



## Year of the Superbloom by Glenn Keator, PhD

Richard Dickey



Katie Eskridge

Temblor Range, Carrizo Plain National Monument, April 2017. Flowers include: common hillside daisy (*Monolopia lanceolata*), desert candles (*Caulanthus inflatus*), tansy-leaved phacelia (*Phacelia tanacetifolia*), and San Joaquin blazing star (*Mentzelia pectinata*).

Left: Desert candles, Carrizo Plain, April 2017

Seldom do we see a superbloom in California's wildlands, but the year 2017 provided an unprecedented mix of heavy and long-lasting rains ending a series of droughts and bringing forth unimaginable botanical wealth from the earth. This issue of *Manzanita* celebrates this phenomenon by visiting myriad areas of superbloom from the normally sparse southern deserts like Anza Borrego Desert State Park and the similarly drought-ridden Carrizo Plain National Monument near the San Joaquin Valley to coastal regions of central and northern California and, continuing in the same vein, the alpine and meadow regions of the Sierra Nevada and other high mountains.

For us botanists, one of the most fascinating aspects of a superbloom year is to witness which plant taxa respond with resplendent quantity and diversity and which

# MANZANITA

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Your membership in the *Friends* of the Regional Parks Botanic Garden supports the important work of the garden in educational programs, conservation, and horticultural experimentation. Funds raised by the *Friends* help provide long-term financial security for the garden as well as new facilities and programs.

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Please make all checks payable to the Regional Parks Foundation; note whether for *Friends* membership, gift, or Endowment Fund; and send to:

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The Board of the *Friends* generally meets at the Visitor Center in the Regional Parks Botanic Garden the second Wednesday of the month at 10:00 AM. All members are welcome. Call ahead to verify meeting date and time.

## FOR INFORMATION:

About the *Friends* and membership: 510-544-3169,  
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About becoming a garden volunteer or docent: 510-544-3169

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Forked fiddleneck (*Amsinkia furcata*) at Tumey Hills, western Fresno County, February 2017

taxa are relatively unexceptional. Timing and other factors rendered some regions, especially in southern California, unimaginably magnificent, while other areas appeared average. So, for example, two northern hotspots—Table Mountain near Oroville in the northern Sierra foothills and Bear Valley east of Clear Lake—experienced nice but rather average displays.

As the immense snowbanks melted, alpine conditions also brought forth stunning displays—we have included a photo from the mountains as well as a few others from around the rest of the state.

The following list includes some of the outstanding taxa I've noticed in my travels through the state:

- **Desert gold** (*Geraea canescens*), an annual sunflower relative that turned the desert gold.
- **Common hillside daisy** (*Monolopia lanceolata*), providing the golden tapestry of another sunflower relative on the hills and flats around Carrizo Plain.
- **Larkspur** (*Delphinium* spp.) represented in many habitats in abundance.
- **Phacelia** spp. with various common names, prolific throughout southern California, with its contrasting purples and blues to offset the gold of the sunflower genera.
- **Godetias and clarkias** (*Clarkia* spp.), painting the grasslands in shades of pink and purple in the foothill regions.
- **Birdcage evening-primrose** (*Oenothera deltoides*) and relatives, displaying huge fragrant white flowers in the deserts along with . . .
- **Desert sand-verbena** (*Abronia villosa*), whose magenta and rose-purple flowers made a filigree around the primroses and desert gold.
- **Desert candle** (*Caulanthus inflatus*), often sparse or restricted, but this year abundant



Peter Ralston



Brittlebush (*Encelia farinosa*), Anza Borrego, March 2017

in both the Temblor and Caliente ranges, mountains bordering the Carrizo Plain on the east and west, respectively.

- **Blazing stars** (*Mentzelia* spp.), golden and yellow annuals that massed around the other wildflowers of the Temblor and Caliente ranges and elsewhere.
- **The desert lily** (*Hesperocallis undulata*), a fragrant white-flowered bulb, often meager or missing in years of poor rainfall, but this year abundant in the sands of the desert.
- **Tidy tips** (*Layia* spp.), daisies with all yellow, white, or white-tipped yellow flowers by the thousands in both southern and northern California.
- **Calochortus** spp., including mariposa- and globe-tulips in a wide range of colors and color patterns, abundant in woodlands and grasslands throughout the foothills.

- ***Triteleia* and *Dichelostemma* spp.**, members of the corm-bearing brodiaea group, creating drifts of white, purple, blue, and yellow in open woodlands and grasslands in the foothills.
- **Scarlet fritillary** (*Fritillaria recurva*) and **St. Helena fawn-lily** (*Erythronium helenae*), two bulbs that graced the burned areas in the central inner Coast Ranges.

As with any list, this one simply hints at the whole picture and should be expanded to include flowers of the high country.

It has been an exciting, exhilarating year to remember. 🌱

*Glenn Keator is chairman of the Friends Advisory Council. He is a popular instructor of botany and field trip leader in the Bay Area, and he teaches the docent training course at the Regional Parks Botanic Garden. He is the author of a number of books on native plants.*

## ANZA BORREGO



Entrance to Rainbow Canyon, Anza Borrego, March 2017. Flowers include brittlebush. "It was spectacular beyond my photographic abilities."

Wendy Gollop and Alan Bade





Henderson Canyon, Borrego Springs area, San Diego County, March 2017. Flowers include birdcage-evening primrose, (*Oenothera deltooides*), desert sand-verbena (*Abronia villosa*), and desert gold (*Geraea canescens*).

Both photos by Bart O'Brien



Among the largest state parks in the nation, Anza Borrego Desert State Park lies at the far west end of the massive Sonoran Desert and, unlike its Arizona counterpart, seldom experiences summer rain. This year heavy rain visited the area in winter, turning the ground green between the usual shrubs, then bursting into glorious bloom as temperatures warmed. So well publicized was this event that up to 20,000 visitors could be seen at the peak of flowering, but many parts of the park away from the Visitor Center provided great spates of color without the crowds.

Bart O'Brien



Dianne Frstrom



Connie Bauer at Anza Borrego, March 2017

# ANZA BORREGO

Bart O'Brien



California barrel cactus  
(*Ferocactus cylindraceus*),  
Anza Borrego, March 2017



Bart O'Brien

Indigo bush (*Psoralea schottii*),  
Anza Borrego, March 2017



Katie Eskridge



Beavertail (*Opuntia basilaris*) in bloom, Joshua Tree, March 2017

# JOSHUA TREE

Dee Shea Himes



Dune food (*Pholisma arenarium*), Sheep Pass Group Campground, Joshua Tree, May 2017.  
This hard-to-find plant was spotted on the last day of our CNPS Santa Clara Chapter field trip. Finding and seeing it was even better than seeing the superbloom! Soon after finding this cluster, a few more clusters showed up. This cluster was by far the best specimen.



Mojave desert star (*Monoptilon bellioides*), Joshua Tree, April 2017

Rosie Andrews



# CARRIZO PLAIN



Allison Kidder

San Joaquin blazing star (*Mentzelia pectinata*), Carrizo Plain, April 2017



Allison Kidder

Tansy-leaved phacelia (*Phacelia tanacetifolia*), Carrizo Plain, April 2017

**CARRIZO PLAIN NATIONAL MONUMENT** Famous for being one of the last remnants of the desertic San Joaquin Valley, Carrizo Plain lies just west of the valley over the steep, sparsely vegetated slopes of the Temblor Range. It often seems a barren wasteland dominated by saltbushes (*Atriplex* spp.) around alkaline Soda Lake. The heavy rains brought forth many of the expected wildflowers, as well as masses of ordinarily uncommon species like desert candle (*Caulanthus inflatus*) and Parry's mallow (*Eremalche parryi*) in nearly unheard-of numbers. So vivid was the display, said to be visible from space, that it brought hordes of visitors for several weeks.

Temblor Range, Carrizo Plain, April 2017. Flowers include common hillside daisy, tansy-leaved phacelia, and a stand of desert candle in distant right.

Richard Dickey







Northern section of Carrizo Plain,  
April 2017  
Pete Veilleux

Common goldfields (*Lasthenia gracilis*) and dense-flowered owl's clover (*Castilleja densiflora* subsp. *densiflora*) at the corner of Soda Lake Road and Cornell Road, Carrizo Plain, April 2017. From this vantage point we caught the last glimpse of the superbloom before heading to La Panza to find more wonders.

Dee Shea Himes

In many areas grasses grew unusually tall, crowding out the wildflowers, but neither Anza Borrego nor Carrizo Plain ever had a plethora of grasses. In a similar vein, moderate grazing in grassy areas allows a more spectacular bloom than if those areas are left ungrazed.







## CARRIZO PLAIN

Allison Kidder



Temblor Range east of Carrizo Plain, April 2017. Foreground flower is Parry's mallow (*Eremalche parryi*); yellow flowers in the distance are the common hillside daisy (*Monolopia lanceolata*).





Carrizo Plain, several miles west of Soda Lake, April 2017. Flowers include common hillside daisy (*Monolopia lanceolata*), pink jewelflower (*Caulanthus anceps*, formerly *Guillenia lemmonii*), tidy tips (*Layia platyglossa*), Great Valley phacelia (*Phacelia ciliata*), and fiddleneck (*Amsinckia* sp.)

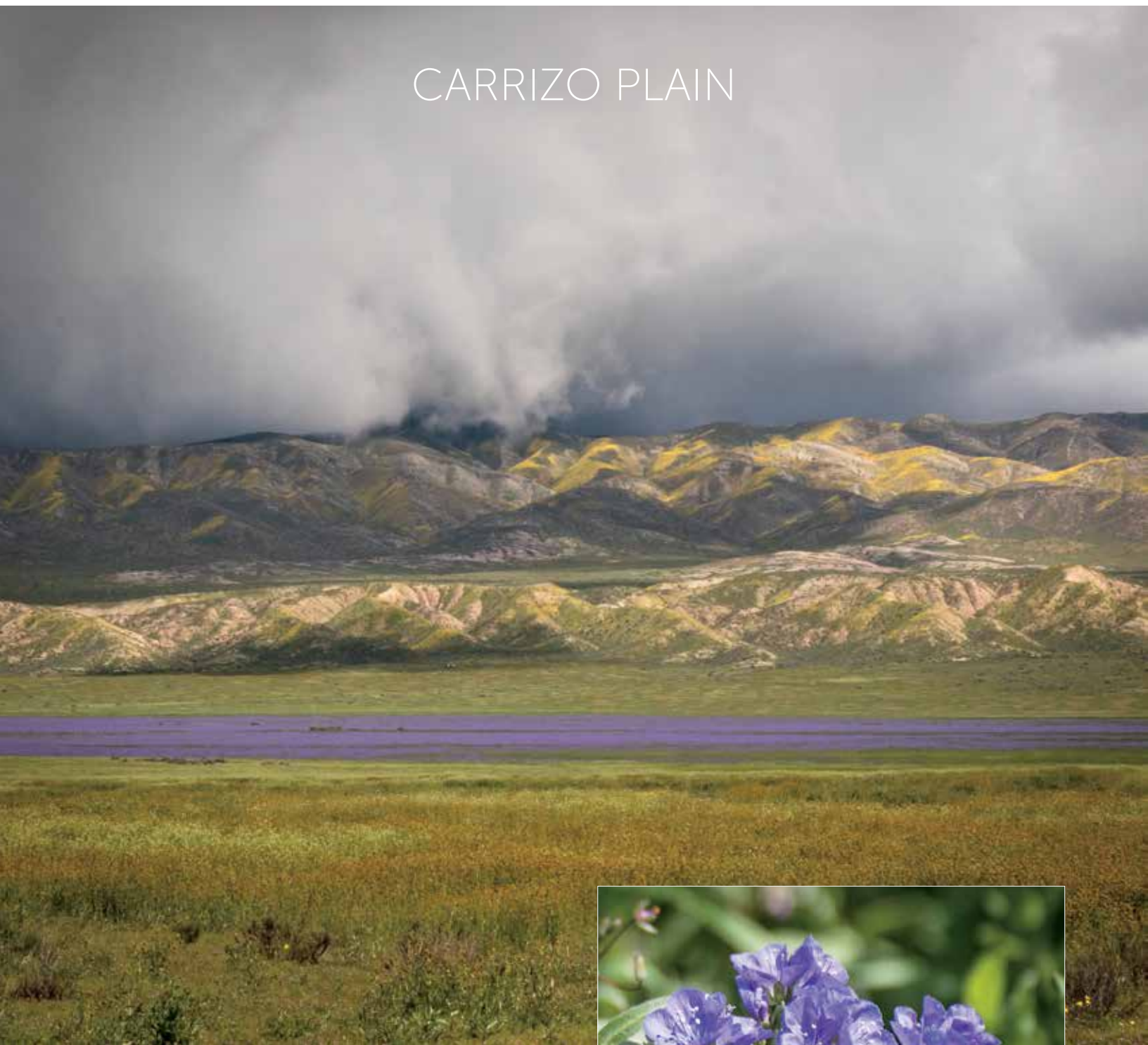


Temblor Range, Carrizo Plain, April 2017. Flowers include common hillside daisy, tansy-leaved phacelia, and San Joaquin blazing star.

Richard Dickey



# CARRIZO PLAIN



Carrizo Plain, March 2017. Approaching the National Monument from the south, I was surprised to see a lake. Was there so much rain this winter that Soda Lake extended this far down the plain? But wait, the lake wasn't blue, it was purple—it was a "lake" of phacelias (*Phacelia ciliata*).

Both photos by Arlyn Christopherson





Alkali flat near Simmler Road, Carrizo Plain, April 2017. In the far distance, from left to right, are the Temblor Range, Soda Lake, Caliente Range. Foreground flowers are leafy-stemmed tickseed (*Leptosyne calliopsidea*), and distant pale-yellow flowers are tidy tips (*Layia platyglossa*). Inset photo is leafy-stemmed tickseed.

Inset photo by Allison Kidder



Allison Kidder

Tansy-leaved phacelia, Temblor Range, Carrizo Plain, April 2017. Blue and purple flowers have occasional white variants.



# FROM COAST TO PRAIRIE



Allison Kidder

Seaside woolly sunflower (*Eriophyllum staechadifolium*), Montaña de Oro, San Luis Obispo County, June 2017

Ruby chalice clarkia (*Clarkia rubicunda*) at Mori Point, Pacifica, June 2017. A very rewarding hike to end a glorious superbloom spring.

Dee Shea Himes





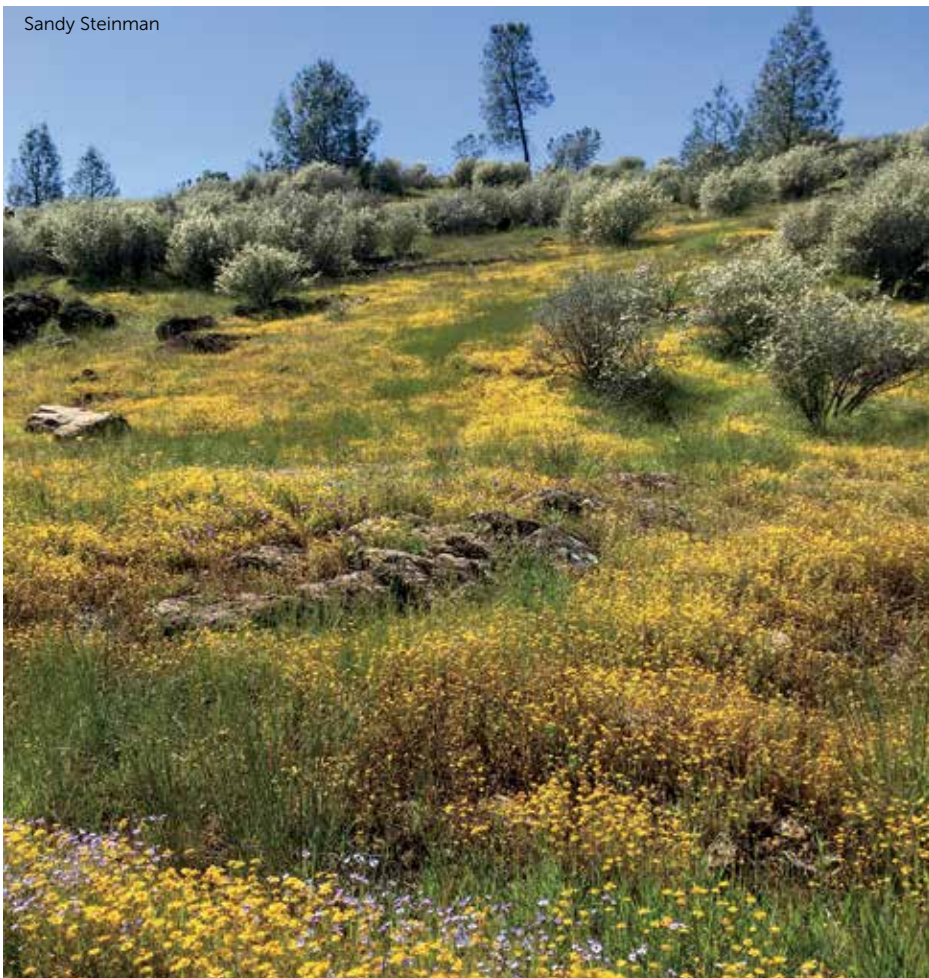
Alan Kaplan



Fremont's goldfields (*Lasthenia fremontii*), Jepson Prairie, April 2017

Formed by spring rainfall, vernal pools are often great places to view wide swaths of wildflowers. This year the vernal pools at Jepson Prairie were filled with a tapestry of aptly-named California goldfields (*Lasthenia* sp.), punctuated with smaller flowers such as butter-and-eggs (*Triphysaria eriantha*) and downingia.

Sandy Steinman



Red Hills Road in Sierra foothills near Chinese Camp, March 2017. Flowers include goldfields (*Lasthenia* sp.) and bird's-eye gilia (*Gilia tricolor*), with buckbrush (*Ceanothus cuneatus*) in the background.



Butter-and-eggs (*Triphysaria eriantha*), Jepson Prairie, April 2017  
Pattie Litton



Bach's downingia (*Downingia bacigalupli*), Sierra Valley, June 2017  
Dianne Fristrom



Bridges's triteleia (*Triteleia bridgesii*), Bidwell Park, Chico, April 2017  
Alicia Springer





Dylan Neubauer

Shevock's onion (*Allium shevockii*), Tehachapi Mountains, Kern County, April 2017



Vernon Smith

Cream cups (*Platystemon californicus*), Mount Burdell Open Space Preserve, Marin County, February 2017



Emerald Canary

Male flowers of the tanbark oak (*Notholithocarpus densiflorus* var. *echinoides*), Castle Crags, July 2017. This shrub form of tanbark oak is common in the Klamath area, but I had never seen it in glorious flower.



Vernon Smith

Large variegated clover (*Trifolium variegatum* var. *major*), Point Reyes National Seashore, North Beach area, May 2017



Glenn Keator

On the trail to Winnemucca Lake near Carson Pass, August 2017. Flowers include meadow paintbrush (*Castilleja miniata*), mountain pennyroyal (*Monardella odoratissima*), and sulfur buckwheat (*Eriogonum umbellatum*).



Glenn Keator

Lindley's blazing star (*Mentzelia lindleyi*), Mines Road, Santa Clara County, May 2017



Wendy Gollop and Alan Bade



Pine fritillary (*Fritillaria pinetorum*), lower Hilton Creek Trail from Crowley Lake near Tom's Place, May 2017



Asano Fertig and Jim Apriletti

Tiburon mariposa-lily (*Calochortus tiburonensis*), Ring Mountain, Tiburon peninsula, June 2017. Members of California Habitat Indigenous Activists (CHIA) went on a hike specifically to find this Ring Mountain endemic. CHIA is a group of volunteers that plant and maintain native plants on a BART right-of-way pathway in Berkeley between Peralta and Gilman Streets.

## RANDOM BEAUTIES THROUGHOUT CALIFORNIA



Glenn Keator

Dark pink form of California prickly phlox (*Linanthus californicus*), Highway 58 just east of Santa Margarita, April 2017



## A Brief History of the Seedy Friends *by Susan Agnew*

**H**ave you ever wondered where that box of seeds in the Visitor Center at the Regional Parks Botanic Garden comes from? Well, it comes from a group of avid California native seed collectors known as the Seedy Friends who decided to make available to the public seeds collected mostly from the Botanic Garden as well as from their own gardens and other sources.

In the mid-1990s, Jeanne Ateljevich, the founder of the Seedy Friends, was inspired to share California native seeds after she took a class on California native plants taught by Glenn Keator, a well-known Bay Area botanist, author of many books on California natives, and a frequent contributor to the *Manzanita*.

In 2000, the initial Seedy Friends group—Jeanne, Jo McCondochie, Celia Ronis, Carrie Sprague, Irene Winston, Gert Allen, and Wen Hsu—met at the garden to collect seeds. According to Jeanne, “Wayne [Roderick, the second Garden director] used to say that he went out to collect with his *seedy friends*, so I just copied that,” and thus the Seedy Friends was born. Susan Agnew volunteered to make labels for the seed packets, labels which described botanical name, native habitat, and seed treatment for propagation. The seed packets sold for 50 cents apiece.

Jeanne Ateljevich kept the seed inventory and led the seed collecting, cleaning, and packaging meetings until January 2011, when Susan Agnew took over. Susan checks with the gardeners at the Botanic Garden about which seeds can be collected, calls meetings, and keeps track of the Seedy Friends box and seed inventory. Dolores Morrison, Susan Ashley, and Wendy Gollub are currently collecting seeds along with Wen Hsu and Susan Agnew from the original group.

Over the years more than 500 different species and subspecies of native plant seeds have been available in the box. Usually, seeds of about 150 different species are available, but what is in the box varies, depending on the season and the year. Most years there is a good crop of Pacific madrone (*Arbutus menziesii*) seeds, although none were available in 2014. In that same year, for the first time ever, eight different liveforever (*Dudleya*) species were included in the box. On occasion, freshly gathered seeds have been available that need to be sown fresh, such as giant trillium (*Trillium chloropetalum*), brook wakerobin (*Pseudotrillium rivale*), and wild ginger (*Asarum caudatum*) in summer, and Dehesa beargrass (*Nolina interrata*) in early fall.

Before 2003, the Seedy Friends box was in the Visitor Center only on Sundays and Mondays, but the seeds

Susan Agnew



Materials used for preparing the seed packets for the seed box: sieves of many sizes, paper plates, and a dissecting microscope for finding the tiniest seeds. The old *Jepson Manual* has horticultural information, and Emery's *Seed Propagation of California Native Plants* is our main resource for seed treatment tips on the packets.





Distinctive feather-like seeds of the cliffrose (*Purshia stansburyana*)

View came my way. “That’s Steve’s seed,” I was told. “That means get it right!” [Steve Edwards was Director of the Regional Parks Botanic Garden at the time.] The envelope was opened and out fell a pile of feather-like material entwined with twigs and tiny green leaves. *Cowania* (now *Purshia*) seeds are amazing in their structure: three achenes with feathers are contained in a cup-like structure and have to be gently removed; it’s very necessary not to sneeze or even breathe during the process. One and a half hours later an untidy pile of achenes was ready to be packaged. Feeling very proud I was ready to leave. . . .

Early goals of the group were to keep germination records and develop a resource of seed information, but those goals were never met. Instead, Jeanne wrote up a seed treatments reference handout that is available alongside the seed box, and the Seedy Friends encourages gardeners to keep their own records.

There is something deeply satisfying about collecting seeds, and even the tedium of cleaning seeds can be enjoyable when it is done in a group where you can share gardening and plant stories. And it’s wonderful to be able to make seeds available that people may not be able to get from anywhere else other than the Botanic Garden! 🌱

were always available at the April and (now) October plant sales and at garden symposia and special events, thanks to Jeanne Ateljevich, Jo McCondochie, and Jean Jackson. More recently Susan Ashley has taken over the task of bringing the seed box to events and answering questions about growing natives from seed. Since January 2014, the seed box has been available in the Visitor Center every day that the garden is open, and it takes about 1,000 packets a year to keep it stocked! The suggested donation per packet has risen from the original 50 cents to \$3.00 today. The donations go directly to the Botanic Garden.

The Seedy Friends is an informal gathering of folks who enjoy collecting and cleaning seeds and exchanging information about native plants as they work. Jo McCondochie’s description of cleaning seeds at a Seedy Friends meeting in 2003 says it best:

I joined the group to sharpen my seed cleaning techniques and what a pleasure it was! The first envelope contained *Lilium pardalinum*, and that was easy-peasy to clean; next an innocuous looking envelope marked *Cowania* from Grand

#### Jeanne’s “Paper Towel on the Desk” method of germinating seeds:

1. Write plant name and number of seeds on a sheet of paper towel.
2. Moisten the towel, spread seeds on it, roll it up gently, and put it in a sandwich bag on the desk (room temperature).
3. As seeds start to germinate (the seed coat swells and splits open as the radicle starts to emerge), carefully place seeds in a four-inch pot, about 20 per pot, and cover it or not as needed, under a grow light on the desk.
4. When the little plants get true leaves, they can go out to the greenhouse and get potted up.

*Susan Agnew has volunteered at the Regional Parks Botanic Garden since she took the docent class in 1999. She worked at the garden as a student aide from 2006 through 2010, and has taken many horticulture classes at Merritt College and Diablo Valley College.*



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Thanks to all the talented photographers who shared their superbloom photographs with us. Even at twenty pages, this issue did not provide nearly enough space to print all the beautiful submissions. But you can find more superbloom photographs on the *Friends* web site at [nativeplants.org/manzanita](http://nativeplants.org/manzanita).

Caliente Range, East of Carrizo Plain, April 2017

Pete Veilleux

