students go into the field of conservation science and come back and work as professionals.”

Kids speed by us, engrossed in a sunflower-themed game of tag. Around the corner, small groups are on a scavenger hunt to find and identify plants, insects, and other bits of nature to classify on a poster board. Still another group votes on middle schoolers’ art that depicts scenes from Blue Hole, and high school students

paint colorful scenes of fields of blooming sunflowers.

Thompson wants to see the event grow to involve residents and tourists. “I think the flowers are an untapped resource to revitalize our economy,” she says.

Later that month, as Roth’s fieldwork winds down for the season, she stands at the edge of acres of wetland that have turned into a sea of gold. Pecos sunflowers in full bloom tower over her head. Bees and butterflies buzz from one flower to the next in a carnival of pollination. Dragonflies zip by. Songbirds chirp. The air holds the sweet fragrance of blossoms.

“This sunflower is very special among rare plants in New Mexico because it’s a very charismatic plant,” Roth says. “It’s only around for a short period of time, but it generates automatic happiness for me with its cheerfulness and abundance. To me, the sunflower here is the spirit of this place—it’s the spirit of the ciénega.” **NM**

Based in Santa Fe, Christina Selby wrote and photographed the new book Best Wildflower Hikes New Mexico (Falcon Guides), for which she had to go on a lot of beautiful hikes.

