

# El Paisano

News of the Desert, by Basin  
and Range Watch



**We are pleased and honored** to continue the long and venerable history of the newsletter of the Desert Protective Society, a publication reaching back to 1955. *El Paisano* contains the history of the California Desert, as well as information on conservation,

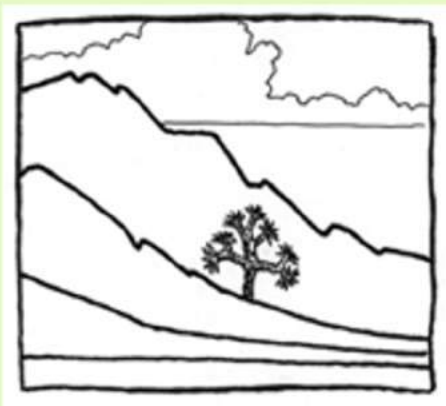
natural history, culture, art, and stories of the deserts.

In this issue we talk about the wonders of the desert, including both scientific investigations and natural history notes (and some poetry). But also conservation alerts concerning energy development, wilderness issues, invasive plants on the move, and other topics in need of action. We include a memorial to an important desert activist, whose work we hope to carry on.

Plus we present a photo gallery of wildflowers blooming in the desert. We hope you will enjoy.

## Superbloom!

Take a look at our wildflower photos on page 19 from this past spring's spectacular show.



# A Note From the Co- Founders

We are pleased to be able to continue publishing El Pasiano, with the help of Terry Weiner, Desert Activist and past staff of Desert Protective Council. We hope to bring natural history stories, photography, alerts, and conservation actions in this newsletter, and continue the work of past editors such as Harriet Allen in their work to preserve the deserts.

—Kevin Emmerich and Laura Cunningham

" A vast  
expanse of  
desert  
spreads out  
before me,

stretching across the Salton Sea and the Chocolate Mountains, a dark line undulating across the horizon. I come to places like this to touch base with something that seems more real and lasting than our human-manufactured world."

—Lawrence Hogue, *All the Wild and Lonely Places*



Joshua tree near Goldfield, Nevada.

# The Desert



Above, Silurian Valley, Inyo and San Bernardino Counties, California. Below, the trail leading into Salt Creek Area of Environmental Concern.



“What tongue shall tell the majesty of it, the external strength of it, the poetry of its widespread chaos, the sublimity of its lonely desolation. And who shall paint the splendor of its light: and from the rising up of the sun to the going down of the moon over the iron mountains, the glory of its wonderful coloring”

--John C. Van Dyke, *The Desert, Further Studies in Natural Appearances*, 1918.

# The Death Valley Re-Survey

By Laura Cunningham

The University of California, Berkeley Museum of Vertebrate Zoology is conducting a survey over the same routes that pioneering zoologists took decades ago, or even more than 100 years ago. I got to volunteer and tag along.



A little pocket mouse (*Perognathus longimembris*)

See this link at the Museum of Vertebrate Zoology: <http://mvz.berkeley.edu/Grinnell/>

Joseph Grinnell, the founding Director of the Museum of Vertebrate Zoology (MVZ), and Annie Alexander, the Hawaiian sugar heiress who endowed the MVZ and chose Grinnell as Director, realized that California was changing rapidly.



Rodents were live-trapped in a 4-night re-capture study at each site. On the right, a Merriam's kangaroo rat (*Dipodomys merriami*) sits on my notepad.

# The Death Valley Re-Survey



Dr. James L. Patton, emeritus professor of integrative biology and curator of mammals at the Museum of Vertebrate Zoology at the University of California, Berkeley, checks rodent live trap transects in Sarcobatus Flat, Nevada.

The endowment of the Museum of Vertebrate Zoology was fortuitous, as its mission to survey the West in great detail with scientific rigor formed an immense database of field notes, specimens, surveys, photographs, and other information about the fauna of California and other areas that would form a baseline for comparison during changing climates and landscapes.

I had taken Jim Patton's class in Mammalogy in the 1980s and thoroughly enjoyed it. So I was eager to get out into the field and see how the re-survey was accomplished.

For four days in a row Jim and his wife Carol camped in remote areas following carefully researched field notes from the early years of zoology to locate previous sites. Four traplines with 40 traps each covered a maximum of habitat diversity, and they were checked twice daily.



Long-tailed pocket mouse (*Chaetodipus formosus*), common in rocky soils. It is a seed eater.

## The Death Valley Re-Survey

Rodents were recorded for species, age, reproductive status, sex, and any other information found useful, and usually released. Each was marked with a felt-tip color that would wash off later, and recaptures were noted. A statistical analysis would reveal population information.

During the week we found plenty of Deer mice (*Peromyscus maniculatus*), in all sorts of habitats. Jim called them the "bear of the mouse world"—they will eat seeds, green leaves, even insects—a broad array of foods like an omnivore.

Two species of kangaroo rat were common: the Merriam's kangaroo rat (*Dipodomys merriami*) and the chisel-toothed kangaroo rat (*D. microps*). The Merriam's kangaroo rat has a broad range and is more common. It has four toes on its hind foot. The chisel-toothed kangaroo rat is slightly larger in size and has five toes on its hindleg. They tend to climb into shadscale saltbushes (*Atriplex confertifolia*), scraping off the salt with their chisel-shaped incisors, in order to dine on the pulp of the leaves. They range into other habitats, so the exact function of the chisel-shaped teeth is unknown.

Desert woodrats (*Neotoma lepida*) were fairly common.



Merriam's kangaroo rat, above, has pointed incisors; below, chisel-toothed kangaroo rat (*Dipodomys microps*) incisors. These "K rats" were released back into the wild and they hopped off.

# The Death Valley Re-Survey

Like a minute Greater Yellowstone Ecosystem out in the northern Mojave Desert, herbivorous and seed-eating mice are preyed upon by the "wolf" of the rodent world: the little Southern grasshopper mouse (*Onychomys torridus*). We caught a few, mostly in open shrub areas and rocky hill lines. They hunt other mice and kill them with their sharp incisors, and also let out a shrill "howl" that is audible out in the desert scrub.



In the Spring of 2017 trap success was 80%—very good for such surveys, indicating a good year for rodents after plentiful winter and spring rains.

Another thoroughly documented benchmark of biological survey data was completed for future comparison.



The fierce Southern grasshopper mouse runs off into the desert after a live trap capture, above. Left, a deer mouse leaps off, one of the most abundant rodents here. Below, a Merriam's kangaroo rat pauses next to my jeans before returning to its desert home.



# Nevada Test and Training Range Pushes Ahead to Expand Over Desert National Wildlife Refuge

**December 18, 2018** - The Air Force released its draft Legislative Environmental Impact Statement that proposes a huge land withdrawal across public lands in southern Nevada managed by the Bureau of Land Management and US Fish and Wildlife Service.



Congress will eventually decide the fate of these deserts and forested mountains, as well as the large desert bighorn sheep herd in the Desert National Wildlife Refuge north of Las Vegas.

Approximately 300,000 acres would be withdrawn from public management and enclosed in the Nellis air range.



**Air Force Requirements**

- Test and Evaluation
  - NTR provides a variety of configurations for advanced threat systems (i.e. radars, threat emitters)
  - Provides combat-representative targets and buffer zones
  - Infrastructure available to measure and record critical Time-Space-Position Information
  - Ability to reproduce complex electronic warfare environments

A presentation slide titled "Air Force Requirements" with a blue background. It features a list of requirements under the heading "Test and Evaluation". To the right of the text are four small images: a jet flying in the sky, a radar antenna on a tower, a large satellite dish, and a ground-based testing facility with various equipment.

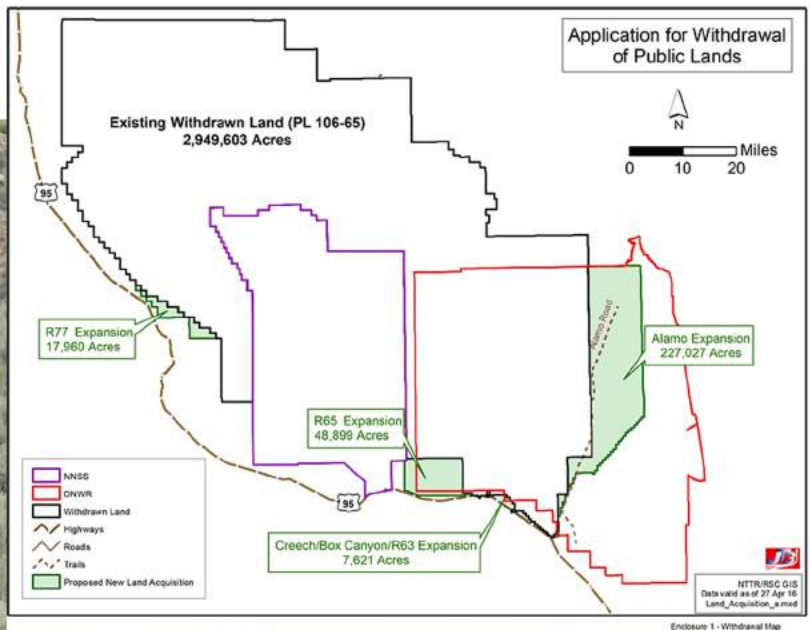


# We support: Alternative 1 (the Status Quo)

We strongly support the status quo, with no changes to the current NTTR boundary. More efficient use of time and resources could alleviate some training congestion. Perhaps the Memorandum of Understanding that was renewed in 1997, under the Military Land Withdrawal Act, between the US Air Force and US Fish and Wildlife Service could be revised to allow increased use of air space. Writing Congress will be crucial here to convince lawmakers, after the Record of decision is signed. **Stay tuned for Action Alerts.**

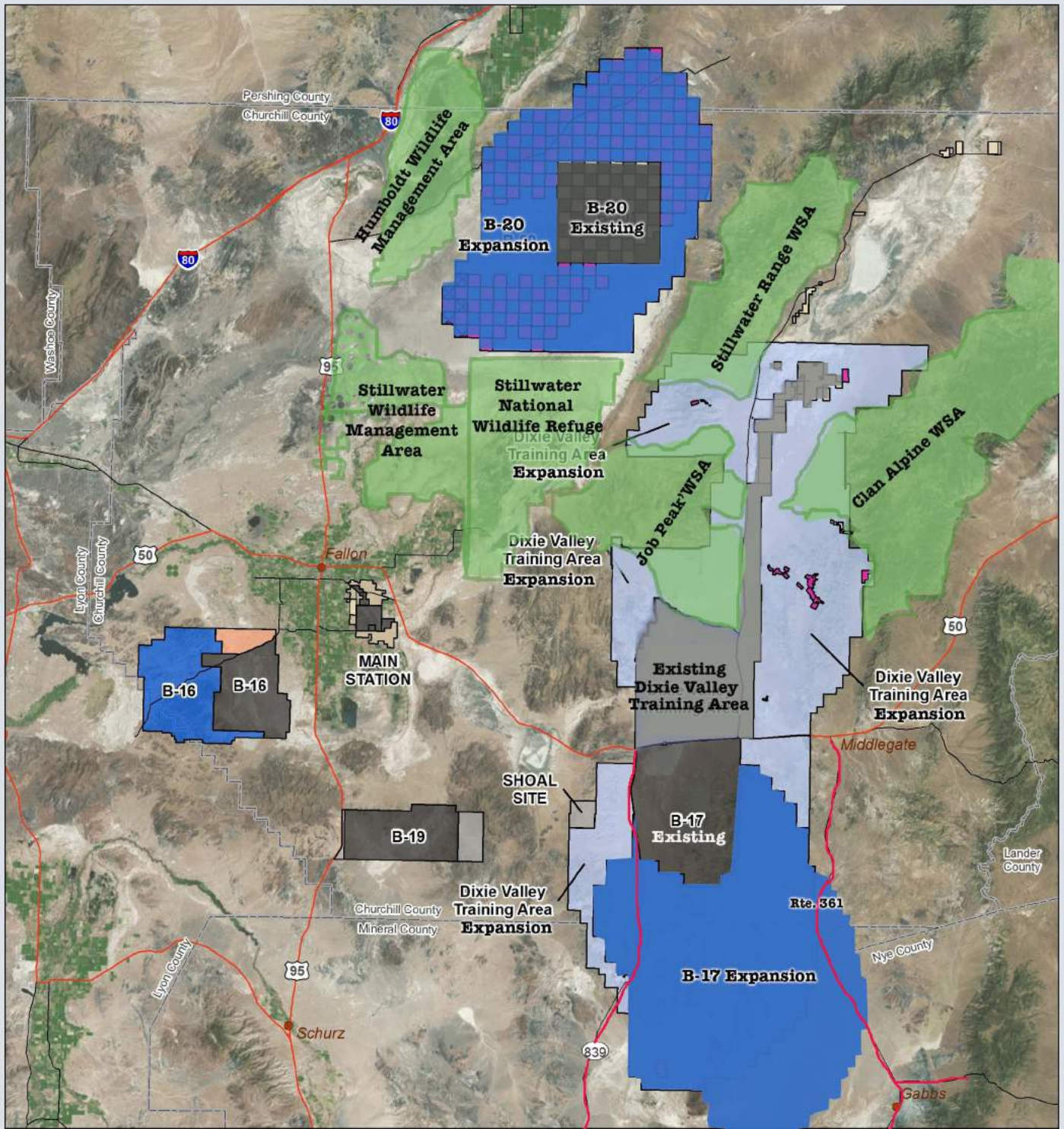
For more background on this issue see our website at:

[www.basinandrangewatch.org/Military-Base-expansion](http://www.basinandrangewatch.org/Military-Base-expansion)



Left, map of proposed land withdrawals. Below, herd of desert bighorn sheep.

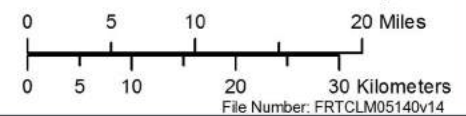




**Legend**

- Cities
- Highway
- Major Road
- County Boundary
- Existing Withdrawal from BLM (Closed to the Public)
- Existing Withdrawal from BLM (Open to the Public)
- Existing Withdrawal from BLM (Open to the Public - Proposed Closed to the Public)
- Proposed Withdrawal from BLM (Proposed Closed to the Public)
- Proposed Withdrawal from BLM (Proposed Open to the Public)
- Non-Federal Land (Proposed Closed to the Public)
- Non-Federal Land (Proposed Open to the Public)
- Navy Owned Land
- Parcels Managed by United States Fish and Wildlife Service (Stillwater National Wildlife Refuge Complex)

Proposed FRTC Modernization Overview



File Number: FRTCLM05140v14

Map showing present bombing ranges in gray, proposed expansions in blue, and Wilderness Study Areas in green--that would be eliminated.

# More Military Expansions: Fallon Range Training Complex Modernization



December 19, 2018 - Central Nevada - The US Navy proposes to transfer over 700,000 acres of public land to the military range at Fallon and they will bomb sage grouse habitat, pronghorn habitat, desert bighorn sheep, and Wilderness Study Areas. The bombs will leave toxic residue. Wilderness Study Area designations locally would apparently be recommended for removal by Congress. Potentially over 60,000 acres of private property will need to be taken too. See the Navy's information page here: <https://frtcmodernization.com>

The Department of the Navy has prepared and filed with the United States Environmental Protection Agency a Draft Environmental Impact Statement (EIS) to evaluate the potential environmental impacts of modernization of the Fallon Range Training Complex (FRTC), Naval Air Station Fallon, Nevada, to include renewing the current public land withdrawal, expanding land ranges, expanding and modifying airspace, and upgrading range infrastructure. Parts of Stillwater National Wildlife Refuge would be taken.

Unlike the Air Force plan to expand the Nevada Test and Training Range, this is not a Legislative EIS. Rather, the Undersecretary of the Navy would sign the Record of Decision. Congress must fund the expansion, however, so again we need to write Congress and ask them not to fund this gigantic land grab.





## **Nevada Land Grab.**

Landscapes threatened by the Fallon Naval Training Complex proposed giant expansion: parts of Stillwater National Wildlife Refuge (above), Clan Alpine Range (left), Job Peak (below).



# Sahara Mustard Invasion!

This highly invasive plant arrived in southern California in the 1980s, and has been gradually spreading northwards and to new areas of the Colorado and now Mojave Desert.

Warm rainy winters allowed it to get a foothold in the Mojave National Preserve, first seen in study plots in 2013.

It is very difficult to remove—if it is cut the stump will sprout new stems and re-flower. It must be pulled by the root. But as a triage measure for the large numbers (hundreds of acres in Round Valley, for example), mowing and mass-cutting are being tried to simply get ahead of the invasion.

"Weed warriors" – armies of volunteers have worked on some of the mustard patches in Anza-Borrego Desert State Park.



With drier winter conditions during 2018 there may not be enough rainfall to sprout the thousands of seeds lying in the ground this spring in the Mojave National Preserve, but we will have to see.

The minute seeds can be carried on tires and equipment into new areas of the desert when developers blade new roads, another reason we oppose largescale energy and transmission projects over undisturbed desert ecosystems.

# Crescent Peak Wind Project Canceled!



Castle Peaks in Mojave National Preserve, California, seen from the Nevada side of the state line.

The Bureau of Land Management (BLM) Las Vegas Field Office in early December issued a statement canceling the Right of Way for the proposed Crescent Peak Wind Project in November. This decision came from above—an official letter from a deputy Secretary of the Interior was obtained by Freedom of Information Act (FOIA) request by Basin and Range Watch, explained that the area was high in resource values, hunting, recreation, and mining resources. We credit a push by grassroots activists and local hunters in writing letters to the Department of the Interior, as well as comments by conservation groups. The National Park Service also pushed to protect the adjacent Castle Mountains National Monument and Mojave National Preserve. A true win for nature.



The proposed wind project would have sprawled over 35,000-acres of public land. As many as 220 large wind turbine generators standing at over 400 feet (and one proposal had them at 700 feet) right next to one of the most scenic areas of the East Mojave Desert, were proposed.

Vast undisturbed East Mojave desert grasslands and Joshua tree woodlands cover the Hart Mountain area. A huge wind project proposed for this place would have created many new roads and developments.



The area is rich in Mojavean-Sonoran desert grasslands and Joshua tree woodlands, and may hold gila monsters. Archaeological sites (including pictograph sites) and historic ranches are present. The native plant diversity here is unusually high.

The Interior letter cited raptors, a high number of golden eagle nests, desert bighorn sheep usage, and even bat populations, in its reasons for canceling the application.

This is a rare day when conservationists can celebrate the protection of a beautiful piece of desert. Now we are working to bring further protection to the area.

# Yellow Pine Solar Project Proposed for Desert Tortoise Habitat



A large-scale photovoltaic solar project is proposed on Bureau of Land Management desert in southern Pahrump Valley, Nevada, on very good desert tortoise habitat. It will be developed in the recently approved Stump Spring Desert Tortoise Translocation Area – designated for displaced tortoises from other development regions and urbanization.

But on field visits we found high biodiversity here, including Mojave yuccas, Joshua trees, desert horned lizard lizards, and even a desert night lizard living in old yucca trunks.

We do not support bulldozing this prime Mojave Desert scrub full of life, to construct utility-scale solar projects. We are commenting on the environmental review process, and telling public land managers that this is not an appropriate site.



Check our website  
[Basinandrangewatch.org](http://Basinandrangewatch.org)  
for more information

We found these reptiles on the project site: Desert night lizard (*Xantusia vigili*) above, and desert horned lizard (*Phrynosoma platyrhinos*) below. These lizards, and numerous tortoises, would be killed if this solar project is allowed to be built here.

Photovoltaic Solar Plants





# Gemini Solar Project

Another poorly-sited renewable energy project proposed on prime Mojave Desert habitat on public lands.



The Bureau of Land Management (BLM) is starting review of the [Gemini Solar Project](#) - a 7,000 acre photovoltaic solar facility that would be located on the entrance road to Valley of Fire State Park, Nevada. This is a Scenic Byway in Clark County next to the Muddy Mountains Wilderness Area.

The project site has microphyll woodlands: catclaw acacia (below left), desert willow (below right), and honey mesquite. Tortoises are abundant here, and in 2013, the Moapa Solar Project across the basin on the Moapa Reservation excavated 157 tortoises before construction to translocate. This project will be over 3 times larger.

The rare Threecorner milkvetch (*Astragalus geyeri* var. *triquetrus*) grows here--will populations be destroyed by grading this desert for energy? Photo below courtesy iNaturalist.



# Desert Colors in Death Valley National Park



A colorful little Side-blotched lizard (*Uta stansburiana*). We see these lizards every month of the year in Death Valley on warmer days when the sun is out.

**How is the wildflower season shaping up?** The 2018 winter rains so far have dumped snow on the Sierra but missed Death Valley due to the rainshadow effect. (Although check out that rain pool in the playa in Panamint Valley, above, from February 2017.) We'll need a good wet January to produce wildflowers in February and March. We'll keep you posted.

We do find, however, some perennials in bloom even during the mild winters here: Chuckwalla's delight yellow flowers (*Bebbia juncea*), with Painted lady (*Vanessa cardui*) sipping nectar (lower left); Death Valley sage (*Salvia funerea*) is also in bloom (lower right).



# Centerfold: Desert Wildflower Show Memories

The 2016-2017 winter and spring was a wet rainy one over much of the Colorado and southern Mojave Deserts. Death Valley did not receive the amount of rain that it did in the El Nino the previous year, but still enough for a late bloom.

Other parts of the California Desert received very large amounts of rain from an "Atmospheric River" effect that brought storm after storm in from the Pacific.



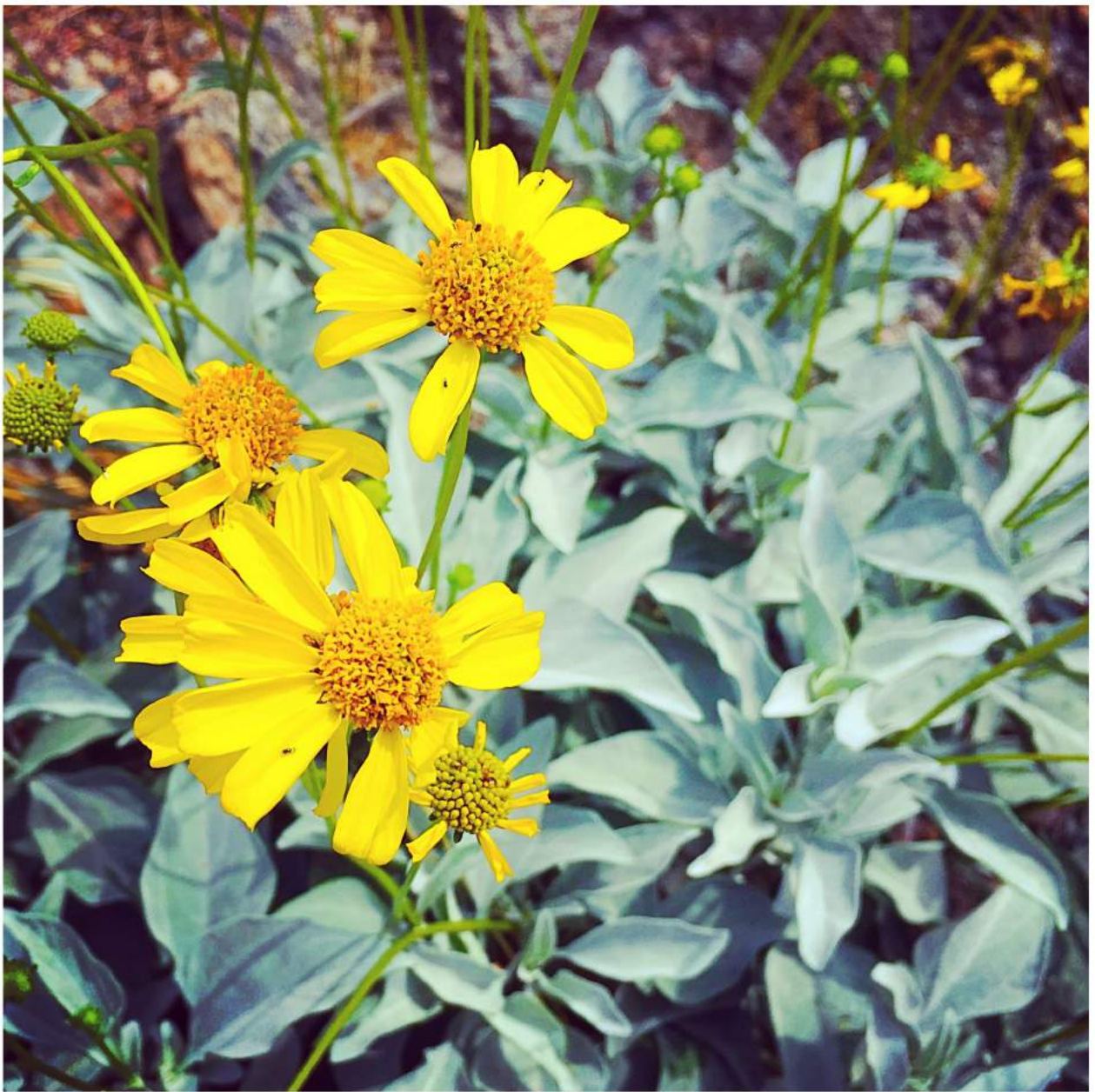
Left, mariposa lily (*Calochortus* sp.). Right, gravel ghost (*Atrichoseris platyphylla*). Below left, hawk moth (family Sphingidae) feeding on pincushion flowers.





Upper left, desert five-spot (*Eremalche rotundifolia*). Upper right, Mojave aster (*Xylorhiza tortifolia*) in the Amargosa Desert of Nevada. Below left, pink mariposa lily (*Calochortus* sp.) in Sarcobatus Flat, Nevada. Below right, desert chicory (*Rafinesquia neomexicana*).





The Colorado Desert of California had a phenomenal bloom of brittlebush (*Encelia farinosa*). We have never seen the flowering bushes so extensive. Here in the Sacramento Mountains. 2017.



Left, beavertail cactus (*Opuntia basilaris*), Sacramento Mountains CA. Above, giant four O'clock (*Mirabilis multiflora*), New York Mountains, Mojave National Preserve CA.



Below and right, desert star (*Monoptilon bellioides*) covering the desert around Fenner CA.





Above, the giant flowers of the silverleaf sunray (*Enceliopsis argophylla*) at Lake Mead National Recreation Area, NV, related to the similar plant in the Panamint Mountains. Right, sand verbena (*Abronia villosa*) at Ibex Dunes, Death Valley National Park CA.



# From the Mojave Desert Sketchbook

by Laura Cunningham

JULY 31, 2017  
OASIS VALLEY - YARD, NV.

ROADRUNNER ON ITS DAILY  
ROUNDS HUNTING FOR LIZARD  
& MICE.



A COOPER'S  
SWOOPS IN! HAWK



THEY ROLL  
& TUMBLE  
BRIEFLY  
IN A FIGHT



ROADRUNNER  
GETS AWAY  
RUNS OFF.  
COOPER'S FLEE  
AWAY.





# In Memoriam: Susan Luckie Reilly

By Terry Weiner



Susan Luckie Reilly was a long-time Twentynine Palms resident and a passionate desert defender. Her father, Dr. James B. Luckie, was a Pasadena physician who sent his WWI veteran patients to Twentynine Palms to recover from their combat-damaged lungs. Many of the patients recovered in the clean dry air and working with homesteaders in the area. They stayed and helped establish the community.

Susan was born June 22 1916 and died in Twentynine Palms on her 101<sup>st</sup> birthday.

After earning a BA degree in social sciences in 1938, Susan continued to take courses in her favorite subjects of plant classification and desert ecology. Her father built a vacation home in Twentynine Palms that year and this became the house where Susan lived since 1965, the year she started work as a seasonal ranger-naturalist at what was then Joshua Tree National Monument.

Susan greeted visitors, led wildflower hikes in the park and developed her life-long love of the desert.

In 1969, Susan became aware of the Edison Electric Company's plan to build a long-distance high-powered transmission line from Bullhead City's coal fired power plant through the entire Morongo Basin to the Devers substation in the Coachella Valley.

Susan alerted her neighbors along the route and they formed the Morongo Basin Scenic Committee which shortly evolved into the present-day Morongo Basin Conservation Association (MBCA).

[continued on the next page]



## Susan Luckie Reilly, continued

It took 11 years of fighting but with Susan as a driving force, and with Basin-wide residents uniting to defend their desert, they defeated what would have become a double row of giant steel towers supporting huge 500Kv lines that would have opened the Basin as a transmission corridor that could have been widened in future years.

**“I’ve been an activist for years. I’ve opposed power plants, polluting industries and waste dumps in the desert. You can’t just sit back and watch things go to heck.”**

--Susan Lucky Reilly

Susan continued her work with the MBCA and maintained a close relationship with Joshua Tree National Park. Throughout her life, she continued to weigh in on local land use issues, speaking at public meetings and writing letters to the editor.

In 2004, Susan Luckie Reilly was awarded the first annual Minerva Hoyt Desert Conservation Award, which recognizes extraordinary stewardship of the desert and in 2013 received a Woman of Distinction Award from Congressman Paul Cook.

As an advocate of solar energy, Susan installed a photovoltaic solar array on her roof that generated a large part of her electricity. She also used a solar water heater.

Susan loved singing and bird-watching and writing. She wrote articles about birds and poems about the natural world and the wonders of the desert.



On her 100th birthday in 2016, Superintendent David Smith congratulates Susan at Joshua Tree National Park.

As a legacy to her beloved Joshua Tree National Park, Susan bequeathed her home and land to the Park to be used as a research center. In a press release July 23 2017, Joshua Tree National Park Director David Smith said: “Susan was an inspiration for a generation of young women seeking roles in conservation and land management. She was an amazing neighbor, a great teacher, and a friend to all of us who love Joshua Tree and the California Desert. I am thankful to have been able to know her”.

On July 8<sup>th</sup> her family, friends and admirers gathered for a Memorial Celebration at Copper Mountain College in Twentynine Palms. Rest in peace, Susan and thank you for being a guiding light on our mission to protect our deserts.

# Teddy Bear Cactus

I saddle my big dog, Brindle  
with the two-sided blue  
backpack, knit it tight  
around his gut, cinch it

together around his chest.  
He rubs against boulders,  
trying to scrape it off,  
he carries all of our water

and shrugs the weight  
away, seeing the coyote  
watering hole and too fast  
he jumps across a cholla

cactus as dozens of maced,  
needlepointed fists grab  
onto the soft places on him.  
Three hours later, we've

extracted the pain from  
his fur and long tongue,  
from my friend's hands,  
using needlenose pliers.

Indians traced this path  
for centuries without dogs,  
seamlessly navigating  
the narrow uphill trail  
we climbed, forgetting.



*Cylindropuntia* is a genus of cacti (family Cactaceae), native to the deserts of the southwestern United States and northern Mexico. They are known for their barbed spines that tenaciously attach to skin, fur, and clothing. Stands of cholla are called cholla gardens, and also known as “teddy bear” cactus for their appearance. Individuals within these colonies often exhibit the same DNA as they were formerly tubercles of an original plant.

**Ruth Nolan**, M.F.A., M.A., is an author based in the Coachella Valley near Palm Springs, CA and a former firefighter for the BLM California Desert District. She is professor of English and desert literature at College of the Desert, editor of *No Place for a Puritan: the Literature of California's Deserts* (Heyday Books 2009), and *Ruby Mountain* (Finishing Line Press, 2016).



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Panamint Range >



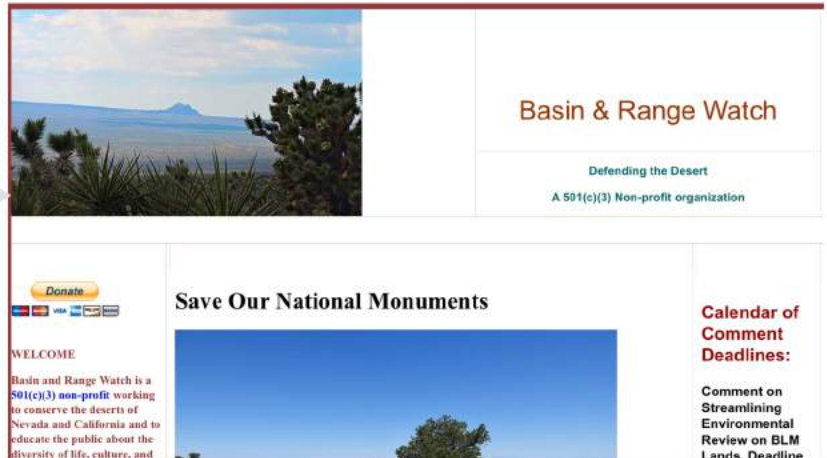
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Instagram

And on Twitter,  
Facebook, and our  
YouTube channel.

## The charcoal

**kilns at Wildrose in the Panamint Mountains of Death Valley National Park, were completed in 1877 by the Modock Consolidated Mining Company. They excluded air to reduce wood in a firing process down to charcoal, which burned hot and were shipped to smelters in the Argus Range for lead-silver processing. They were only used a few years until closer charcoal sources were found.**

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## El Paisano

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**Next Issue:** Special on rooftop solar, Distributed Energy Resources (DERs), advanced battery storage, and how to make any Green New Deal compatible with desert conservation.

