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FREMONTIA

JOURNAL OF THE CALIFORNIA NATIVE PLANT SOCIETY

INSPIRATION AND ADVICE
FOR GARDENING
WITH NATIVE PLANTS

FREMONTIA

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California Native Plant Society

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CALIFORNIA NATIVE PLANT SOCIETY

*Dedicated to the Preservation of
the California Native Flora*

The California Native Plant Society (CNPS) is a statewide nonprofit organization dedicated to increasing the understanding and appreciation of California's native plants, and to preserving them and their natural habitats for future generations.

CNPS carries out its mission through science, conservation advocacy, education, and horticulture at the local, state, and federal levels. It monitors rare and endangered plants and habitats; acts to save endangered areas through publicity, persuasion, and on occasion, legal action; provides expert testimony to government bodies; supports the establishment of native plant preserves; sponsors workdays to remove invasive plants; and offers a range of educational activities including speaker programs, field trips, native plant sales, horticultural workshops, and demonstration gardens.

Since its founding in 1965, the traditional strength of CNPS has been its dedicated volunteers. CNPS activities are organized at the local chapter level where members' varied interests influence what is done. Volunteers from the 33 CNPS chapters annually contribute in excess of 97,000 hours (equivalent to 46.5 full-time employees).

CNPS membership is open to all. Members receive the journal *Fremontia* three times a year, the quarterly statewide *CNPS Bulletin*, and newsletters from their local CNPS chapter.

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THE COVER: A west-facing slope with excellent drainage and ideal climate in this Berkeley garden provides the perfect match for chaparral plants, including flannel bush (*Fremontodendron californicum decumbens* 'Pine Hill') and Hooker's manzanita (*Arctostaphylos hookeri*), along with a few non-native Mediterranean shrubs. The plant forms and textures create a design that is both pleasing to the eye and restful, and reminds one of nature in the wild. Photograph by Stephen Ingram. Design by Lutsko Associates, San Francisco.



Native plant gardens should be easy, uncomplicated places to experience. Simple designs are best, as in this planting of the hybrid matilija poppy (*Romneya* 'White Cloud') and deer grass (*Muhlenbergia rigens*). Inset photo: With flowers over six inches across, the 'White Cloud' Matilija poppy is a real show stopper. All photographs by the author.

WHY USE NATIVES?

by Mike Evans

Three factors should lead us merrily down a path toward more and better native plant gardens in California. We have available to us books overflowing with information, as well as articles, websites, meetings, confer-

ences, and native plant sales. We have plentiful living examples of residential and public gardens, botanic gardens, and demonstration gardens. Lastly, there is a pervasive awareness throughout the state of the need for conservation and sus-

tainability. In California we are fortunate to have ample know-how, actual living proof, and the collective desire to do the right thing. Yet some still ask, "Why use natives?"

Consider: Every plant is native somewhere. All the exotics in our

ornamental landscape hail from some land, near or far. For the most part they thrive here, but not without lots of help. California is renowned for its near perfect climate, and the gardening recipe is simple: Plant just about anything, and add plenty of water. Our extravagant gardens and our world-class horticulture are notable because of our unbeatable climate, but are made possible primarily by ample irrigation.

In short, plants from all over the world tend to grow quite well here and are readily available in our nurseries. Unfortunately, some manage to (accidentally) escape and become weed problems in natural areas, which is a big problem, but a separate topic. The dilemma in using many exotics is that they are not adapted to our climate and require artificial life support. There are also what are commonly referred to as “Mediterranean” plants, which are promoted for water conservation because they are adapted to hot, dry summers and mild to cool, wet winters, much like the climate of our California floristic province. However, only natives provide the truly sustainable benefit of an integral connectedness to the local ecology. Only natives are in perfect sync with our weather, our soils, and our wildlife species. Regionally authentic native plant landscapes conserve water and other crucial resources.

SENSE OF PLACE

The name California came from a fictional island paradise called California in the romance novel *Las Sergas de Esplandian* (*The Adventures of Esplandián*) by Spanish author García Ordóñez de Montalvo. Those early explorers thought the “island” they had discovered resembled the beautiful location described in the story. Our coastlines, foothills, valleys, deserts, and mountains are unequaled. California exudes natural beauty and even our plant species,

when considered one by one, are among the prettiest in the world.

So here’s a phrase to ponder: “Sense of Place.” It speaks to our engagement with the natural and cultural features of our surroundings. One of our nation’s champion thinkers, Wendell Berry, says if you don’t know where you are, you don’t know who you are. Another famous writer, Wallace Stegner, echoed a similar sentiment when he said we must “learn to acquire the sense not of ownership but of belonging.” These ideas emphasize our place in the natural environment.

But do our experiences in the man-made environment also influence our perception of where and who we are? Are we molded by the places where we spend our time? Winston Churchill is famously quoted as saying, “First we shape our buildings, then they shape us.” If our experience in the garden is at all similar, we’ll want to create landscape designs and usable outdoor spaces that reflect California’s natural beauty. This is how we cultivate a healthy relationship between ourselves and our environment, and find out who we are. Good native gardens offer personal definition.

REGIONAL INTEGRITY

Natives in the landscape represent a very honest approach to our outdoor aesthetic. Rather than pasting together a crazy quilt of unrelated plant types, we achieve success by carefully joining companion plants to create a cohesive whole. The plants combine well together while fitting into the larger local context, that is, the region and its unique natural features, and the design expresses a unique regional integrity.

As a general rule, an aesthetically pleasing garden derives its beauty from simplicity. Nature is complex, but not complicated. Naturalistic garden design puts the best of nature on display, showcasing the natural world in a small space, not



Native plant gardens can elicit a sense of wonderment in kids of all ages when they engage with nature.

unlike a framed California plein air painting. In gardens and potted trees half a world away, the Japanese enjoy international renown for their wonderful miniaturized landscapes. Many interpret and emulate their own brand of nature, using only Japanese plants, designing what are essentially native plant gardens.

CONSERVING RESOURCES

Conserving resources is not just about water. Sure, water is the big attention getter, but lots of outside resources get poured into (and then flow away from) many gardens. Consider fertilizer, pesticides, runoff into storm drains, green waste and costly trips to the dump, and noise, fuel use, and its resultant pollution from trucks, mowers, and blowers. In addition, massive pumps are required to transport irrigation water thousands of miles via canals and pipelines.

Now try to estimate the actual costs of such resources, both monetary and environmental. Exotic landscapes can be expensive to maintain in more ways than one, particularly when the exotics selected are not drought tolerant. Next, imagine a native plant garden that will thrive on little or no supplemental irrigation and will not demand such vigorous maintenance. Sustainability is



TOP, BEFORE INSTALLATION: The character of a small front yard will be made “wild” and “natural” with boulders, rocks, and mounded soil. • BOTTOM, AFTER INSTALLATION: As the native plants mature, the garden becomes a miniature ecosystem as beneficial pollinators, lizards, frogs, and many bird species move in.

more than just a buzzword or a concept in the world of native plants.

HABITAT VALUE

It has been said, “If you plant it, they will come,” and many a gar-

dener has found this to be true. A proper assemblage of natives in the landscape will always work to attract wildlife including beneficial pollinators, hummingbirds, songbirds, and other “fellow mortals” (to borrow a term from John Muir.)

Natives do this best. It’s a matter of building naturalistic gardens and thereafter enjoying the results, which only get better with time.

SPECIES APPRECIATION

A surprising number of California’s native plants are categorized as rare, threatened, or endangered. Our flora is so unique, and in many cases our modern impacts have been so severe, that various species are living on the brink. Many enjoy special protected status, and a strict “hands off” policy will allow them to survive in the wild over the long-term.

But some rare plants commonly available in native plant nurseries are propagated only from horticultural sources. A few examples include bush anemone (*Carpenteria californica*), Nevin’s barberry (*Mahonia nevinii*), and Morro Bay manzanita (*Arctostaphylos morrensensis*). By including these threatened species in our native gardens, we increase awareness and concern for big-picture conservation, and also give others the opportunity to become familiar with and appreciate these individual species.

However, if you choose to include rare plants in your garden, be certain that they have been propagated by nurseries and not merely collected, in order to avoid impacting wild populations. This is especially true for ferns, succulents, cacti, bulbs, or any plant type that could be easily uprooted and moved into a container for sale. This unethical and in many cases illegal activity is not conducted by any reputable nursery, so responsible sellers will be happy to answer your questions regarding propagation techniques, sources, or plant origins. You can often detect the difference between a rough old “collected” plant growing in soil, and a vigorous nursery-grown plant in potting medium. The question is valid for all natives in containers, but especially rare species.

HORTICULTURAL SUCCESS

Aside from the sound philosophical and ecological considerations mentioned above, we find a genuinely pragmatic answer to the “Why use natives?” question. Simply stated, natives work. Since native plants are perfectly adapted to our climate, soils, and seasonal effects, when properly selected and combined in the landscape, they tend to do quite well, in many instances “naturalizing” on site. There’s no mystery here. Environmental factors affect plant growth, and natives are suited for use in the land of their origin.

ENGAGEMENT

Imagine for a moment a sunny day in mid-May. For months the rains have been generous, and today’s puffy white clouds punctuate a brilliant sky. You’re walking from your car toward the entrance to your local public library on a winding path of decomposed granite. A few boulders here and there accent the edges. The breeze makes the moment seem perfect. However, the landscaping here wasn’t always like this. Before the redesign, a concrete sidewalk cut straight through a big lawn, and tidy hedges marked your way on both sides. A few flowerers tried hard to survive in a planter by the door. The old setting was all too familiar.

But today you stop to absorb the moment. Greeting you is a new garden, planted on low undulating mounds, revealing interesting surprises at each turn. The composition is simple and you are reminded of a hike you took last summer. All your senses awaken to the subtleties of the smells and sounds. A scrub jay announces its presence from atop the roof. A pair of butterflies weaves a mating dance, fluttering over a red-flowered buckwheat (*Eriogonum grande* var. *rubescens*) at the top of one of the mounds.

Deer grass (*Mulenbergia rigens*)



A completely self-sustaining residential native plant landscape that demonstrates the importance of proper spacing. The white globe mallow (*Sphaeralcea fulva* ‘La Luna’) and Cleveland sage (*Salvia clevelandii*) are fast growing woody plants. Given room, they will flower beautifully and attract many beneficial pollinators.

dominates the landscape with tall flower stalks swaying rhythmically on the air. A lizard suns itself, clinging to a big rock, and on closer inspection you spot a second one doing pushups behind a live-forever (*Dudleya* sp.). Foothill penstemon (*Penstemon heterophyllus*) is in full bloom and you immediately think of hummingbirds. Of course, there’s one right there! You smile and notice a few goldenrod plants (*Solidago velutina* ssp. *californica*) tucked away in all the right places. Their bright flowers will come later, to proclaim the fall season.

White sage (*Salvia apiana*) push vigorous flowering stems high above their glaucous leaves, reminding you again of last season’s good rains. A swallowtail butterfly seems happy to visit each and every one in search of nectar. Then you see another. Suddenly your eye is drawn away to a solitary stand of matilija poppies (*Romneya* ‘White Cloud’) against the

building. The huge white flowers, yellow centers, and delicate bright petals declare quintessential California. The jay squawks again and disrupts your reverie; you proceed about your business.

No other landscape could invite you to engage at this heightened level, with all your senses, including anticipation, imagination, and memory. Only a naturalistic design connected to the local environment can provide healing and wellness to the land, the wildlife, and especially to us, the humans. Why use natives? The answer is simple. They help to restore our environment, and by bringing a snapshot of nature up close to us, native gardens provide a genuine connection to California’s wild places.

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More and more water districts are hiring designers to create demonstration gardens illustrating what property owners can do with their own home landscapes to save water. All photographs by the author.

WHERE TO BEGIN: ADVICE FOR DESIGNING YOUR NATIVE PLANT GARDEN

by Rob Moore

As I look out across Southern California's vast suburban landscape on a brisk December day, a tune from my childhood echoes through my mind, "The Times They Are a-Changin'." After decades of drought, California is settling into its "new normal" and almost 50 years later, the iconic Bob Dylan track rings true as ever.

The state's water districts and homeowners have realized that the days of allotting 60% of a monthly household's water to irrigate landscaping are over. Increasingly, people are beginning to ask, "What do we do now?" As it turns out, California's

"new" landscape just happens to be its oldest—the flora that has graced California's deserts, mountains, valleys, foothills, and coastal plains for thousands of years. If we take our cues from this reality, answering this question becomes relatively easy. Growing up in the eastern foothills of San Diego County, I developed a deep and abiding appreciation for California's native landscapes. And like many folks today, I longed for a solution to what I perceived as the ongoing destruction of our natural open spaces.

As fate would have it, the plants I had loved so much in my childhood are not only being propagated

at places such as Tree of Life Nursery in San Juan Capistrano, Theodore Payne Foundation in Los Angeles, and Las Pilitas Nursery in San Luis Obispo, but have been available all along for purchase. If native plants could talk, they'd probably tell us they've just been waiting all this time for homeowners to begin planting them in their gardens.

CHALLENGES FOR BEGINNERS

As a landscaper who specializes in designing native plant gardens, I often hear the following story: "My

husband and I are trying to save on water, so we killed our lawn and have added a few native plants to our yard, but we have no idea where to go from here. We're ready to do our whole front yard and need help figuring things out." Re-landscaping your property with traditional nursery plants itself can be complicated, but with natives it's a whole new ballgame. Like so many others, these folks have taken a leap of faith in beginning to use native plants, and have suddenly hit their first big obstacle.

At this juncture, a good first step is to call the phone number on your water bill and inquire about the availability of turf rebate programs. Many water districts offer incentives to homeowners who are interested in conserving water. The availability of rebates and the rebate amount will vary, but it's still always worth the effort to investigate. In fact, it's not uncommon for such rebates to be substantial enough to cover the costs of landscape design plans.

Converting one's home landscape to a native garden requires a different mind-set. Significant challenges that we, as advocates of California's native flora, have to overcome include the common (and understandable) misconceptions that have been perpetuated by our society's "import plants" mentality. People are used to seeing an artificially green California—a landscape of sweeping lawns, year-round flowering plants, golf courses, and streets lined with palm trees. Neighbors can sometimes be put off by what they perceive as a yard full of "weeds."

Those who have lived outside of California realize that natural landscapes have a dormant season. Our state is the only one in the U.S. with a Mediterranean climate, which means our flora's dormant season occurs during the summer, unlike most other areas where dormancy occurs in winter. If aesthetics are a priority, it's important to take into account the placement of summer

deciduous plants, and keep to a regular biannual maintenance program.

IMPORTANCE OF EDUCATIONAL OPPORTUNITIES

Another valuable resource for the homeowner is educational opportunities. Even if you are planning on hiring a professional, getting educated is critical for long term success with a native landscape.

Most people start out by attending classes offered through their local water district, local arboretum or botanic garden, or native plant nursery. Workshops and lectures on native garden design and native plant horticulture are great places to start. Some nurseries such as Tree of Life in Orange County even offer mini-consultations with local landscape designers at a minimal cost. This is a great way to connect with industry professionals who will be happy to guide you in the right direction. You're guaranteed to walk away with lots of useful tips and information

on how to proceed with the development of your new landscape.

As important as education is for the homeowner, it is also important for the general public. An easy and fun way to address this issue is by registering a new or existing native plant garden with the National Wildlife Federation's Certified Wildlife Habitat Program (<http://www.nwf.org/CertifiedWildlifeHabitat/UserAccount/SignIn>). You'll learn the basic elements of a wildlife habitat, and for a nominal fee will receive an official NWF Certified Wildlife Habitat sign that you can post in your garden. Soon you'll have neighbors and dog walkers stopping by to ask about it, at which time you can briefly explain how your garden provides all the necessities of a wildlife habitat.

Demonstration gardens are another, often overlooked resource. More and more water districts are hiring designers to create demo gardens that illustrate what residences in their districts can do with their own home landscapes to save water. These gardens also offer the oppor-



Demonstration gardens are an often overlooked educational resource for the homeowner to see native plant design options up close and personal. This is the Juan Sanchez Adobe House located in Montebello, CA (diagram of the house and landscaping design appears on page 6).



Combining natives with existing non-native plants is a perfectly acceptable option when designing or upgrading your landscape. In this photo, the evergreen and medium-textured *Pittosporum* species (center left), although non-native, blends seamlessly with recently added native plant species including two sage cultivars (*Salvia* 'Aromas' and *Salvia* 'Skylark'), penstemon species, coastal sagebrush (*Artemisia* 'Montara'), and manzanita (*Arctostaphylos* 'Dr. Hurd').

tunity to view mature specimens, something not usually seen at educational facilities and locations.

California Native Plant Society (CNPS) chapters across the state offer free public programs, which can be an excellent way to begin learning more about native plants. Some local native plant nurseries host CNPS membership appreciation days, which give the public an opportunity to view and purchase plants at a discount, simply by becoming a new CNPS member or renewing an existing membership. There are always an abundance of helpful staff at these events, as well as at chapter plant sales, both of which are excellent places to acquire valuable information about individual plant species and their

care. These people are garden designers, botanists, and horticultural experts and can advise you on a range of topics related to gardening with native plants.

Garden tours provide possibly the best learning opportunity of all since one can view actual native plant gardens and ask questions about landscape design, plant selection, and growing requirements. Regardless of your level of experience, there is always something to learn from the homeowner who is tending the garden. These are terrific ways of learning more about microclimates, garden zones, plant selection, and growing tips, and acquiring information that is not easily gleaned from books and other sources of information.

AESTHETICS VS. FUNCTIONALITY: A PRACTICAL APPROACH

One prevailing myth among the public is that native plants are unattractive in landscapes. Many folks, when contemplating the native alternative, think of brown hillsides covered with dead weeds left over from winter rains.

The fact of the matter is that most of the unattractive plant material people see in open areas is comprised of invasive species introduced by early European settlers. These interlopers have gained a foothold because naturally occurring ecosystems have been disturbed by human development. Not only do these introduced species give native plants a bad reputation, but they also accelerate fire cycles. Fire agencies such as the Orange County Fire Authority have come to the realization that, with occasional irrigation during summer months and proper maintenance procedures, many native species and their cultivars can actually reduce the hazard of fire damage.

During the planning stages of the garden, it is important to prioritize what is important. Generally speaking, in urban and suburban areas especially, this breaks down to basic aspects such as aesthetics, water savings, the degree of maintenance required, habitat restoration, and function (such as creating privacy, places to entertain, and views to be framed or screened). If aesthetics are a priority due to homeowner association regulations, consider hiring a landscape designer. Non-traditional landscapes—those that don't follow the standard layout of foundation plantings, flower beds, and turf—can be very challenging when aesthetic constraints exist. Additionally, maintaining this type of native plant garden can require more frequent irrigation (once or twice a month as opposed to rain-only) in order to keep plants lightly

hydrated and looking their best in the off-season.

This is often the case when using some of the regularly available, more showy, and smaller cultivars such as seaside daisy (*Erigeron glaucus*), *Ceanothus* 'Hearts Desire', California aster (*Corethrogyne filaginifolia*), and others. It is important to note that many of these popular evergreen cultivar species originate in areas with higher winter rainfall totals, coupled with a longer rainy season. They also frequently occur in coastal areas, canyons, and at forest edges in soil conditions that are more nutrient-rich, similar to what one would find in home gardens. Of course all these details are common knowledge to landscape professionals, who take them into consideration when siting plant material according to the specific requirement of the individual site.

These gardens, as well as gardens where aesthetics are not a priority, will also respond positively to a minimum biannual maintenance schedule that includes deadheading spent flowers in summer and selective pruning in autumn prior to plants coming out of dormancy. The latter is especially important in a new garden to ensure tighter and more compact plant forms.

If water savings are a priority over aesthetics, one has the option of foregoing supplemental irrigation and regular maintenance, although all native plants do appreciate both to some degree, as noted above. If this is the case, and once the garden is established (typically taking two to three years), the native garden can in specific cases survive on rainfall only. This option is becoming less feasible, however, as climate change continues to rewrite the environmental rules governing the survival of plant species.

If you want a garden that requires low maintenance, good design is key. It is critical to plan plant placement with mature plant size in mind. Carefully consider both the

height and width that plants will eventually achieve. Be sure to leave room between plant groupings (and individual plants) for maintenance access. Plant catalogs often mis-state mature plant size, and different soil types can also have a dramatic effect on how large a given species can grow. Resist the urge to group plants too closely together; this will save you needless maintenance headaches and allow air flow, which will mitigate plant diseases.

If your priority is habitat restoration, this type of garden will require the least care and maintenance,

we humans usually garden for. This can be very challenging for the average person starting out with their first native plant garden.

For example, birds and butterflies tend to be attracted to "messy-looking" areas. The habitat garden should contain liberal amounts of leaf litter, branches, sticks, rocks, bird and lizard feces, decomposing plant material, rotting wood (deadwood), and even weeds (non-invasive species). All the aforementioned naturally occur in abundance in wild areas and provide critical habitat in a healthy ecosystem. In nature, main-



but will still require a strong knowledge of native plant horticulture as well as plant communities and groupings. The main challenge here is aesthetic. The non-human inhabitants this type of garden is designed for thrive on the complete annual cycle that the landscape goes through. In other words, the decomposition of the plants is just as important, or in some cases even more so, than the flowering cycle



top: If aesthetics are a priority, place evergreen and summer deciduous plants together in attractive groupings. In this scenario, summer dormant sage (*Salvia* 'Winifred Gilman') is surrounded with lower growing evergreen species including coyote brush (*Baccharis* 'Pigeon Point'), clustered field sedge (*Carex praeegracilis*), and seaside daisy (*Erigeron glaucus*). These types of evergreen plants serve to create a sense of unity with neighboring yards that are predominately covered with turf grass. • BOTTOM: Native plants work in tandem with boulders, and dry creek beds mitigate storm water runoff.

tenance is performed sporadically by fire, wind, rain, snow, and seasonal flooding. This is a far cry from the “tidy mow and blow” paradigm humans are used to!

DESIGNING THE HARDSCAPE

The hardscape is the physical foundation upon which your new California native landscape will be built on. It is every bit as important as the plants you choose. With native landscapes, the hardscape is as much aesthetic as functional, and is literally intertwined with the plant material. Elements like paths, mounds, swales, dry creek beds, rocks, boulders, and even snags and mulch all play an intrinsic role in a functional, healthy, and aesthetically pleasing native garden.

Unlike in traditional gardens where plants are selected based solely on their physical appearance, with native plant gardens, plant selection can be approached from a broader perspective. Consider how these plants will work in tandem with their hardscape counterparts. One way to train one’s aesthetic sense is by paying attention to spots that look especially beautiful to you when you take a walk in nature. Usually when one stumbles upon that “Kodak moment” it is due to a combination of elements working together—rocks, snags, soil, spacing, plants, lighting, etc.—that create the image that is pleasing to the eye.

The soil excavated from paths can be used to create interesting topography if the property being developed is flat. By reusing soil that is excavated during grading, digging paths, and/or creating swales, existing materials are kept on-site, thus minimizing the environmental impact of the project.

With respect to aesthetics, the use of mounded soil employs the principle of focalization—forcing the viewer’s attention to a focal point in

the landscape. For example, a manzanita artfully placed on top of an elevated peak surrounded with companion plants from its plant community will create an instant focal point.

Contour in the garden will also pique the interest of the viewer, guiding the eye and inviting one to explore where paths lead. The use of contoured land also follows the theme of our naturally occurring native landscapes. Soil can be shaped to emulate California’s rolling hills, mountains, canyons, and valleys, albeit on a much smaller scale. If the site’s soil makeup contains poorly draining clay or compacted soil, creating mounds also makes it possible to include plants that require better drainage in the garden design.

The use of snags (a partially or completely dead tree) and dead wood is another aspect to contemplate in the design of a functional and aesthetic hardscape. Deadwood in a natural environment exists in many forms and serves an important purpose in a healthy ecosystem, as well as providing visual interest in the native plant garden. Deadwood offers critical habitat for many species, providing food, shelter, and nesting places for birds and other garden friendly wildlife. It also serves as an insulation blanket, cooling the ground while simultaneously offering ground foraging birds like the threatened California Towhee refuge from heat and domestic cats.

Beneficial insect eaters like alligator lizards, blue bellies (western fence lizard), and side-blotched lizards, as well as important pollinators such as carpenter bees and the yellow-faced bumble bee will appreciate these elements as well.

SELECTING PLANT MATERIAL

When choosing plants, think in terms of the plant community your home is located within or near. It can be an exciting yet daunting task

recreating that particular community within the parameters of your property. Approaching the task in a sequential fashion can make the experience more manageable.

Start by referencing plant lists specific to the site’s microclimate and location. Choose no more than a dozen or so plant species that will make up the preliminary plant list. If you want your native plant garden to reflect, at least in part, the region in which you live, you first need to learn about the plants that thrive there naturally. Good questions to ask include, “What plant community do I live in?” and “How do I go about identifying this community?” Generally speaking, most of the densely populated areas in California (primarily located in the southern part of the state) live in the coastal sage scrub plant community.

Of course this is a generalization. There are many other climates to be considered such as northern oak woodland, northern juniper woodland, central oak woodland, yellow pine forest, Douglas fir forest, valley grassland, chaparral, and great basin sage, to name a few. It is also at least as important to fully understand microclimates within these general plant communities prior to choosing a plant palette of California natives.

Another way to identify plants that will work in your native garden is to look around the neighborhood where the garden is to be designed, and take note of areas that haven’t been developed. Do stands of intact native plant groups still occur naturally? Note what plants are growing there, and how they grow together. Another clue is to look for native plant seedlings popping up in other people’s gardens. These *indicator plants* offer clues as to what will easily grow in that particular neighborhood.

If you live in an area where no undeveloped areas exist and where native plant seedlings are not obvious, there are other resources avail-



This garden was part of a tour sponsored by the Orange County Chapter of CNPS in May 2012. Garden tours provide excellent opportunities to view different types of native plant gardens and to ask homeowners questions about the landscape design, plant selection, and growing requirements.

able. For example, Las Pilitas Nursery has a website where you can enter your zip code, locate your plant community, and find links to plants that occur naturally in that specific region of the state. Tree of Life Nursery's website is a valuable resource as well. In particular, their pdf download "The California Garden" (located under Resources/Sage Advice) is an excellent source from which to choose plants based on California native plant communities.

DESIGNER TIPS AND TRICKS

There are many details that make up a good landscape design. An im-

portant one to be mindful of is matching plant materials to the existing soil conditions of the site. There are copious sources of information pertaining to native plants and their soil preferences available in books, magazines, and on websites. Whether the soil is clay, silt, sand, or any combination thereof, there is a California native that is suited to that soil's makeup.

Another consideration is existing plant material. Will the garden include only native plants, or will they be combined with compatible drought-tolerant exotic species that are already established on site? In either case the design principles remain the same. Combining natives with existing non-native plants is a

perfectly acceptable option when designing or upgrading your landscape, as long as basic considerations such as irrigation, soil compatibility, and microclimate are considered.

From an aesthetics perspective, native and non-native plants can coexist and create unlimited combinations of color, form, and texture. Go primarily native if your goal is habitat restoration and/or gardening to attract beneficial wildlife. At the end of the day, it all boils down to what brings you, the gardener, a greater sense of fulfillment and joy.

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Looking northward across the Mojave Desert Garden at the mix of succulents and shrubs. Silver cholla and Mojave yuccas are in the foreground, and California junipers are in the background. Photograph by Bert Buxbaum.

THE MOJAVE DESERT GARDEN AND SOUTHERN CALIFORNIA DESERT PLANTS

by Mack Nash

In a highly visible spot just off a visitor pathway in The Living Desert Zoo and Gardens in Palm Desert, California, lives a two-year-old Mojave aster (*Xylorhiza tortifolia* var. *tortifolia*). In its short lifetime thus far, this plant has attracted considerable attention both from visitors and docents with its beautiful light purple daisies that bloom over several weeks time during the spring. Since I was responsible for the plant's existence—I had collected the seed, had plants propagated, and established it in the garden—I was extremely pleased.

The Mojave aster is a welcome addition to the Mojave Desert Garden, one of the geographical immersion desert gardens at The Living Desert. Established as a 360-acre wilderness preserve in 1970, The Living Desert was created to preserve a piece of the Colorado Desert—a subdivision of the Sonoran Desert—in its pristine state. Gardens within the Living Desert highlight deserts of the American southwest. Many plants from these deserts can be used to bring beauty and nature into desert landscaping.

As an employee there, I have maintained the Mojave Desert Garden for many years. In creating the garden, the intention was to make it feel and look to visitors like they are actually walking into the Mojave Desert when they enter it.

PLANTS OF THE MOJAVE DESERT GARDEN

The Mojave Desert Garden provides the visitor with a glimpse of the diversity found in the Mojave Desert. Although it is one of the

smaller deserts in North America, its elevation and climate ranges foster areas of relatively high plant diversity. As a result, the Mojave Desert is home to almost double the number of native plant species found in the Sonoran Desert.

Most desert native plants are amazingly adapted for survival in harsh, unforgiving environments. Many desert species, such as the Mojave aster and the creosote bush (*Larrea tridentata*) are long-lived woody perennials that can subsist on scant resources for extended periods of time. Droughts can last for years. Incredibly, when rain comes, plants that appear dead begin growing again. After rainfall events, the desert can spring to life.

Succulent plants like yuccas and cacti species define the Mojave Desert Garden. The Joshua tree (*Yucca brevifolia*) is often considered to be the signature plant of the Mojave Desert because it is an indicator species. Clearly this garden cannot be complete without the odd looking Joshua tree. The garden also contains 3 other yuccas and 11 cacti (see sidebar at right). We are also growing Mojave mound cacti (*Echinocereus mohavensis* syn. *Echinocereus triglochidiatus* var. *mohavensis*) that we will plant when they are big enough.

There is also a wide variety of shrubs in the garden (see sidebar). A few flowering, short-lived subshrubs also make this garden their home. Plants such as butterweed (*Senecio flaccidus* var. *monoensis*), desert marigold (*Baileya multiradiata*), and Thurber's dogweed (*Thymophylla pentachaeta*) are naturalized in the garden.

A PLANT PALETTE FOR THE SOUTHERN CALIFORNIA DESERT

The Coachella Valley of southeastern California, known as the "low desert," is home to many na-

PLANTS IN THE MOJAVE DESERT GARDEN

The Mojave Desert Garden contains numerous succulents and cacti, as well as many types of shrubs. All are adapted to the harsh weather conditions of the desert.

SUCCULENTS

Joshua tree
Mojave yucca
banana yucca
chaparral yucca

Yucca brevifolia
Yucca schidigera
Yucca baccata
Hesperoyucca whipplei var. *caespitosa*

CACTI

California barrel cactus
staghorn cholla

Ferocactus cylindraceus
Cylindropuntia acanthocarpa
Cylindropuntia ramosissima
Cylindropuntia echinocarpa
Grusonia parishii
Opuntia chlorotica
Opuntia phaeacantha
Opuntia polyacantha var. *erinacea*
Opuntia basilaris
Opuntia basilaris var. *brachyclada*
Echinocereus engelmannii

diamond cholla
silver cholla
club cholla
pancake prickly pear
brown-spine prickly pear
grizzly bear prickly pear

beavertail cactus
short-jointed beavertail cactus

hedgehog cactus

SHRUBS

Acton's encelia
alkali goldenbush

Encelia actonii
Isocoma acradenia var. *eremophila*
Fallugia paradoxa
Ericameria paniculata
Peritoma arborea
Juniperus californica
Ambrosia salsola syn. *Hymenoclea salsola*

creosote bush
desert almond
desert olive
desert senna
Dore's sage
flat-top buckwheat

Larrea tridentata
Prunus fasciculata
Forestiera pubescens
Senna armata
Salvia dorrii var. *dorrii*
Eriogonum fasciculatum var. *poliofolium*

four-wing saltbush
giant four o'clock
matchweed
Mojave aster
bladder sage
paper daisy
rayless encelia
rubber rabbitbrush
turpentine bush
winterfat
wooly bursage
wooly brickellia

Atriplex canescens
Mirabilis multiflora
Gutierrezia sarothrae
Xylorhiza tortifolia
Scutellaria mexicana
Psilostrophe cooperi
Encelia frutescens
Ericameria nauseosa
Ericameria laricifolia
Krascheninnikovia lanata
Ambrosia eriocentra
Brickellia incana

tive plant species that are valuable landscape and garden subjects. There is an extensive palette of southwestern native plants that are often used in landscaping in the low desert. There are many I like to call “local natives” that are already popular in the southwestern native plant landscape industry. These include brittlebush (*Encelia farinosa*), chuparosa (*Justicia californica*), creosote bush (*Larrea tridentata*), deer grass (*Muhlenbergia rigens*), desert mal-low (*Sphaeralcea ambigua*), desert

willow (*Chilopsis linearis* ssp. *arcuata*), and blue palo verde (*Parkinsonia florida*). In addition, I think there are local natives that can make great additions to this palette and deserve more popularity. A few examples are indigo bush (*Psoralea schottii*), sweetbush (*Bebbia juncea* var. *aspera*), and trixis (*Trixis californica*).

Form, shape, size, texture, color, bloom season, and function are characteristics to consider when working with plants. The lifespan of desert

native plants should also be considered when planning a desert garden. Brittlebush (*Encelia farinosa*) is a short-lived perennial in comparison with Mojave aster, which may live well over 50 years. In turn, the Mojave aster seems short-lived when compared to the creosote bush (*Larrea tridentata*), which may be thousands of years old. Realizing how well native plants are adapted to desert life, it makes sense to use them for gardening and landscaping in the desert. Local native plants provide an opportunity to utilize all of these characteristics in creating and designing desert landscapes and gardens. A list of local native plants suitable for desert gardens follows, along with a few notes on selected species.

Trees

Only a handful of native tree species occur in the low desert. Some include blue palo verde (*Parkinsonia florida*), desert ironwood (*Olneya tesota*), cat claw acacia (*Senegalia greggii*, formerly *Acacia greggii*), desert willow (*Chilopsis linearis* var. *arcuata*), and smoke tree (*Psoralea spinosus*). Palo verde, ironwood, and desert willow become large and are great for creating shade. Cat claw acacia grows as a shrub, but can be trained into a small tree. It has relatively dark green leaves and curved thorns, and for safety should be placed away from pathways and public areas. The smoke tree has a narrow growth habit with gray colored stems and lends itself more to being used as a small accent tree than as a shade tree.

Shrubs

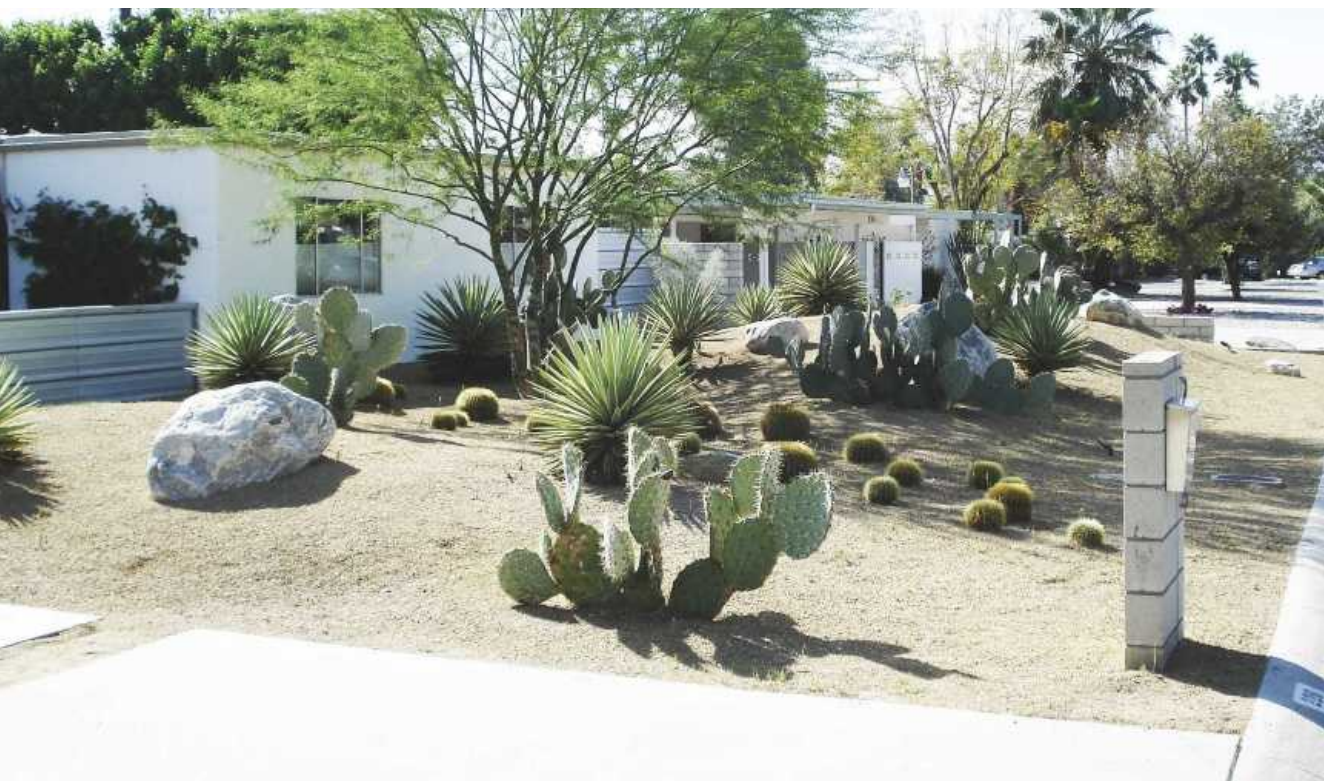
An array of local native shrubs offer ornamental qualities that include gray and green leaf color; low, rounded, or vase-shaped upright forms; large and small leaf textures (and also plants containing no leaves at all); a range of flower colors; and a variety of flower shapes, including daisy-like flowers, tubular two-

When purchasing ocotillos, look for well-shaped plants growing in nursery pots or wooden boxes; bare-root ocotillos can take up to two years to show signs of life after planting. Ocotillo stems, or canes, can flush out with new leaves within 72 hours of receiving rain. Supplemental irrigation can keep an ocotillo green year-round. Many people mist ocotillos with a hose to mimic rainfall. All photographs by the author unless otherwise noted.





A flowering Mojave aster in habitat with bladderpod in the background. Purple and yellow flower colors complement each other well in landscapes and gardens. The light purple color of Mojave aster blossoms is uncommon among desert shrubs. Photograph by Mark Reeder.



In this stylized Palm Springs garden, prickly pear cactus and agaves remind the viewer of a place in nature where these plants are dominant features in the landscape. Dry creek beds are popular in desert landscapes. In this design, golden barrel cactus plants mimic a dry creek bed. This landscape offers visual interest through the use of bold-textured plants rather than flowering shrubs.

lipped flowers, and the distinctive milkweed blossoms.

One of my favorites is jojoba. Jojoba (*Simmondsia chinensis*) is a slow growing shrub with thick oval gray leaves that just say, "I'm a true desert native." It can take on an interesting branching structure and has attractive smooth gray stems. Other species that are resilient and do well in the home desert garden and inland Southern California gardens include: bladderpod (*Peritoma arborea*), burrobrush (*Ambrosia dumosa*), creosote bush (*Larrea tridentata*), desert lavender (*Hyptis emoryi*), desert milkweed (*Asclepias subulata*), goldeneye (*Bahiopsis parishii*, formerly *Viguiera parishii*), indigo bush (*Psoralea schottii*), joint-fir or Mormon tea (*Ephedra* spp.), and trixis (*Trixis californica*).

Accents

Succulent plants are indispensable in developing the image of

desert. The shapes and forms of succulents allow them to serve as landscape accents. The ocotillo (*Fouquieria splendens*) is widespread in nature and commonly used in southwestern landscaping. It is a dramatic plant with an upwardly sweeping V-shape of gray, thorn-textured cane-like stems, the ability to leaf out rapidly and turn green in only a few days after rain, and eye-catching red blossoms that form at the tips of the canes.

My advice when purchasing an ocotillo is to look for a nursery-grown plant rather than a bare root one, if possible. Bare root plants can take up to two years to show signs of life after being planted. Many bare root ocotillos planted in landscapes never recover from the shock of having the soil removed from their roots and being transplanted. Nursery grown ocotillos in containers are much more reliable than bare root plants.

Cacti are an important component of desert gardens and provide a showy display with their beautiful flowers. Local cactus species well-suited to the home desert garden include the globular to short, columnar-shaped California barrel cactus (*Ferocactus cylindraceus*); the cylindrical, multi-headed, mounding Hedgehog cactus (*Echinocereus engelmannii*) with red-violet flowers; the flat-padded, soft-looking beavertail cactus (*Opuntia basilaris*) with rose to magenta flowers; and the arborescent teddybear cholla (*Cylindropuntia bigelovii*). Desert agave (*Agave deserti*) provides a contrasting texture with rosettes of sword-shaped, light blue-gray leaves and teeth along its margins.





Succulents like cacti, agaves, and yuccas dominate this Palm Springs desert garden as accents. Upright columnar cactus forms, strap-shaped leaves of yuccas and dasylirions, rosettes of thicker agave leaves, grasses, and even boulders and cobble of the creek bed all provide contrasting shapes, colors, and textures that bring interest. The plentiful open space, bare soil, and dry creek bed, along with the desert plants, create a sense of both aridity and artistry. The lack of many flowering shrubs also helps define desert in this landscape.

MAINTENANCE BY THE SEASONS

Maintenance and care of the Mojave Desert Garden are dictated by the seasons. Space is a necessary component in achieving the desired look. Intensive gardening activities such as heavy trimming, plant re-

moval, and weeding are best done in fall, late winter, or early spring to avoid hot weather and any subsequent impact on other plants.

There are two types of irrigation in this garden. Originally only overhead impact sprinklers were used to irrigate. Later, drip irrigation systems were installed. Overhead watering is

good for saturating the entire root zone of plants. Drip irrigation is great for getting water to individual plants and helpful in establishing new plants. I rely on both in irrigating this garden. In the summer I usually run sprinklers once a month to deeply irrigate the garden, and I run the drip irrigation for a few hours once

or twice a week depending on the weather and how the plants are looking. Getting new plantings to survive their first summer is crucial in getting them established in the garden. The use of drip irrigation during the summer months allows me to give extra water to new plantings to help them get through the really hot weather we experience.

In the cooler months of spring and fall, water is applied less frequently. Impact sprinklers run for only a few hours in the morning about once a month, and drip irrigation is used once a week or less. In the winter months water use can be cut back to around a quarter of summer use. This is especially true if we have received rain.

Summer care mostly entails wa-

tering, along with a bit of trimming to keep pathways open, and some minor weeding. The focus is on maintaining plants. Monitoring newly added plants is crucial. Summer is a good time for planning activities for cooler weather. It's also a good time to acquire plant material for fall planting and propagation.

Fall is the best time for establishing new plantings of desert species. Mojave desert plants also germinate very well from seed during the warm days and cool nights of fall. Although new plants can also be added in the spring, it's more of a challenge to get them established than it is in the fall. This is because plants added in the fall have more time to become acclimated to their new homes and have a better chance

of surviving the searing weather of summer. Before I add new plants, I take time in choosing locations. If I have enough plants, I pick spots to try out different exposures in the garden. South and west facing exposures get blasted with sun in the summer. Long afternoons and baking temperatures accentuate this harsh situation. A break from the afternoon sun is provided by a north or east facing exposure, and is incredibly more favorable.

Establishing new desert plants is not easy, and I am used to high attrition rates. If available, fall is also the time to transplant Joshua trees into the garden. I water new plants regularly until they are established. Depending on the species, this could take years! One key issue is making

Brittlebushes often grow in a perfect hemispherical mound of silver-gray leaves and are accented with yellow flowers in the spring and sometimes in the fall. They commonly have yellow disk flowers (although the dark-eyed brittlebush has brownish-purple disk flowers).





ABOVE: View of the Mojave Desert Garden with small Joshua tree, hedgehog cactus, and Apache plume. The garden design makes visitors feel as if they are walking into the actual Mojave Desert. • RIGHT: Cactus plants help to define the feeling and image of the desert. The relatively large flowers of the hedgehog cactus are prized by cactus collectors, and attract pollinators like native bees. The resulting fruits also attract wildlife with sweet pulp and nutritious seeds.

sure plants are not eaten by rabbits and rodents, so I protect them with chicken wire cages.

In the winter, plant growth slows with cold temperatures and watering seems unnecessary, but Mojave Desert plants are adapted to winter rainfall. Providing supplemental water gives plants like yuccas a chance to “pump up” and have a better chance of flowering in the spring. Winter is also a great time to work on the appearance of the garden. Enhancing sight lines that draw the eye through the garden is a benefit of creating and maintaining open space. Weeding and raking around plants helps maintain open space and bare soil so characteristic of the desert.

Spring is the time to check irrigation systems and complete any planting that remains to be done. I begin to closely monitor newly added plants and connect them to

drip irrigation so they receive regular water before summer starts. Weeding and raking at this time will keep the garden looking good as plants begin to grow and flower.

MANY OPTIONS FOR DESERT LANDSCAPING

Desert climates, especially those of the low desert, are unique in that they are harsh and unforgiving to plants, and for this reason are a tremendous challenge to gardeners. Temperature extremes, intense solar radiation, scarcity of water, soil alkalinity, and insect and animal pests are just a few of the problems one encounters. Of the many virtues of using native plants versus exotic plants, desert natives are experts at surviving drought and extremely hot conditions common to



the desert. The large array of California desert natives available in the landscape trade for southwestern deserts provides the creative gardener with a range of options for designing landscapes of any size and without sacrificing aesthetics. From annual wildflowers to sub-shrubs, shrubs, trees, and accents, the California desert flora is an outstanding resource for developing and defining the image of “desert” in native plant gardens. The opportunity to create appealing and beautiful garden designs is truly only limited by one’s own imagination.

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COASTAL SAGE SCRUB: A SUSTAINABLE HOME LANDSCAPE

by Celia Kutcher

The wave-cut terrace on which I live, like the rest of lower-elevation cismontane Southern California, was once vegetated primarily with coastal sage scrub (CSS). CSS is a vegetation type that is eminently well-adapted to our Mediterranean-type climate of cool rainy winters and hot rainless summers.

Like the rest of urbanized Southern California, my vicinity's aboriginal CSS has been almost entirely replaced with landscape plants from other continents and other climates. Massive aqueduct systems, bringing water from elsewhere, have allowed the plants to appear perennially bright green and shiny. The abundance of water and the imported plants have created an unrealistic expectation among the general public that California's designed landscapes should look this way year-round.

To the untrained eye, coastal sage scrub does not look like an appropriate residential landscape. Its dominant species, coastal sagebrush (*Artemisia californica*) is drought-

deciduous and appears dead during the dry months. Most of the many other shrubs and woody perennials such as black sage (*Salvia mellifera*) and California buckwheat (*Eriogonum fasciculatum*) that are part of coastal sage scrub vegetation, are also dormant and/or deciduous during the dry season and look dead to the unaccustomed eye.

Summer dormancy allows the members of this plant community to sleep through the dry months, and then awaken to grow and flower during the rainy season. They do this on an average annual rainfall that is just a little more than the amount that defines a desert—less than ten inches a year. And that amount of water is much less than that required to maintain the imported landscape's bright green, shiny appearance.

Coastal sage scrub is a sustainable landscape in Southern California—bright green and shiny is not. It is not sensible to spread expensive, increasingly scarce water on our semi-desert to maintain an unnatural, ecologically unsustainable non-native landscape.

MY CSS LANDSCAPE

In the fall of 1989 I decided that the time had come to combine my above-stated beliefs with my more than ten years of experience in designing, planting, and observing the Fullerton Arboretum's native collections, along with a strong desire for a low-maintenance home landscape. So I decided to replace the tired mish-mash in my front yard with a CSS-based landscape.

Specifically, I wanted to show that the coastal sage scrub species found in and around Orange County could make a landscape that looks good year-round, despite being dormant/drought-deciduous in the summer and flower-full only in spring. My landscape has developed into three parts.

The first-planted and largest part, 30' x 25', is directly in front of the house. White sage (*Salvia apiana*), California buckwheat, and St. Catherine's lace (*Eriogonum giganteum*) were placed along the street side because they are not drought-deciduous and look reasonably presentable year-round, and the *Eriogonums*' inflorescences provide interest from spring to fall. These three plants were among the first installed and are still going strong. Behind them, so as to be less conspicuous when dormant, are coastal sagebrush and black sage. The rest of the space has an evolving cast of CSS shrubs, perennials, forbs, and bulbs. California poppies (*Eschscholzia californica*) and purple needlegrass (*Stipa pulchra*, formerly *Nasella pulchra*), both of which reseed, form a small meadow with iconic seasonal color.

The other side of the driveway, first planted in 1992, has CSS-

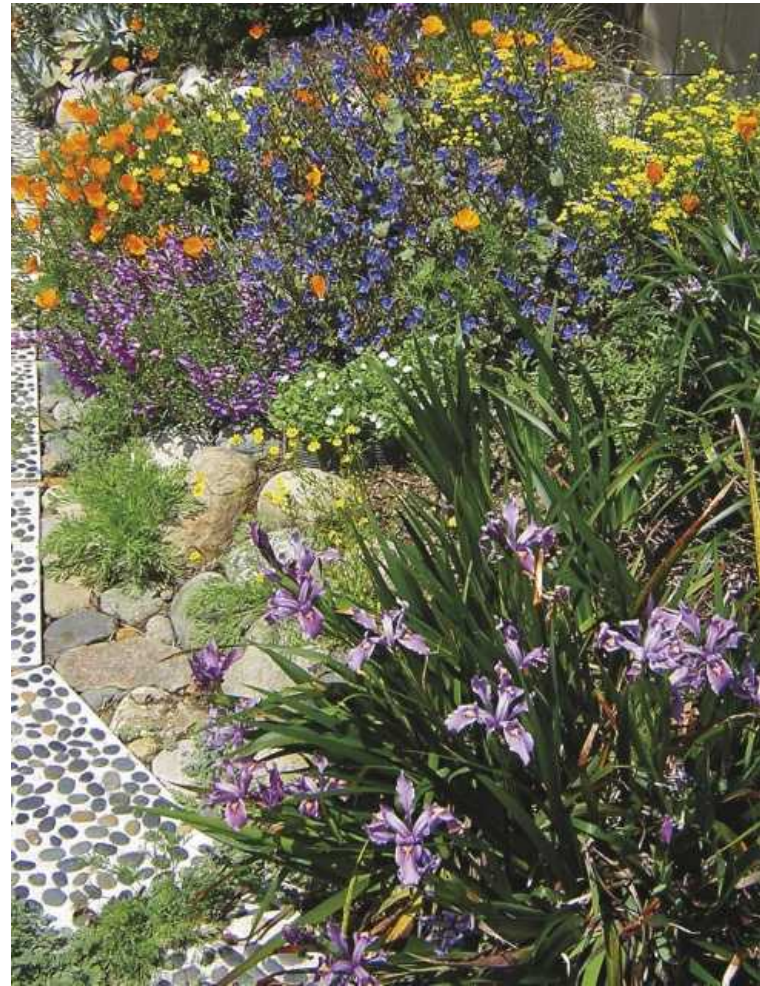


The main part of the garden in typical April garb, including lots of California poppies (*Eschscholzia californica*), which like the gravel between the pavers. In front gardens, it is advisable to use species that look reasonably presentable year-round.



ABOVE: Removal of an overgrown chaparral mallow freed up space for more wildflowers: tidy-tips (*Layia platyglossa*), arroyo lupine (*Lupinus succulentus*), blue dicks (*Dichelostemma capitatum*), wine-cup clarkia (*Clarkia purpurea* ssp. *quadrinervia*), and sticky monkeyflower (*Mimulus aurantiacus*). A scattering of poppies was allowed to remain, to fill in among the less vigorous species. Saw-toothed goldenbush (*Hazardia squarrosa*) is in the far right. A single flower of yellow mariposa lily (*Calochortus luteus*) can be seen in the lower left; a number of *Calochortus* species have been planted, but with little success.

RIGHT: Spring 2010 was a good rain year that brought an unusually good wildflower show. The space shown is about 12 feet long. Front to back: Douglas iris (*Iris douglasiana*), goldfields (*Lasthenia* sp.), five-spot (*Nemophila maculata*), Margarita penstemon (*Penstemon* 'Margarita'), desert bluebells (*Phacelia campanularia*), golden yarrow (*Eriophyllum confertiflorum*), dune primrose (*Camissoniopsis chieranthifolia*), California poppy (*Eschscholzia californica*). Britton's dudleya (*Dudleya brittonii*) in upper left; San Diego ambrosia (*Ambrosia pumila*) between pavers, lower left. All photographs are by the author.



related species that don't mind the high water table from the lawn next door. Toyon (*Heteromeles arbutifolia*), planted from a one-gallon pot and trained as a multi-trunked small tree, is now upwards of 15' tall. San Diego sunflower (*Bahiopsis laciniata*, formerly *Viguiera laciniata*), which is good-looking and blooms cheerfully yellow year-round, is in a close-up spot near the street. A collection of live-forever *Dudleya* species inhabits a dry-laid river-rock wall.

Ten large clay pots by the east-facing main entrance hold a variety of plants that are inherently small or don't mind being kept in bounds, have a neat appearance year-round, flower in summer, and can withstand both the morning heat and glare and afternoon shade. I've tried a number of plants here (not all CSS natives). So far the best performers

have been Conejo buckwheat (*Eriogonum crocatum*), some Texas sage (*Salvia greggii*) cultivars, damianita (*Chrysactinia mexicana*), and Mexican tulip poppy (*Hunnemannia fumariifolia*).

If interested, contact me for an annotated list of the 75+ species that are or have been part of my home landscape. Most came from Tree of Life Nursery in San Juan Capistrano; others from the Fullerton Arboretum or Rancho Santa Ana Botanic Garden, and a few from Santa Barbara Botanic Garden.

ON MAINTENANCE

Maintenance is everything, and low maintenance does not mean no maintenance. *Care and Maintenance of Southern California Native Plant Gardens* (O'Brien, Landis, and

Mackey, 2006) is the definitive primer for landscapes using coastal sage scrub plants—and I have learned even more by doing. Here is my landscape's general maintenance regime:

- Plants in the ground, once established, only get rain, even during drought years. Observation has proven their ability to survive the rainfall vagaries that they are adapted to.
- Each pot (all are about 15 to 16 inches in diameter and 2 feet deep) gets a very slow hose drip using a fan nozzle that I move from one pot to the next morning and evening, so that each gets dripped for 12 hours about every 5 days. As the roots are confined within the pots in a coarse sandy, gravelly mix and can't reach deep to find



soil moisture, rainfall alone won't carry them through the dry season.

- The landscape gets an all-over haircut around late November, and periodic minor trimming and dead-heading year-round. These treatments emulate the browsing that the plants would get in nature. The trimmings of late fall are run through my small chipper and spread under the plants. This and the plants' natural leaf drop combine to form a debris-into-soil layer, similar to what would form in nature, that is now several inches deep. Presumably the layer has become home to populations of microorganisms, similar to that of a natural soil, which help the plants grow optimally.



TOP: Looking toward the street from near the house. Poppies and needlegrass are a spring constant. There are about ten other CSS natives in the picture, including coastal sage and black sage.

MIDDLE: St. Catherine's Lace (*Eriogonum giganteum*) is a showstopper with its 12" flower clusters that open pinkish white in late spring, then slowly change through cream to rust by mid-fall. This fast-growing shrub can reach up to six feet in height and spread, and is an excellent specimen plant. It's also great as a backdrop for smaller shrubs or perennials in a border or parkway, and provides excellent habitat for pollinators and birds.



BOTTOM: Ten large clay pots next to the east-facing main entrance display a variety of plants chosen for neat appearance year-round, seasonal bloom, ability to withstand the high reflected light and heat of the morning and the full shade of the afternoon, and scale and vigor amenable to the confines of a large pot and to more primping than nature would give. Not all are strictly California natives. Front row: Conejo buckwheat (*Eriogonum crocatum*), electric blue sage (*Salvia chamaedryoides*). Middle row: damianita daisy (*Chrysactinia mexicana*), punchbowl clarkia (*Clarkia bottae*, reseeded in three pots from previous year), autumn sage (*Salvia greggii* 'Wild Thing'), California fuchsia (*Epilobium 'Route 66'*), autumn sage (*S. greggii* x *jamesis* 'Sierra San Antonio'). Back row: Mexican tulip poppy (*Hunnemannia fumariifolia*, reseeded in two pots from previous year), sage (*S. greggii* 'Hot Lips'), and coastal buckwheat (*Eriogonum parvifolium*).



San Diego ambrosia (*Ambrosia pumila*) (left) looked like a small-scale groundcover that would be nice among the rocks buttressing the short slope next to the driveway. I assumed it would stay small and grow slowly. Not so! It quickly spread more than 25 feet from its original site (right), then died out and regrew there from roots coming from its newer extensions. It gets weeded out from around other plants that it would smother if left untended; otherwise, I'm letting it go to see what it does.

IN THE "EYES OF THE BEHOLDERS"

Since most people are not accustomed to seeing home landscapes that are based on coastal sage scrub, here are a few pointers that may make the transition a bit easier.

- If yours is the first native garden on the block, expect some comments about "those weeds." Tell them how low your water bill is and how little maintenance the garden requires. Once the garden has grown for a few years and wowed everyone with its spring displays, most will say how interesting and beautiful it is.
- If a homeowners' association governs the "look" and landscaping of your community, it may not approve of your replacing your property's turf and (non-native)

plants with natives. You can do some stealth replacement of non-natives with similar-looking natives. Tree of Life Nursery has a nifty application on its website to find native plant substitutes for common non-native plants; see http://californianativeplants.com/index.php/plants/planning_tools/plant-respecifier. You might also consider getting yourself on the landscape committee of your homeowners' association, if it has one, and work to show them how much their water and maintenance costs could be reduced by re-landscaping with local natives.

- If a house goes up for sale in your neighborhood, it is possible that the seller or his/her agent may see your distinctive native garden as just messy weeds whose presence will lower their asking price, and may complain to your city's code

enforcement office. If you receive a letter from such an office, contact me and I'll share with you a letter I wrote to deal with a similar situation.

My garden has been on the Orange County Chapter's annual garden tour several times, most recently in 2012, and visitors' response has always been positive. When I am working in the garden, passersby remark that it is interesting and beautiful. In its two decades, my coastal sage scrub-based landscape has matured into an example of sustainable landscaping with local native plants, proof that one can draw from one's local natural world to design and grow a native plant garden.

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WILD BY NATURE: GARDENING WITH NATIVE WILDFLOWERS

by Genevieve Arnold

Among my happiest childhood memories is one of my sister and me in springtime, two California kids, climbing up hills that were swathed in

green and dotted with annual wildflowers. Once to the top, we would roll down a hill on our sides, drunk on spring joy and shouting, “Wiiildflowers!”

Now, as an adult, I relive those enchanted moments each spring when I step out my front door, walk down porch steps adorned with pots of cascading native blooms, and stroll past colorful beds lining the front walk to my home. I smile and harken back to that chorus of “Wiiiiiildflowers!”

California’s native annual wildflowers are appreciated not only by those of us who live here, but revered worldwide for their unique and captivating beauty. They are natural masterpieces and one of our state’s greatest treasures. Whether it is a single specimen hiding around a shady bend or a profuse meadow glowing in the sunshine, an encounter with these enchanting blooms in the wild can literally stop you in your tracks. This sense of simple pleasure in a hectic world, of wild discovery and the rhythms of seasonal cycles can be experienced in your own garden. Growing native wildflowers from seed is fun and simple, and the rewards are bountiful!

TRY THE CALIFORNIA POPPY

Wildflowers serve both functional and ornamental purposes in new or established native gardens. In newly installed and very young gardens, annual wildflowers—which complete their life cycles within one year—can fill gaps until longer-lived plants mature. Fast-growing wildflower roots also provide erosion control. The California poppy (*Eschscholzia californica*) is the perfect candidate for this purpose: its long taproot can stabilize hillsides in quick order, and its grandeur suitably accompanies larger perennials.



The California poppy (*Eschscholzia californica*), our state flower, germinates very easily. Choose from a variety of species and cultivars to add a brilliant splash and majestic tone to your garden. Pictured here are foothill poppy (*Eschscholzia caespitosa*) with baby blue eyes (*Nemophila menziesii*) in the background. Photograph by Anni Jensen.

Though fall is the best time to sow poppies, they will germinate any time of year as long as the soil is kept moist (they are considered a short-lived perennial). Additionally, they reseed vigorously—often a single year's sow is sufficient to ensure long-term poppies in the garden. I scattered just a few seeds in a small south-facing bed at my house last year, and the seedlings are coming back like gangbusters now after a single rainstorm and no additional water. For a twist on the classic orange California poppy, try the cultivars 'Mahogany Red' or 'Moonglow' (respectively red or white/pale yellow). After a few years, these poppy cultivars may revert to orange.

Although California poppies are usually the first harbingers of spring and flower as early as February, they can be encouraged for a longer blooming season. Just clip off spent flower heads and give the plants some extra water; they will likely bloom a couple more times through the spring. For a change, consider planting the delicate, butter yellow foothill poppy (*Eschscholzia caespitosa*), either in a pot or at the very front of a small bed. For coastal gardens, maritime poppy (*Eschscholzia maritima*) is a stunner with its yellow petals and fiery dark-orange center.

Poppies generally reach one to two feet in height and can be combined with other annual wildflower species that also show well when mixed among larger perennials such as sage (*Salvia* spp.), flannel bush (*Fremontodendron* spp.), live forever (*Dudleya* spp.), and such grasses as deer grass (*Muhlenbergia rigens*) and blue grama (*Bouteloua gracilis*). Parkways planted with native grasses attract the admiration of passers-by when bright flower heads

weave a path through the taller foliage, adding a lively splash of color.

WILDFLOWER COMBINATIONS

Blazing star (*Mentzelia lindleyi*) is another spring dazzler that works well in a perennial garden, in meadows, or scattered throughout wildflower beds. This showy garden favorite prefers full sun and fairly well-drained soil. It grows one to two feet tall and in mid-spring to summer boasts gold star-shaped flowers with glowing orange centers and dramatic stamens. Farewell-to-spring (*Clarkia amoena*) also grows one to two feet in height and adds a brilliant display of paint-streaked pink to the mix. This beauty can handle sun to dappled shade and makes a nice long-lasting cutting plant for flower arrangements. It earned its common name because it blooms mid to late spring, continuing into summer and sometimes early fall if supplemental water is provided.

A classic California wildflower combination that reflects the splendor of our natural hillsides is the orange poppy mixed with arroyo lupine (*Lupinus succulentus*). This lupine produces iconic, foot-tall purple and white flower spikes, adding a regal touch to the garden. A tip: the large hard-coated seeds of arroyo lupine germinate with more vigor if they are pretreated with a hot water soak (180° to 200°F) for 12 to 24 hours before sowing; plant seeds immediately upon removal from water.

DISTURBED SOILS? NO PROBLEM!

Annual wildflowers are an excellent solution for areas with disturbed soils. In the wild, I



TOP TO BOTTOM: Maritime poppy (*Eschscholzia californica* var. *maritima*). Photograph by Andrew Murawa. • California poppy (*Eschscholzia californica*). Photograph by Andrew Murawa. • Mahogany red poppy (*Eschscholzia californica*). Photograph by Sima Bernstein. • BELOW LEFT: Moonglow poppy (*Eschscholzia californica*). Photograph by Genevieve Arnold.

often see *Phacelia* species growing in full sun in extremely dry areas along trails and roadsides. Tansyleafed phacelia (*Phacelia tanacetifolia*) germinates readily, does well in neglected or depleted soils, and adds interesting texture and subtle lavender color to the landscape in mid-spring. It also attracts native bees and other beneficial insects and has proven useful in fruit groves or other agricultural settings where pollinators are desirable. (Note: the hairs on this species can cause slight dermatitis, so plant in an area where young children or barefoot folk don't





California wildflowers combine well with native bunch grasses, creating a beautiful and low-maintenance sidewalk garden. Shown here are California poppy (*Eschscholzia californica*) and moonglow poppy (*Eschscholzia californica*) planted amongst perennial grasses including giant wild rye (*Leymus* sp.), deergrass (*Muhlenbergia rigens*), and needlegrass (*Stipa* spp.). Photograph by Barbara Eisenstein.

tread.) For a bold combination, mix tansy-leafed phacelia with California bluebell (*Phacelia minor*), a more bell-shaped royal blue flower with white stamens.

For very sunny, hot, dry spaces my favorite annual to plant is chia (*Salvia columbariae*), a native with a long-standing role in California history: Chumash people of the Channel Islands and Southern California coast depended on nutritious chia seeds for sustenance. The process of growing a native wildflower at home and then harvesting the seed for food is an irreplaceable experience that ties one to the landscape and its history as well as to one's own garden.

This tough wildflower, recogniz-



Many wildflowers do well together because their growing conditions are similar and bloom times overlap. For example, farewell-to-spring (*Clarkia amoena*, photograph by Ken Gilliland), ABOVE, and blazing star (*Mentzelia lindleyi*, photograph by Michael Wall), RIGHT, both bloom in late spring to early summer.



able as a sage by its uplifting aroma, prefers well-drained soils and grows from just a few inches to two feet in height, depending on conditions and available water. If the area does not contain well-drained soil, try sowing chia seeds in a tub or large pot with cactus mix or potting soil amended with perlite or pumice. From mid-spring to summer, deep purple, ball-shaped whorls stack atop each other on the stems. Chia's inflorescence retains its shape as it shifts from flower to seed, so spent stems are a nice complement to long-lasting dried flower arrangements. For a beautiful earthy bouquet, pair dried chia with the terra cotta-toned seed heads of California buckwheat (*Eriogonum fasciculatum*).

HOW TO SUCCESSFULLY GROW WILDFLOWERS

With the help of a few tried-and-true methods, adding wildflowers to the native garden is simple!

When to Sow

Fall is the best time to sow annual wildflowers. Mid-October through late November is ideal. To extend the blooming period, try a “continuous sow.” After the initial fall sowing, apply seeds again in December and then again as late as mid-February to accomplish staggered bloom times throughout the spring.

Many species will naturalize in the garden and reseed on their own, but sometimes it takes two or three consecutive years of sowing to get them established to that point. For example, poppies or tansyleafed phacelia will likely reseed readily after one season of sowing; lupines or chia may require a second year of sowing.

Where to Sow

Sow seeds in a weed-free area. Methods to prepare the ground for sowing include:

Solarization: This kills weed seeds via “steam heat” (this method is appropriate for flat spaces exposed to full sun). Trenches are dug around the perimeter of the area; 2-4 mm clear plastic is stretched tightly across and is left in place for several months at the hottest time of year.

The “Grow-and-Kill” Method: In a cyclical manner, weeds are encouraged to sprout through watering and then removed. The area intended for sowing is watered well starting in spring. When a batch of weeds comes up, they are removed and the cycle of watering followed by removal continues through late summer, when the soil is left to cure in the sun with no water until it’s time to sow.

Sheet Layering: Smother weeds by first wetting down the area, then applying a double layer of unwaxed corrugated cardboard, topped with a 12-24" layer of mulch. Leave in place for several months.

Short of these preparations, there is nothing wrong with simply weeding an area and then sowing immediately afterward. In this case, a useful technique is to sow some of the seed in pots so that you can learn to identify which seedlings are the desired wildflowers and which are weeds to be removed.

When weeding, don’t dig or till any deeper than three to four inches; doing so will most likely unearth deeply embedded dormant weed seeds and encourage them to germinate, thus increasing your problem.

How to Sow

Method I: Combine one part seed to three parts horticultural sand (“sharp sand” made of lime-free washed quartzite). Scatter the mixture evenly. I like this method because I have found that the sand serves to protect the seed from hungry birds. Alternately, bird netting can be attached to stakes and stretched across the top and around the sides of the area being seeded.

Method II: Scatter seed evenly and cover with a bit of soil. The seed should not be sown any deeper than 1/8" beneath the soil surface. Just apply enough soil to cover; do not “bury” the seed.

Method III: Scatter seed and then rake in with a standard garden leaf rake. Rake gently so that seed doesn’t get pushed down too deeply under the soil surface.

Note: Native annuals can also be sown in small pots (4" is a good size) and transplanted into the ground any time during the spring months.

How to Water

Water in seed immediately after sowing. Use a shower nozzle hose attachment or a sprinkler and water thoroughly but gently, passing back and forth over the area so that the seed stays firmly in place. Avoid creating pooling and flooding effects. Keep the soil moist (not waterlogged) until a few inches of growth are visible, then water as needed and enjoy.

Be sure to water in winter dry spells between rains. In predominately dry years, more supplemental watering will be necessary than in wet years. When in doubt, place your finger into the soil up to the knuckle. If it comes out dry, give your seedlings some water; if it comes out damp, you don’t need to water yet. The soil can dry out as long as it is watered soon thereafter. Supplemental watering during the height of bloom can extend the show.

Resources

For additional information on growing wildflowers from seed in the garden, consult: *Gardener’s Guide to California Wildflowers* by Kevin Connelly (Theodore Payne Foundation, Sun Valley, CA, 1991).

For more information on native wildflower species, consult: *Wildflowers of California: A Month-by-Month Guide*, by Laird R. Blackwell, University of California Press, Berkeley, CA, 2012.



Chia (*Salvia columbariae*) seed heads and seed, and a chia meadow in full bloom. Chia should be sown in the fall and will tolerate fairly well-drained soils. Clustering many together in a tub-style pot or small bed makes for an eye-catching, aromatic display and efficient seed harvest. They are also a beautiful complement scattered throughout a dry garden. Photograph of meadow by Michael Wall.

Members of the genus *Gilia* are easy to grow and also thrive in dry disturbed soils. Globe gilia (*Gilia capitata*), found naturally in full sun in a wide variety of habitats, is a wonderful choice for scattering throughout the garden. Its narrow stems are topped with whimsical powder blue to purple spheres comprised of hundreds of tiny flowers. Plant height can vary between a few inches to three feet. The habit of this adaptable annual adds a pleasing visual flow, uniting a wildflower bed or a larger landscape. Its mid-spring bloom can be encouraged into early summer with additional watering.

Bird's eye gilia (*Gilia tricolor*), also a mid-spring bloomer, is a many-stemmed beauty with uniquely hued violet flowers whose stamens glow with blue iridescence in the sunlight. Sow it in a pot as a specimen piece or in a larger full-



ABOVE: Wildflowers delight the senses, especially when they flower at the same time. Pictured here are globe gilia (*Gilia capitata*), farewell-to-spring (*Clarkia amoena*), California poppy (*Eschscholzia californica*), and blazing star (*Mentzelia lindleyi*). Photograph by Genevieve Arnold.

RIGHT: A colorful wildflower meadow and a rustic birdhouse provide habitat for the native Bewick's wren. Pictured: elegant clarkia (*Clarkia unguiculata*), ranging in color from salmon pink to maroon; California poppy (*Eschscholzia californica*); tansy-leaved phacelia (*Phacelia tanacetifolia*)—some have gone to seed and been left for the wrens to enjoy! Perennials pictured: mexican elderberry (*Sambucus mexicana*), desert mallow (*Sphaeralcea ambigua*), and desert globemallow (*Sphaeralcea ambigua* 'Louis Hamilton'). Photograph by Ken Gilliland.





Nature provides breathtaking examples of compatible wildflower palettes, as witnessed in these two photos of California poppies (*Eschscholzia californica*) and annual lupine species (*Lupinus* spp.), which are a classic California combination. Right: Photograph by Dede Gilman. Both photographs courtesy of Theodore Payne Foundation.

sun area as part of a wildflower meadow. Both of these gillias work well in dainty bouquets. I like to display them in a small jar on the kitchen windowsill!

DAPPLED SHADE, FILTERED SUN

Some native wildflowers can also be sown in dappled shade or filtered sun under trees. A great way to add color under an oak without damaging the tree by overwatering during the hot months of the year is to sow two of my favorites from the genus *Nemophila*: baby blue eyes (*Nemophila menziesii*) and five-spot (*Nemophila maculata*). Baby blue eyes, native to California but massively popular in Japan and all over the US, are true baby blue with a small white center. Seeds germinate readily in shade to part or filtered sun to create an enchanting low-growing blanket

that draws the eye in to appreciate the habitat under a tree canopy.

This species is also lovely in lightly shaded rock gardens, where it adds an atmosphere of serendipity here and there along the edge of a path. Five-spot is also very easy to grow and has a bright white blossom that really pops in the shade. Each petal tip is edged with dark purple. These *Nemophila* species

Tansy-leaved phacelia (*Phacelia tanacetifolia*) thrives in spots where little else will—in dry, depleted soils and full sun. It is a favorite haunt of native bees and other beneficial insects. Photograph by Sima Bernstein.



adapt to many soil types and grow in a neat clumping habit well-suited to container culture.

EXPERIMENT: ADD WILDFLOWERS TO YOUR GARDEN

With the right methods, adding wildflowers to the native plant garden is not a complicated task and is well worth the effort. These colorful representatives of our landscape's beauty, adaptability, and endurance will enhance a variety of garden settings and bring pure joy to the native gardener. From germination to bud to bloom and back again to seed, each one is a delight and an adventure through the seasons.

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Even in late September, my garden offers abundant resources in the form of nectar, pollen, and seeds from late blooming species such as elegant madia (*Madia elegans*), foreground, and goldenrod (*Solidago californica*), background. The meadow can be seen behind the short wooden fence. Photograph by Charlotte Torgovitsky.

MY HOME GROUND: INSPIRATION FOR A HABITAT GARDEN

by Charlotte Torgovitsky

All my garden pathways lead to and from the wild parts of our property; and it's the untamed open space surrounding our home that makes this place so special. My husband and I live in the more rural northern part of Marin County on a spur of Mount Burdell, the "other" mountain in Marin (in addition to the better known Mount Tamalpais).

The woodlands surrounding our

home are an interesting, hybridizing mix of coast live oak, blue oak, Oregon oak, and black oak (*Quercus agrifolia*, *Q. douglasii*, *Q. garryana*, *Q. kelloggii*) that forms a patchy canopy on the south facing hillside of our two-acre property. Monkey-flower (*Mimulus aurantiacus*) and California sagebrush (*Artemisia californica*) are established at the edges of the tree canopies. These are plants I've also integrated into my garden.

Toyons (*Heteromeles arbutifolia*) grow in amongst the oaks; some the size of a substantial tree!

LEARNING "THE WILDS" FIRST

Our hillside overlooks the wetlands surrounding Novato Creek, giving us a beautiful vantage point for the seasonal activity of birdlife.

Our house is situated next to a meadow, another center of wildlife activity. The meadow is dominated by purple needlegrass (*Stipa pulchra*), and comes alive as soon as the rains start, with the fresh new growth of ground iris (*Iris macrospion*), blue-eyed grass (*Sisyrinchium bellum*), buttercups (*Ranunculus californicus*), milkmaids (*Cardamine californica*), and soap lilies (*Chlorogalum pomeridianum*). Later still come lots of native bulbs: *Calochortus*, *Brodiaeas*, and *Dichelostemmas* start to show themselves amongst the grasses again.

My appreciation for natives in the garden originates with my love for the wilds of California. I've spent years hiking the beautiful trails of Marin with friends and family, and going on naturalist-led outings. I still recall a family camping trip we took in Mendocino National Forest years ago, when I was awestruck by the beauty of a mountain mahogany (*Cercocarpus betuloides*) in late summer, its halo of silvery-tailed achenes glistening in the sun. That was the moment I decided to take on a new avocation and learn all I could about California's magnificent flora and all the attendant fauna.

WHY A HABITAT GARDEN?

The garden has been my sanctuary since immigrating to America as a child. My family is Danish, but we came to California from Bombay, India, where I was born, leaving me totally bewildered in yet another place where I did not belong. The little plot of land my dad bestowed upon me when I was ten years old, to do with as I pleased, became my safe haven; a place where life made sense in some universal sort of way. I have been growing food, flowers, and herbs ever since, creating little patches of beauty and harmony wherever I live.

Being a lifelong student of nature, and one who still derives great pleasure from being outside "play-



Creating a habitat garden is all about being a good steward of the land and recreating the interconnected elements of an ecosystem. CLOCKWISE FROM TOP LEFT: Butterflies find abundant resources in the meadow; an anise swallowtail feeds on nectar from blue dicks (*Dichelostemma capitatum*). • Some common weeds, such as cudweed (*Gnaphalium luteo-album*) provide valuable resources in a habitat garden. This is the beautiful late-instar caterpillar of the American lady butterfly. Photograph by Charlotte Torgovitsky. • An American lady feeds on coyote mint (*Monardella villosa* 'Russian River'). • A pair of Ash-Throated Flycatchers have used this nesting box for the last three breeding seasons. Birds often return to successful nesting sites year after year! • A male Western Bluebird brings a caterpillar to feed hungry nestlings. All other photographs above by Bob and Mieke Watkins.

ing in the garden," I wanted to create an environment around our house that was both beautiful and full of life. A habitat garden is just that, but so much more than mere



For a few weeks in late spring, I would see this Barn Owl nestling looking out on the world outside the nest box. I named him "Albert Owlstein." Photographs by Bob and Mieke Watkins.

ornament. This style of gardening, when approached in a thoughtful manner, is all about biological associations, stewardship of the land, and an effort to recreate the interconnected elements of an ecosystem. Only organic methods are employed, and pesticides are never used. I strive to create a garden with a sense of the surrounding plant community, but with increased biodiversity and enhanced foraging opportunities. My intended goal is to bring nature as close to my home as possible.

PREPARING THE GARDEN SPACE

I was happy that the previous owners of our property had not done much gardening. The only area that had been landscaped was a hot sunny

slope between the house and driveway and our small private street. The row of dreadful oleanders (*Nerium oleander*) along the curb came out first, and then a sad-looking pepper tree (*Schinus molle*); the rosemary draped over a retaining wall stayed. A dozen large Echiums were removed, a few at a time, as my new plantings were establishing. Pride of Madeira (*Echium candicans*)



is an invasive plant, and though lots of insects and hummingbirds like its flower nectar, seeds germinate readily and can spread into open space areas.

My son and I worked together on this front border design. Once we had the planting areas and pathways laid out, tons of boulders were brought in and carefully placed to provide accents in the garden border. Low retaining walls along the pathways were built using dry-stack methods from basalt flats and chips, and pea gravel was used to cover the pathways. The stones and gravel create a heat sink that lots of insects, especially butterflies, appreciate. The small spaces between the stones in the dry-stacked walls provide sanctuary for insects and a host of other creatures such as western fence lizards, skinks, and tree frogs.

Additional soil was brought in to create mounds and swales on the slope, and we installed an in-line drip irrigation system. I planted red-

buds (*Cercis occidentalis*), silk tassel bush (*Garrya elliptica*), mountain mahogany (*Cercocarpus betuloides*), and holly-leaf cherry (*Prunus ilicifolia*) to visually tie the border in with the oak woodlands on either side. I used bunchgrasses such as deergrass (*Muhlenbergia rigens*), fescues (*Festuca* spp.), and reed grass (*Calamagrostis* spp.) to blend the garden in with the view of the meadow close by. Grasses provide lots of habitat resources including seeds, cover, and nesting materials, and they add movement to a perennial border.

REASONS FOR MY PLANT SELECTIONS

Because many herbs provide lots of nectar for insects, I added artemisias, lavenders, rosemary, and other herbs liberally, and repeated them in the border plantings. I'm particularly fond of salvias, so I planted lots of different species. All the native species are included, as well as a number from South and Central America. There's a salvia blooming at any given time of the year, which keeps Anna's Hummingbirds happy without an artificial feeder!

My front border is open to the deer, so these mint family plants are ideal. Deer do not like the aromatic foliage, and they never browse the grasses either. The hardest plants to establish in this border are native plants that deer favor, such as ceanothus. However, if young ceanothus are caged for several years until they reach a mature size, they are then able to survive some browsing by the deer.

I always plant for the insects first. Drifts of colorful flowering perennials, blooming at all times of the year, are sure to bring in all sorts of six-legged creatures. I plant wildflowers in all parts of the property, and I make sure to include ample plantings of butterfly larval host plants. In some cases the best host plants are



TOP: Clarkias blooming in May provide nectar and pollen, as well as petal segments used by leafcutter bees (*Megachile* spp.) to build cells for their larvae. Photograph by Charlotte Torgovitsky. • BOTTOM: Coyote mint (*Monardella villosa* 'Russian River'), in full bloom in July, grows next to a path that leads to the meadow. Photograph by Bob and Mieke Watkins.



A view from top of the meadow east of my garden. The wetlands can be seen below. Photograph by Bob and Micko Watkins.

weeds. I keep “controlled patches” on parts of our property: cudweeds (*Gnaphalium luteo-album*) for the American lady, and Italian thistles (*Carduus* spp.) for the painted lady and mylitta crescent.

Once insect populations established I noticed an increase in the number of birds visiting the garden and adjacent woodlands. I’ve always seen Western Bluebirds on the hill above us and in the wetland areas below; and within a few years of planting my front border I saw adults and fledglings foraging here in summer. Tree Swallows were also foraging here in large groups. The first year a pair attempted to build a nest in the dryer vent. The following year I put up suitable nesting boxes, and now these birds breed here every spring.

Four years ago I heard Ash-throated Flycatchers in the woods; then I saw them inspecting a Screech Owl box, and all the cavities in an old oak. These are one of my favorite birds, and I first became familiar

with them while camping, so I was thrilled to also see them here at home. That fall I put up a nesting box in the old oak, and the next year in early May they were back. They’re now here each year at about the same time. They build their nest and raise a brood that fledges by the first day of summer.

GIVING BACK TO NATURE

Within a fenced area of the garden I also grow fruits and vegetables, and naturally the produce is shared, sometimes grudgingly, with the animals. I’m just starting to plant areas in the woodlands on our property, and am hoping to reestablish an understory of native shrubs and bunch grasses. Small areas are planted each rainy season but without irrigation systems, so it’s up to me to nurture the plants along through the dry seasons by providing supplemental water until they become well-established.

My native habitat garden and my

practice of “gardening for California” have become a source of many of the things that matter the most to me: nature and being close to all living things, beauty, friendships, and service to the community. My garden is also a source of mother plants from which I take cuttings, collect seed, and get divisions. By growing California natives in my new nursery I’m able to share plants and encourage gardeners all over the Bay Area to create habitat gardens.

Habitat gardening is a wonderful way that each of us can help, in a small way, to restore our environment, and start to recreate corridors between remaining open spaces. I share my observations and experiences as a habitat gardener, as well as tips on plant propagation, in my blog, which is part of our new nursery website: www.homegroundhabitatnursery.org.

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City Hall landscaping in need of restoration following Occupy LA encampment in 2011. Photograph by Tom Gibson.

LOS ANGELES CITY HALL PARK GOES NATIVE

by Snowdy Dodson

I wish I could say that it was my idea. No, the inspiration came in the form of an email from a grassroots CNPS member. Lorelei Laird read an article in the Oct. 19, 2011 *Los Angeles Times* reporting on the destruction of the lawn at the Los Angeles City Hall Park by Occupy Los Angeles campers. In her email to the Los Angeles/Santa Monica Mountains Chapter of CNPS, she suggested: "CNPS might be interested in using the opportunity to advocate for drought-tolerant natives. Perhaps not every native plant enthusiast agrees with the goals of Occupy Los Angeles, but we can all agree that grass is wrong for our climate."

Her suggestion was included on our chapter's board agenda for November 2011. Meanwhile, Emily Green, a well-known native gardening advocate, blogger, and frequent contributor to the local press, wrote an op-ed piece in the *Los Angeles Times* of November 11, 2011, suggesting that it was high time that the City of Los Angeles stepped up to the plate and created a City Hall Park that would be a drought-tolerant model for all City residents.

Riding on this wave of native plant advocacy, on Dec. 16, 2011 our chapter's board sent a letter to Jon Mukri, the general manager of the Los Angeles Department of Recreation and Parks (LADRAP). In it,

the board requested that native plants be incorporated into the redesign of landscaping surrounding the iconic, historic city hall building.

We pointed out that California native plants are an aesthetically pleasing, water-saving, and low-maintenance alternative to a lawn, and that they would create much needed habitat for birds and pollinators in our overdeveloped urban environment. We urged the City in this time of changing climate and uncertain rainfall to take the lead by showing home and business owners how it could be done, and pointed out that visitors to Los Angeles' City Hall needed to see what California landscaping could be like.

Our letter praised past LADRAP success with incorporating California native plants into various parks throughout the city and suggested that the city's landscapers were capable of doing a fine job if given the opportunity. We also sent Mr. Mukri a copy of *Reimagining the California Lawn* by Bornstein, Fross, and O'Brien (2011, Cachuma Press) and offered to help plan the landscaping.

We did not get a response to our letter and offer of help. However, we wrote a short article for our chapter newsletter, the *Toyon*, to push for the idea of getting native plants into City Hall Park. As a result, I was contacted by a community member who told me that a City Hall Park landscape planning meeting was about to take place. I contacted a person who was fairly high up in the Parks Department pecking order, asked to be invited to this meeting, and received an invitation.

On January 9, 2012, I attended a meeting held by LADRAP for landscape professionals and environmentalists/native plant advocates (Theodore Payne Foundation, Rancho Santa Ana Botanic Garden, and the Sierra Club, as well as CNPS). At this session, LADRAP staff conducted a tour of the site, which looked like a war zone. Hardly a blade of grass was left standing. The ficus and jacaranda trees as well as the walls and other hardscapes in the park were covered with graffiti. The entire site was enclosed with chain link fencing designed to keep out further squatters, and the irrigation system was compromised.

The native plant advocates and landscape professionals viewed the site as a blank slate with numerous possibilities to change the landscaping of an urban area. The tour illustrated the limitations on the site such as the cultural heritage landmark status of the building and its surrounding landscaping. Also, aspects of the infrastructure, including an underground parking garage and

ventilation ducts, and diesel storage tanks for emergency generators made it difficult to install any further on-site water retention systems. The existing irrigation system was a good water saving design; however, it had been seriously damaged by the occupation. Park officials set up three criteria for the park's redesign: 1) its use as a meeting place for large groups as well as for traditional passive recreation; 2) water-saving and sustainable landscaping; and 3) the use of plant labels and signage to better acquaint the public with the ecological advantages of drought tolerant landscaping.

Park officials presented us with possible scenarios for the landscaping. They and the Mayor's Office were pushing strongly for a return to the status quo and recommended repairing the watering system and laying down turf as the most cost effective means of replanting the park. However, they did present other plans that would reduce turf area and incorporate drought tolerant and native plants. Most of us pushed for this alternative. We also critiqued the proposed plant palette and pointed out that it did not in-

clude enough natives. When asked, our CNPS chapter contributed a list of "bullet-proof" California native landscape plants for possible inclusion in the plant palette. Our invited group of landscape experts examined the drought tolerant/turf reduction options and asked for plan modifications.

After our meeting, LADRAP planners sought input from the Los Angeles Downtown Neighborhood Council. These and other meetings resulted in the following plan:

- Reduce turf by 51%.
- Add low-water-use plants to the upper lawn and central plaza areas, including at least 50% that are California natives.
- Expand the existing planting areas in the lower (south) lawn bordering First Street.
- Remove all turf from the north area of the park (bordering Spring and Temple Streets).
- Improve water retention with curbing and permeable surfaces.
- Replace turf with low-water-use plants, including at least 50% that are California natives.
- Install a smart irrigation system.



Los Angeles Mayor Antonio Villaraigosa plants the first toyon at City Hall Park, following its designation by the city as its official native plant. Photograph by Snowdy Dodson.

A more detailed outline of the plan is available at the LADRAP website: <http://www.laparks.org/restoration/>.

There were many compromises, and not all good ideas were adopted. Many of us wanted to remove the existing ficus and jacaranda trees in the park and replace them with natives. The City was adamant that no healthy trees be removed from downtown. The trees were trimmed to allow more light into the planting areas. When the downtown community expressed a need to have lawn area for picnics and relaxation, we proposed that the turf be native. LADRAP explored the feasibility of using native turf in these lawn areas and concluded that it would not withstand the heavy abuse expected in the park when large events were scheduled there.

Other concerns that were only partially addressed were the state mandate for low-water-use landscaping and the concept of reducing urban runoff through such programs as Ocean Friendly Gardens. However, the City did install a state-of-the-art irrigation system that tailors water schedules to local weather and site conditions. High-efficiency, low-water-use sprinkler heads were exclusively installed, and new low-impact development regulations were followed to minimize runoff.

Once the plan was finally agreed upon, it then required approval from the Arts, Parks, and Neighborhoods Committee, the Cultural Heritage Committee, the Recreation and Parks Board of Commissioners, the City Council, and the Mayor. I was able to attend and give input at the meetings of the Cultural Heritage Committee and the City Council. In early February 2012, the plan met with approval at all levels, so the project could begin. This project was fast tracked from the beginning, and Mayor Villaraigosa told LADRAP to give it the highest priority. This is because Los Angeles City Hall is a much loved landmark and symbol

for the community, as well as a popular filming site for movies, TV shows, and commercials, and generates revenue for the City's coffers.

LADRAP personnel quickly moved in and began work on the park. Over the next couple of months the irrigation systems were repaired, the graffiti removed, and the soil prepared for planting. In April 2012, Mayor Villaraigosa invited volunteers to a planting at City Hall Park in honor of Earth Day. On April 22, several hundred invited guests (myself included) helped install native plants in the newly created beds under the ficus trees. We also witnessed the Mayor planting the very first toyon (*Heteromeles arbutifolia*) at City Hall. The City of Los Angeles had recently designated the toyon as its official native plant as a result of the planning meetings.

Several months later on July 19, 2012, City Hall Park officially reopened to the public. LADRAP reported that it was rebuilt at a cost of \$1.1 million. The City obtained a number of sponsors, including the Los Angeles Department of Water and Power, the Metropolitan Water District of Southern California, the Los Angeles Conservation Corps, and some large corporations, to help defray this expense. Recently the chain link fences have come down. Though the park looks lovely, some plants have died due to the excessive heat this past summer and to the fact that the planting was done in the spring rather than the fall. Proper maintenance will be critical for the native landscaping to survive over time.

Overall, this was a lesson in how to introduce native plant horticulture into a politicized public setting. As the planning evolved, I felt it was important that I, as a CNPS representative, push hard on science-based issues but be prepared to compromise. For example, although I would have preferred that all the ficus be removed from the park, I recognized that the City and the surrounding community valued them



for the shade and green space they provide in what is otherwise a sea of concrete. I also knew that even the addition of a few native plants would improve the ecology of the area by bringing in pollinators and other wildlife to that part of the city.

So I was actually rather pleased that the diverse parties to the park



Survivors of a triple digit first summer following a late spring planting at City Hall Park. Photograph by Snowdy Dodson.

plan agreed on using a minimum of 50% native plants such as Cleveland sage (*Salvia clevelandii*), toyon, deer grass (*Muhlenbergia rigens*), and iris (*Iris douglasiana* 'Canyon Snow'), among others, as part of the park's plant palette. Of course the plants will need proper maintenance to

keep them healthy and attractive, and that is a task that is currently in the hands of LADRAP maintenance personnel.

Through this cooperative planning effort, City Hall Park now includes hundreds of California native plants. Together we brought a

significant California native plant presence into the downtown area of Los Angeles for the first time since the site was developed.

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WABI IN THE WILDERNESS: JAPANESE AESTHETICS AND THE CALIFORNIA NATIVE PLANT GARDEN

by Mark Bourne

California native plants are a poor substitute for the garden plants of the Japanese tradition. This is not due to any flaw in our native flora, but rather is a basic flaw in the concept of “substitution.” After all, what is a substitute but an inferior replacement for the authentic article? At least, I have always viewed the concept of substitution in this way, as a practice that relegates the unique natural beauty of California to the status of a stand-in.

In striking contrast to this idea, the gardens I experienced as an apprentice in Kyoto displayed an intimate, thoughtfully established relationship between domesticated nature and the wilderness. This connection made a profound impression upon me. So when I returned to California, I went to the forests and hillsides I had known growing up in order to study those wild places through the lens of Japanese poetry

and gardens. I knew that California’s native plants could capture the same harmony expressed in the gardens of Kyoto.

In 2005 I had the opportunity to design a California native garden on the main show floor of the San Francisco Flower and Garden Show. I created the title “Wabi in the Wilderness” for that garden, in order to address the two sources of my inspiration. An examination of this title provides a good framework for explaining the aesthetics of the Japanese garden, and how this aesthetic can be applied to design and plant selection for a California native garden.

UNDERSTANDING WABI

The term *wabi* is likely to be most familiar as one part of the compound term *wabi-sabi*; however, it is important to recognize that *wabi* is actually a distinct, independent term.

While *sabi* is an aesthetic of objects, and concerned with the physical appearance of age and irregularity, *wabi* is an aesthetic of emotions, expressed in the atmosphere of unadorned fulfillment that can be found in Japanese poetry. *Wabi* conveys a feeling of rusticity, simplicity, soberness, and the enjoyment of the retired life. The contemporary use can be traced to Sen no Rikyu, the 16th century master of the Way of Tea. Rikyu described *wabi* as a “chill, withered beauty,” and referred to the following 11th century poem by Fujiwara Munetaka as an explanation:

*Show those who wait
Only for flowers
That in the mountain villages
Grass peeks through the snow
And with it, spring.*

As with many Japanese poems, the emotion in this verse is established through seasonal reference, and an evocative reference to place. The opening lines create an image of lively crowds in the city, celebrating with friends in the warm spring air. Then, a contrasting image is introduced: in the mountain village, spring emerges as a quiet, unaffected mood.

Wabi is a sensitivity that is less ebullient, but more deeply appreciated. It is a sense of contentment that is expressed in subdued tones, and recognized in the beauty of simple and honest expressions. These grasses have not been lavished with attention, but may be growing up alongside a footpath through farm fields; or perhaps there is a clearing beside the gate of a small cottage, where the snow has melted just enough to reveal the first growth of spring. In addition to this main image, there are two additional



In late May, the seed heads of purple needlegrass (*Stipa pulchra*) sway in the breeze, while yarrow flowers (*Achillea millefolium*) capture the early evening light in this meadow garden. All photographs by the author.



A sudden cold snap brings out bright red color in the leaves of leather oak (*Quercus durata*), with new leaves of purple needlegrass (*Stipa pulchra*) and the seeds of coyote brush (*Baccharis pilularis*) as a backdrop. The author designed this garden for his own property to capture the feeling of a native meadow in a small front yard.

themes that are especially useful to consider in the context of California's wild places.

The first theme that emerges quite clearly in this poem is the shift of focus away from flowers, and toward a more diverse, and I would even suggest, more refined appreciation for the natural events that reveal the passage of seasons. This shift toward the aesthetic of wabi does not preclude flowers, and indeed flowers are deeply appreciated by Japanese poets. However, even in the selection of flowers, the preference is for wildflowers: the Japanese term, *kusabana*, evokes the image of flowers that are completely uncultivated, even if they are in the garden. Certainly the horticultural emphasis on gorgeous, elaborate, or unusual selections of plants is to be avoided within the true spirit of wabi.

The second theme is apparent when the image of the "mountain village," which describes a real loca-

tion, is contrasted with the image of "those who wait," a faceless group with no attachment to place. Although seasons are a global process, wabi emphasizes the awareness of season as particular, local changes that are part of the soil. In fact, learning to recognize and understand the cyclical passage of seasons plays an important role that is not immediately apparent within this single poem. In the calendar of Japanese poetry, the imagery of the season changes roughly every ten days. For the most part the seasons in California do not change as dramatically as in Japan, but it is still possible to recognize that the natural world is indeed changing slightly every day. As an expression of the local character of real seasons, native plants have no equal, and no possible substitute.

In addition to differences in the change of seasons, the climate of Japan is entirely unlike that in California. In Japan, the natural world

comes to a state of rest in late winter, saving energy for active seasons to come. Appropriately, the season in Munetaka's poem is late winter, which is Kyoto's "silent season."

By contrast, late winter is a season of vigorous growth for most of California. Although many deciduous plants will be in late dormancy, native grasses will be growing vigorously, and wildflowers will be well on their way toward spring flowers. In the dry climate of California, the arrival of winter rain brings exuberance, even though this may be tempered by cold. If the character of the seasons is considered, in California it is late summer that stands out as the time when nature draws back into itself, reserving energy and waiting. This silent pause might be thought of as *our* silent season, those weeks that pass beneath the high, clear skies when the soil has dried, and the plants await the coming rains and the return to growth.

WABI IN THE GARDEN

The grasses, flowers, and trees that are the basis for wabi, as an emotion, are the same natural materials that form the foundation for garden design, so the potential for wabi to serve as a guide for design is immediately present in the origins of the aesthetic. Some California native plants are better suited to this than others, but it is possible to create the space for your visitors to experience nature with plants from all California ecosystems. In Japanese gardens, the focus of design is always creating a “space” for the guest to engage the poetry of nature. This space is created through understanding the combination of simplicity and complexity that is common to places of natural beauty. Suggesting this combination may appear to be a paradox, but it is possible to clarify this by considering the example of forests.

In the image of a mixed forest (below), the “composition” consists of forest trees, with the leaves of a wood rose (*Rosa gymnocarpa*) turning color beneath the canopy. The

selection of plants is very simple, but the composition is engaging because of the diversity of forms, and the irregular spacing of the trees. When this image is compared with the image of the garden Gioji (facing page), the similarities are remarkable. In the case of Gioji, the garden is composed of Japanese maples, moss, and large mondo grass, with a clipped oak hedge framing the view of the building.

In both cases, simplicity of plant selection places emphasis upon the individual beauty and natural forms of each plant: a simple plant list, and an irregular plant layout that reveals the complexity of organic forms. When choosing the plant list, the focus on simplicity is important, selecting only those plants that will help establish an emotional resonance. The goal is to create a garden that gives the plants time to speak, and provides the visitor with enough space to hear.

IDEAS INTO ACTION

The challenge in this, as for all types of gardens, lies in understand-

ing how to apply the principles of design to the practical act of creating a real garden. And, as is equally true for all gardens, there is no formulaic answer, but instead a process of study, exploration, experimentation, and study anew.

The first place to begin with the study of wabi is the observation of seasons in your own locality; even if you never turn a spade, this study is richly rewarding in its own right. Begin with the particular: one specific hillside, or one species of plant in perhaps four or five specific locations. The purpose of this study is to become familiar not only with that location, or that plant, but also, over time, to begin to link that place to other places, and other events.

Drawing an example from my own experience, what comes to mind is an image of the San Francisco peninsula. It is at the peak of autumn, the first frosts have just arrived, the cedar waxwings have returned, and the seeds of coyote brush (*Baccharis pilularis*) are ripening. This whole association of events occurs in late November, right at the time of Thanksgiving. Watching as these changes unfold year after year, the ripening seeds of coyote brush become a symbol for the season and all it brings, rather than just one isolated event. Returning to the garden with this web of associations in mind, it is possible to make coyote brush one of the driving elements of a garden (if you are able to dispatch the common horticultural prejudice against this plant).

In practical terms, if you are interested in designing with coyote brush, visit the site you have chosen to study, and allow time to watch the site. Take a pencil and paper, and perhaps a tape measure. If you enjoy

Autumn in a Northern California coastal forest. The leaves of a wood rose (*Rosa gymnocarpa*) color beneath a canopy of canyon live oak (*Quercus chrysolepis*) and California bay laurel (*Umbellularia californica*). Comparing this scene to the garden at Gioji (see opposite page), the similarity between the space created in the garden and the space of the forest is remarkable, demonstrating how natural patterns can be transformed into a garden.



FACING PAGE: At Gioji, in western Kyoto, two principles of Japanese design are apparent—simplicity and complexity. Even though the plants are limited to four species—Japanese maples, moss, an evergreen oak hedge, and large mondo grass—the composition is still captivating.





The Seiryotei garden, in eastern Kyoto. Although this garden presents a wider variety of plants and foliage, ample open space keeps the composition from feeling cluttered. Meanwhile, the relaxed curves of tree trunks and the irregular spacing of plants once again brings the complexity of nature into the garden.

drawing, sketch the plants; if you prefer writing (as I do), describe the scene and make simple sketches. Sketch, write, pace, measure; stand next to, under, in, around the scene. Pay close attention to the details of distance, the relative spaces between plants, the number of plants in each group, and the background and slope. All of these are details that you will draw upon in your own design.

In the garden of my previous house, I used a group of three coyote brush plants to frame a small meadow, sowed with the native bunchgrass purple needlegrass (*Stipa pulchra*) and interspersed with the perennial forbs common yarrow (*Achillea millefolium*) and western blue-eyed grass (*Sisyrinchium bellum*). I added to this a small number of annual flowers each year, such as tidytops (*Layia platyglossa*), bird's-eye gilia (*Gilia tricolor*), and tansyleafed phacelia (*Phacelia tanacetifolia*).

To provide a second example, it is possible to create the feeling of a "pocket forest" under the canopy of shade trees in a corner of the garden, by combining California hazelnut (*Corylus cornuta*) with some

ferns, and using coffeeberry (*Rhamnus californica*) as a screen. If there is not enough space for coffeeberries (they will grow to six feet wide or more), then make a beautiful fence that can be included in the garden.

As you begin to think about developing a planting plan for your garden, one of the first points to consider should be the type of plants that will grow well in your garden. Although Japanese design is distinct from gardens designed to mimic the local landscape, there are books about these design styles that are a useful point of departure as you begin to develop a design.

If you choose, you can also base your design upon a real location that will not only ensure that all plants in your garden are compatible, but will also increase the evocative, emotional power of your design. In essence, your own garden can become the "mountain village." Above all, it is important to resist the urge to transform your garden into a horticultural smorgasbord as you design and lay out your garden, if the final goal is to create a design that evokes the emotion of wabi.

Finally, the confidence to make mistakes will be your greatest ally. Another secret from the Japanese garden tradition is that the garden is a living creation, and the composition of any garden is always evolving. Begin with a small section of garden, and take the pressure away from achieving an ultimate expression with the first idea that you have. Allow yourself the time to watch as your idea grows.

CONCLUSION

The early Japanese poets paid close heed to the natural world, and based upon that foundation of careful study they created a tradition of poetry and garden design that has continued to evolve over countless generations. When I contemplate the great depth of that tradition, I find myself humbled but also invigorated by the challenge of discovering a similar beauty in my own place on earth.

The aesthetic of wabi describes a reflective appreciation for the passage of time, and discovers the evidence of this passage in the constant seasonal changes of the natural world. Seasons are a global process, but they are witnessed in local, particular events: the first leaves of California buckeye (*Aesculus californica*) heralding the end of winter, monkeyflower (*Mimulus aurantiacus*) and chamise (*Adenostoma fasciculatum*) flowering together at the end of spring, or the seed pods of pitcher sage (*Lepechinia* spp.) in the dry summer before the rains return.

To understand wabi in California, and to successfully bring that emotional awareness of place into the garden, it is necessary to turn to local, native plants. Wabi is not an aesthetic of substitution. It is an aesthetic of the authentic.

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A decomposed granite path meanders the entire length of the Harry and Maggie Wetzel Native Plant Garden. Prominent in this chaparral plant community is coyote brush (*Baccharis pilularis*, front left), a “pioneer species” that tolerates harsh environments and then paves the way for other native species to become established.

HEALDSBURG’S NEW NATIVE PLANT GARDEN

by Ann Carranza

Inspiration comes from many places. Sometimes it strikes like a bolt of lightning; other times it takes the nurturing of an idea to reach the fullness of time. In the case of the Harry and Maggie Wetzel Native Plant Garden in Healdsburg, CA, the inspiration came in the form of a public-private collaboration and the alignment of two projects with

the good of the Healdsburg community in mind.

This public native plant garden, which opened in May 2012, offers gardeners from beginners to seasoned veterans an inspiring look at the use of native plants, their beauty, and their diversity. A decomposed granite path winds its way south to north, with Foss Creek border-

ing the east side. The 10,000-square-foot plot includes five different kinds of plant communities commonly found in the Healdsburg area. Each community is covered with a different type of bark to help delineate the differences between the ecosystems.

On the creek side of the path riparian habitat reigns, followed by



Wildflowers abound in late spring in the Harry and Maggie Wetzel Native Plant Garden. Photograph by Don McEnhill, Russian Riverkeeper.

native grasslands. In addition, visitors see examples of the drier serpentine/chaparral, the oak woodlands, and mixed evergreens that cover local hillsides. Signs with both common and Latin plant names identify each native plant.

GENESIS OF THE PROJECT

In 2008 Margaret (Maggie) and Harry Wetzel passed away within a few months of one another. Owners of the family-operated Alexander

Valley Vineyards, they had been farming for 45 years. Both Maggie and Harry Wetzel loved growing things, and Maggie Wetzel, in particular, loved the beauty of nature. From the beginning, both had a strong sense of place and of native plants. As they worked to build their vineyards, they preserved the many large oak trees on their property.

In the months following their deaths, the Glazer Family of Companies, wine distributor for Alexander Valley Vineyards, ap-

proached the Wetzels' daughter, Katie Wetzel Murphy, and the Wetzel family and asked them to "pick a project in Healdsburg that honors your parents and benefits the community." The wine distributor, together with Alexander Valley Winery and the Wetzel family, agreed to jointly fund a project that would honor the memory of Maggie and Harry Wetzel.

Katie Murphy, known for her penchant for community projects, spoke with Mike McGuire, who at

the time was the mayor of Healdsburg. Mike McGuire, now a Sonoma County supervisor, was already working with Don McEnhill of the local conservation group Russian Riverkeeper, on a project to restore Foss Creek, which runs through Healdsburg. "There's something truly priceless about creeks that run through urban areas," said McGuire. "We brought the community together for clean-up days. The next step was to bring people to the creek to see what it has to offer. That's where Katie's project came in."

"It was natural to select a native plant garden for the project," said Murphy. "I just picked from a list of what my mother would have liked." The plan became to create a native plant garden that would inform and entice the community to use native plants in their own gardens.

Murphy and McGuire started building the alliances needed to further the nature-inspired project. They created a partnership with funders, the City of Healdsburg, the large volunteer group formed during Foss Creek clean-up days, and Russian Riverkeeper to pull it all to-

gether. The city had already planned to create a pathway that would follow the banks of Foss Creek for much of the way from the Russian River at the southernmost boundary of Healdsburg to the northernmost, behind the historic Simi Winery. The short garden path has been incorporated into that long-term plan.

SITE PREPARATION

The first job of the creek restoration had volunteers pulling out "enough furniture to outfit dozens of living rooms in Healdsburg," according to McGuire. Thousands of volunteer hours went into the creek cleanup and restoration. Don McEnhill of Russian Riverkeeper was instrumental in drawing in the volunteers and providing the professional expertise for creek restoration. When it came to adding a native plant garden, McEnhill and the Riverkeeper organization were the natural choices to head the project.

"The first challenge of the physical part of the project was to deal with the underground utility lines

An Anna's hummingbird feeds at a sticky monkeyflower (*Mimulus aurantiacus*) in chaparral habitat.



PLANT COMMUNITIES AND SELECTED PLANTS IN THE HARRY AND MAGGIE WETZEL NATIVE PLANT GARDEN

California Oak Woodland

valley oak	(<i>Quercus lobata</i>)
Vine Hill manzanita	(<i>Arctostaphylos densiflora</i>)
baby blue eyes	(<i>Nemophila menziesii</i>)

Mixed Evergreen Forest

coast redwood	(<i>Sequoia sempervirens</i>)
western ninebark	(<i>Physocarpus capitatus</i>)
dutchman's pipevine	(<i>Aristolochia californica</i>)

Grassland

purple needlegrass	(<i>Stipa pulchra</i>)
California oatgrass	(<i>Danthonia californica</i>)
creeping wild rye	(<i>Leymus triticoides</i>)

Riparian Woodland

arroyo willow	(<i>Salix lasiolepis</i>)
California blackberry	(<i>Rubus ursinus</i>)
wild rush	(<i>Juncus patens</i>)

Chaparral

coyote brush	(<i>Baccharis pilularis</i>)
California flannel bush	(<i>Fremontodendron californicum</i>)
sticky monkeyflower	(<i>Mimulus aurantiacus</i>)

This plant list was provided by Russian Riverkeeper, Don McEnhill.

and break up the deep sod layer," said McEnhill. "We had to bring in small equipment to do that work." Next, the area was sheet mulched with newspapers and corrugated cardboard to enrich the soil and suppress weeds. Then Riverkeeper staff and volunteers planted the area with natives and covered it with the various barks to retain moisture.



PLANT SELECTION AND INSTALLATION

Plant selection followed two criteria, that each species be a local native plant and that it fit into one of the garden's five plant communities (see sidebar, page 45). The work to propagate native plants went forward with the help of the Milo Baker Chapter of the California Native Plant Society, as well as local nurseries. Planting occurred, for the most part, in the fall of 2010 and the fall of 2011.

"Once the garden is established it will use less water," said McEnhill. "Some plants will require no water after the first year, others may take more time to establish deep root systems to withstand drought. Some native plants do better with infrequent watering over the summer, and others look significantly better with summer water. Other upkeep is a simple matter of weeding and periodically cleaning." McEnhill estimates that upkeep will take just a few workdays each year. Keeping the area clear of invasive privet and blackberries, trimming dry material seasonally, and perhaps replanting as needed, will be included in the ongoing work.

"Everything took a lot longer than we expected," said Murphy. "Digging out blackberries with volunteer labor was a challenge. But now something is in bloom or fruiting all the time."

"The 'workhorse' species of the garden is the valley oak, which provides food for 1,400 insect species, said McEnhill. "On the other hand, the privet feeds relatively few species, and thousands of seedlings have to be removed from the creek side because of their invasiveness."

From the tall, established oak

FACING PAGE: The garden contains five plant communities found in the Healdsburg area. Pictured here is mixed evergreen forest, with two prominent species from that habitat—coastal redwood (*Sequoia sempervirens*) and alum root (*Heuchera micrantha*).



Educational signs throughout the garden explain the value of planting native species in your yard.

trees to the privet in the parking lot that are slated for removal, the project was planned with foresight, ecological restoration, and community education in mind. Many animals, including river otters, opossums, skunks, and raccoons, enjoy the native plant garden habitat. Muskrats have even returned just down creek from the garden. Crawdads and minnows are the largest food sources for the river otters and the muskrats.

More connections in the food web include the roach minnows that provide excellent nutrition for the juvenile fish. Western pond turtles have reappeared, as well. Butterflies, native mason bees, and a wide variety of birds live in and around the garden.

"It's a little oasis," said Murphy. "Not just for people but also for the animals—they can thrive because the food plants they like are here."

ONE STEP BACK, TWO STEPS FORWARD

The path to create this gem hasn't always been smooth. In July, a truck backed into a water main and flooded the gardens with hundreds of gallons of water, sweeping away bark and killing plants. The mulch was raked back into place and some replanting was done.

In addition, there has been some vandalism; however, for the most part these problems have been isolated events. Another continuing

challenge is the presence of a number of feral cat colonies, cared for by community members. "It's very difficult to restore wildlife when there are predators nearby that destroy them as they come," said McEnhill. "Even though the cats are being fed, they continue to kill lizards, amphibians and birds." McEnhill anticipates having to address this challenge in the future.

AN INSPIRING LEGACY

The value of the garden continues to grow and establish just as the native plants do. A weatherproof placard offers reasons for planting native species. The attractive use of natives in an easily replicable landscape project beckons visitors to give native plants a chance in their home gardens.

People stroll through the Harry and Maggie Wetzel Native Plant Garden daily. Many stop to admire the mason bees and butterflies and read the plant identification signs. Hummingbirds sip nectar from the sticky monkeyflowers. Mason bees buzz in the California fuchsia and several species of salvia. Raucous scrub jays skim from oak to oak, and early morning muddy water hints of the presence of raccoons feeding in the meandering flows of Foss Creek. The garden is alive.

Ann Carranza, 1330 Tulip Court, Healdsburg CA 95448, positivelyann@sbcglobal.net

SELECTED NATIVE PLANT RESOURCES

The following guide is only intended to serve as a starting place for those new to native plant gardening, and should not be considered an all-inclusive list of resources.

BOOKS

- Art, H.W. 1990. *The Wildflower Gardener's Guide: California, Desert Southwest and Northern Mexico Edition*. Burlington, VT: Garden Way Publishing Company.
- **Bauer, N. 2012. *The California Wildlife Habitat Garden: How to Attract Bees, Butterflies, Birds, and Other Animals*. Berkeley and Los Angeles, CA: UC Press.
- Bornstein, C., D. Fross, and B. O'Brien. 2011. *Reimagining the California Lawn: Water-Conserving Plants, Practices, and Designs*. Los Olivos, CA: Cachuma Press.
- Bornstein, C., D. Fross, and B. O'Brien. 2005. *California Native Plants for the Garden*. Los Olivos, CA: Cachuma Press.
- Clebsch, B. 2003. *The New Book of Salvias: Sages for Every Garden*. Portland, OR: Timber Press.
- Connelly, K. 1991. *Gardener's Guide to California Wildflowers*. Theodore Payne Foundation: Sun Valley, CA.
- Fross, D., and D. Wilken. 2006. *Ceanothus*. Portland, OR: Timber Press.
- Harlow, N. 2004. *Plants and Landscapes for Summer-Dry Climates of the San Francisco Bay Region*. Oakland, CA: East Bay Municipal Utility District.
- Harlow, N., and K. Jakob. 2004. *Wild Lilies, Irises, and Grasses: Gardening With California Monocots*. Berkeley, CA: UC Press.
- Keator, G., and A. Middlebrook. 2007. *Designing California Native Gardens: The Plant Community Approach to Artful, Ecological Gardens*. Berkeley, CA: UC Press.
- Lowry, J.L. 2007. *Gardening with a Wild Heart: Restoring California's Native Landscapes at Home*. Berkeley, CA: UC Press.
- Lowry, J.L. 2007. *The Landscaping Ideas of Jays*. Berkeley, CA: UC Press.
- O'Brien, B., B. Landis, and E. Mackey. 2006. *Care and Maintenance of Southern California Native Plant Gardens*. Rancho Santa Ana Botanic Garden, California Native Plant Society, and Theodore Payne Foundation for Wild Flowers and Native Plants.
- Pettinger, A., and B. Costanzo. 2003. *Native Plants in the Coastal Garden: A Guide for Gardeners in the Pacific Northwest*. Portland: Timber Press.
- **Popper, H. 2012. *California Native Gardening: A Month-by-Month Guide*. Berkeley, CA: UC Press.
- Robson, K, A. Richter, and M. Filbert. 2008. *Encyclope-*

dia of Northwest Native Plants for Gardens and Landscapes. Portland, Oregon: Timber Press.

Rubin, G., and L. Warren. 2013. *The California Native Landscape: The Design Guide to Restoring Its Beauty and Balance*. Portland, OR: Timber Press.

**Schmidt, M.G., and K.L. Greenberg. 2012. *Growing California Native Plants, 2nd ed.* Berkeley and Los Angeles, CA: UC Press.

Smith, M.N. 2006. *Native Treasures: Gardening with the Plants of California*. Berkeley and Los Angeles, CA: UC Press.

The New Sunset Western Garden Book. 2012. Menlo Park, CA: Sunset Publishing Corporation.

Tallamy, D.W. 2007. *Bringing Nature Home*. Portland, OR: Timber Press.

Van Atta, S. 2009. *The Southern California Native Flower Garden*. Layton, UT: Gibbs Smith.

Wasowski, S., and A. Wasowski. 2000. *Native Landscaping from El Paso to L.A.* New York, NY: McGraw-Hill.

**Available for purchase at the CNPS online bookstore (<http://cnps.org/store.php>).

BLOGS

Bay-Friendly Blog: <http://www.bayfriendlyblog.org/p/about-us.html>

California Native Garden Design, by Rob Moore: <http://californianativegardendesign.blogspot.com/>

Ethnobotany Blog by Deborah Small: <http://deborahsmall.wordpress.com/deergrass/>

Earth-Friendly Landscapes, by Rama Nayeri: <http://www.earthfriendlylandscapes.blogspot.com/>

Garden of Native Plants, by Lorraine Du Bridge-Jones: <http://www.gardenofnativeplants.com/about/>

Grow Natives Blog, CNPS: <http://grownatives.cnps.org/>
Blogspot by Jeffrey Caldwell: <http://www.jeffreycaldwell.blogspot.com/>

Native Heart Landscapes, by Debbie Ballentine: <http://nativeheartlandscapes.com/blog/>

Native Sanctuary, by Orchid Black: <http://nativesanctuary.wordpress.com/>

Weeding Wild Suburbia, by Barbara Eisenstein: <http://www.weedingwildsuburbia.com/>

FACING PAGE: Who would have guessed this natural setting was a lawn just a few years ago? The existing ceanothus (*Ceanothus* 'Ray Hartman') and Pacific madrone (*Arbutus menziesii*) are now complemented by irises, monkeyflowers, and other compatible native plants. Photograph and garden design by Pete Veilleux.



NURSERY SOURCES

This is only a partial listing primarily of retail and mail-order nurseries in California that sell native plants. ++ denotes a CNPS chapter nursery. A more complete listing, including wholesale nurseries, can be found at: http://www.cnps.org/cnps/grownative/where_to_buy.php.

SOUTHERN CALIFORNIA

Grow Native Nursery: 100 Davis Avenue, Los Angeles, CA 90049; 424/234-0481; and 1500 N. College Avenue, Claremont, CA 91711; 909/625-8767; www.rsabg.org/grow-native-nursery

Matilija Nursery: 8225 Waters Road, Moorpark, CA 93021; 805/523-8604; www.matilijanursery.com/

Moosa Creek Nursery: 11760 Betsworth Road, Valley Center, CA 92082; 760/749-3216; www.moosacreeknursery.com

RECON Native Plants: 1755 Saturn Blvd., San Diego, CA 92154; 619/423-2284; www.reconnativeplants.com

Theodore Payne Foundation: 10459 Tuxford Street, Sun Valley, CA 91352; 818/768-1802; www.theodorepayne.org

Tree of Life Nursery: 33201 Ortega Highway, San Juan Capistrano, CA 92693; 949/728-0685; www.CaliforniaNativePlants.com

CENTRAL CALIFORNIA

Central Coast Wilds: 336 Golf Club Drive, Santa Cruz, CA 95060; 831/459-0655; www.centralcoastwilds.com/horticultural_services.html

Elkhorn Native Plant Nursery: 1957B Highway One, Moss Landing, CA 95039; 831/763-1207; www.elkhornnursery.com

Gold Rush Nursery: 3625 North Main Street, Soquel, CA 95073; 831/465-0314; www.goldrushnursery.com

Las Pilitas Nursery: 3232 Las Pilitas Road, Santa Margarita, CA 93453; 805/438-5992; www.laspilitas.com (2nd nursery is in Escondido)

Manzanita Nursery: 880 Chalk Hill Road, P.O. Box 1003, Solvang, CA 93464; 805/688-9692; <http://manzanitanursery.com/>

Native Revival Nursery: 2600 Mar Vista Drive, Aptos, CA 95003; 831/684-1811; www.nativerivival.com/

Santa Barbara Botanic Garden: 1212 Mission Canyon Road, Santa Barbara, CA 93105; 805/682-4726; www.sbbg.org

NORTHERN CALIFORNIA

Bay Natives: San Francisco, CA; www.baynatives.com (online only)

Buckeye Nursery: 2425 Adobe Road, Petaluma, CA 94952; 707/559-7081; <http://buckeye-nursery.com>

California Flora Nursery: Somers & D Street, P.O. Box

3, Fulton, CA 95439; 707/528-8813; www.calfloranursery.com

++Elderberry Farms Native Plant Nursery: 2140 Chase Dr, Rancho Cordova, CA 95670; lewisc916@yahoo.com

Hedgerow Farms: 21740 County Road 88, Winters, CA 95694; 530/662-6847; www.hedgerowfarms.com

Larner Seeds: 235 Grove Road, Bolinas, CA 94924; 415/868-9407; www.larnerseeds.com

++Home Ground Habitat Nursery: 275 Olive Ave. (within Green Point Nursery), Novato, CA; 415/892-9148; torgovitsky@comcast.net; www.homegroundhabitatnursery.org

++Native Here Nursery: 101 Golf Course Road, Berkeley, CA 94708; 510/549-0211; http://ebcnps.org/index.php/nativehere_nursery/

North Coast Native Nursery: 2710 Chileno Valley Road, Petaluma, CA 94952; 707/769-1213; www.northcoastnativenursery.com/

Mostly Natives Nursery: 27235 Highway One, Tomales, CA 94971; 707/878-2009; www.mostlynatives.com

Yerba Buena California Native Plant Nursery: 12511 San Mateo Road (Hwy 92), Half Moon Bay, CA 94019; 650/851-1668; www.yerbabuenanursery.com

NATIVE PLANT GARDENS

This is only a partial list of gardens featuring native plants (or natives and non-natives), and also includes a few examples of gardens connected to nonprofit centers, government buildings, or businesses. All are great places to see how to combine native plants into one's landscape.

SOUTHERN CALIFORNIA

Acorn Naturalists (Tustin)

www.acornnaturalists.com/

Conejo Valley Botanic Garden (Thousand Oaks)

www.conejogarden.com

California Native Garden, Golden West College (Huntingdon Beach)

www.goldenwestcollege.edu/garden

El Dorado Nature Center (Long Beach)

www.longbeach.gov/naturecenter/default.asp

Environmental Nature Center (Newport Beach)

www.encenter.org

Fullerton Arboretum (CSU Fullerton)

<http://fullertonarboretum.org>

Rancho Santa Ana Botanic Garden (Claremont)

www.rsabg.org

Nature Gardens, Natural History Museum

www.nhm.org of Los Angeles County

San Diego Botanic Garden (Encinitas)

www.sdbgarden.org/index.html

Shipley Nature Center (Huntington Beach)

www.shipleynature.org/index.html

Water Conservation Garden (El Cajon)
www.thegarden.org/

CENTRAL CALIFORNIA

Learning Pine Arboretum (San Luis Obispo)
www.leaningpinearboretum.calpoly.edu/
San Luis Obispo Botanical Garden
<http://slobg.org/>
Santa Barbara Botanic Garden (Santa Barbara)
www.sbbg.org
UCSC Arboretum (Santa Cruz)
<http://arboretum.ucsc.edu>

NORTHERN CALIFORNIA

East Bay Regional Parks Botanical Garden at Tilden (Berkeley)
www.ebparks.org/page156.aspx
Forest Deaner Botanic Garden (Benecia)
http://cnpsjepson.dreamhosters.com/?page_id=2
Humboldt Botanical Garden (south of Eureka)
<http://hbgf.org/>
Lindsay Wildlife Museum (Walnut Creek)
<http://wildlife-museum.org/>
Martha Walker Native Habitat Garden (Napa Valley)
www.napavalleycnps.org/index.php/martha-walker-garden/6-martha-walker-garden
San Francisco Botanical Garden
www.sfbotanicalgarden.org
Trinidad Museum Native Garden (North Coast)
www.trinidadmuseum.org/native-plant-garden.html
UC Botanical Garden (Berkeley)
<http://botanicalgarden.berkeley.edu/>
UC Davis Arboretum
www.arboretum.ucdavis.edu



OTHER

CNPS Horticultural Events Calendar: <http://www.cnps.org/cnps/horticulture/calendar/index.php>
California Native Garden Foundation: 76 Race Street, San Jose, CA 95126; info@cngf.org; <http://cngf.org/> (grants, classes, lectures, workshops)
Evans, M. Creating and Caring for Your Native Plant Garden. San Juan Capistrano, CA: Tree of Life Nursery, 2008, http://www.californianativeplants.com/index.php/resources/pdf-downloads/cat_view/35-pdfs/41-miscellaneous

ABOVE: This home garden contains a wildflower meadow that combines annuals with perennials, which compete for space as they often do in nature. Photograph by Stephen Rosenthal. • RIGHT: Container gardening is a practical alternative for people who lack garden space, or for those who enjoy having decorative pots brimming with native plants close to their living space. A large pot can accommodate many small species and become a tiny garden in itself. Photograph by Pete Veilleux.



NEW CNPS FELLOW: DAVID CHIPPING

by Pam Muick and Joan Stewart

Dr. David Chipping, CNPS's stalwart and dedicated conservation chair, was elected as a CNPS Fellow in 2012 in recognition of decades of advocacy on behalf of California's native habitats.

David Hugh Chipping was born in Forfar, County Angus, Scotland to military parents in 1943. After returning to London, David was fond of rambling in the south of England, collecting fossils that he proudly displayed at home.

The transition from collecting fossils to studying geology was a natural and happy step and David received his undergraduate degree from University of Cambridge in 1965. Meanwhile, his parents immi-

grated to California and encouraged him to consider graduate studies in California. David applied to Stanford's groundwater hydrology program and earned a master's degree in 1967. Feeling more at home with geologists than hydrologists, David completed doctoral field work on Central Coast geology, earning his PhD.

Serendipitously, UC Davis's geology department asked David's major professor to recommend a replacement for a professor who was out on leave; newly minted Dr. Chipping was hired by UC Davis in 1971. It was this teaching experience which qualified him for the geology professorship at Cal Poly, San Luis Obispo, where he has taught for over 40 years.



David Chipping at a CNPS San Luis Obispo Chapter banquet in 2010. Photograph by Marlin Harms.

On the two-day President's Trip, chapter members traveled along the Miranda Pines ridge of the Sierra Madre range in Santa Barbara, completing the trip on Mt. Pinos. David, along with Mardi Niles, are delighted to find wildflowers in bloom. Photograph by Bob Hotaling.



FROM FOSSILS TO WILDFLOWERS

During his courtship of Linda Schuh, now Linda Chipping, David invited her to join him on consulting trips to remote parts of the county to see unusual geologic formations. As he tells it, he kicked plants out of the way to show her the unusual rocks beneath. Linda pushed the rocks out of the way to point out the unusual plants.

Married in 1988, David joined Linda in CNPS chapter activities. That same year she introduced David to a Chapter Council meeting at Marin Headlands. David recalls that he was still "in the act of engaging with CNPS." During breaks in the meeting, he would step outside to inspect the geology. Though long interested in conservation, David hadn't recognized that CNPS was "one of the big ones" in California's conservation community.

David said that it was "his mouth" that first got him noticed by CNPS. At a meeting at Bass Lake, he spoke up and had something to say.

By 1990, he was elected a State Director-at-Large and now “fully engaged with CNPS.” A year later he was invited by George Clark, then president of the Sacramento Chapter, to join the state Conservation Committee. David served as State Conservation Director from 1999–2005 and continues to serve on the Conservation Committee.

PLANT CONSERVATION HIGHLIGHTS

Over the past 25 years, David has served on the board of directors of the San Luis Obispo Chapter in many positions, most recently as president. When asked to select his greatest accomplishments, David bluntly stated, “It is teamwork down here;

everyone here is so damn good.” Acknowledging that his strengths include civility and being a “good ideas person,” David identified a couple of highlights: protecting coastal dune habitats in Los Osos with a suite of state and federal agencies; and, in 2004 “with a cast of thousands,” he contributed to the successful 82,000-acre Hearst Ranch acquisition.



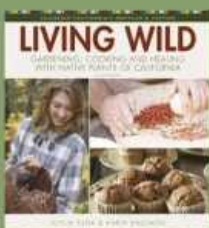
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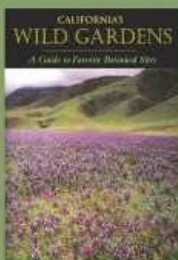
Titles range from resource guides on the use of native plants...



Living Wild
Gardening, Cooking and Healing with Native Plants of California
2nd edition
Alicia Funk & Karen Kaufman

\$29.95

...to books that celebrate the splendor of California's native flora...



California's Wild Gardens
A Guide to Favorite Botanical Sites
Phyllis M. Faber

\$34.95

...and technical papers on rare plants, regional conservation, and habitat restoration.



Strategies and Solutions
California Native Plant Society
2009 Conservation Conference
Proceedings

\$65.00

To view books, posters, and other CNPS merchandise, please visit

www.cnps.org/store.php.

Orders can be placed online or by calling 916-447-2677, ext. 202.



For a number of years, Dr. David Chipping has volunteered as a field trip leader for the native plant identification walk (co-leading with CNPS Fellow Dr. Dirk Walters) and also presents a local geology talk at the annual Hi Mountain Lookout Project Open House event held in October in Los Padres National Forest. Photograph by Steve Schubert.

For the Hearst Ranch negotiations, David, along with Dirk Walters and John Chesnut, assumed the Lorax role ("I speak for the trees") for the native plants in the Arroyo del la Cruz watershed. In the original plan, building sites were located on top of rare and endemic species. Through their efforts, development

areas were relocated and the species were spared.

At the state level, David worked with former Southern California Regional Botanist Ileene Anderson to initiate a series of regional conservation meetings to provide appropriate tools to local chapters to protect their local plant populations and habitats.

IN GRATITUDE

This too brief tribute has but skimmed the surface of David Chipping. He is a conservation leader, teacher, writer, field trip leader, and photographer. His deep knowledge, high energy, and irreverent remarks make David a delight in the field and an extremely valued participant in brainstorming sessions. He has written numerous policy papers and reports for CNPS. He contributed a section on Morro Bay rare plants to *California's Wild Gardens*, and a section on weeds (with Carla Bossard) to *Invasive Plants of California's Wildlands*. For the 2012 CNPS Conservation Conference he was the Closing Plenary Session speaker. It is this suite of talents and qualities exhibited over the decades that led to his election as CNPS Fellow. Long may he flourish!

Pam Muick, 1332 Empire Street, Fairfield, CA 94533-4720, pmuick@sbcglobal.net; Joan Stewart, 37759 Highway 190, Springville, CA 93265, tori2toli@ocsnet.net

BOOK REVIEWS

Reimagining The California Lawn: Water-conserving Plants, Practices, and Designs, by Carol Bornstein, David Fross, and Bart O'Brien. 2011. Cachuma Press, Los Olivos, CA. 154 pages. \$27.95, paper. ISBN#978-0-9789971-3-7.

Reimagining The California Lawn is about transformation. That is, transforming water consuming lawns and gardens into water conserving meadows and prairies, herb and kitchen gardens, rockeries, carpet and tapestry gardens, green roofs, succulent gardens, and more! You can even replace

your water-loving lawn with a water-conserving, drought-adapted native grass lawn, if you want to, and play soccer on it!

The three highly acclaimed authors bring tremendous depth of knowledge and experience to the page. Anyone of the three would have produced a magnificent book, so the occasion to have all three working together to produce these creative solutions is an opportunity not to be missed!

The book is brilliantly organized. In Chapter One the authors unravel the process of garden designs for lawn replacements by featuring seven major types of designs with many variations. Each design type is well illustrated with detailed descriptions, an abundance of images, and plant lists containing species and varieties that

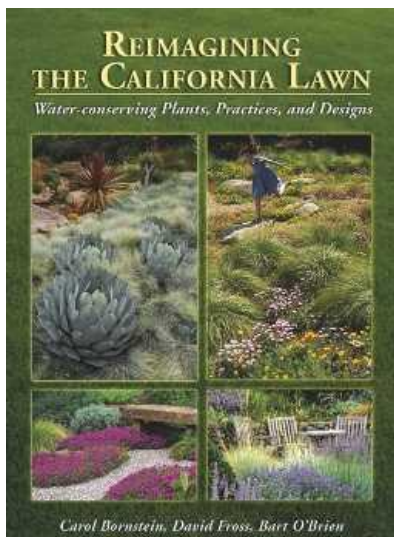


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are easy to find in nurseries. The authors explain how to develop a lawn-replacement garden and point out important aesthetic, practical, and ecological factors. Topics discussed include the use of space, views, seasonal change, encouraging wildlife to the garden, fragrance, irrigation, mulching, and hardscape (paths, patios, raised beds, and trellises).

Chapter Two covers how to manage, reduce, or remove lawns. Instructions for several methods of lawn removal are described from stripping and tilling, to solarization, sheet mulching, and even careful strategic use of herbicides.

Chapter Three is devoted to plant profiles. The species descriptions are thorough and alphabetically organized for easy reference. Each includes the plant type (shrub, subshrub, perennial, grass, or succulent), climate zones where each species or cultivar will flourish, and their light, soil, and water requirements. There is also information on native origin or distribution, habitats, and recommended garden uses. The plant palette is comprised of both California natives and non-natives, with the natives conveniently displayed in green type to help separate them from "the pack." CNPS encourages you to select from the natives and where you find yourself still wanting, go to the authors' other marvelous book, *California Native Plants for the Garden*.

Whether you are a landscape architect, a garden designer, botanist, home gardener, property manager, veg-

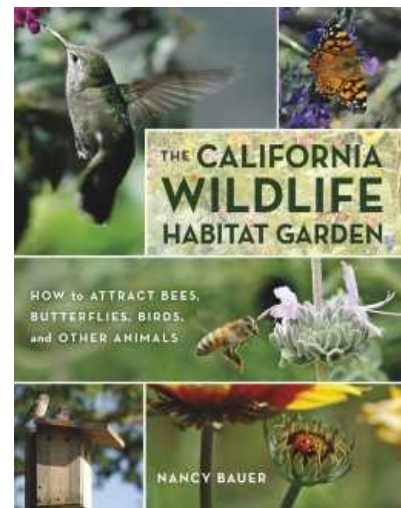
etable and fruit grower, or even if you have not yet determined that you like gardening, this book is for you! The authors' approach prevents readers from getting bogged down in the details, and they make the process achievable even for beginning gardeners.

As you read this book, water-consuming gardens and lawns will become unimaginable to you. The simple grassroots notion introduced several decades ago of using native plants for a thirsty California has burgeoned into an ecologically focused native plant gardening movement, one fueled by our desire to take better care of the earth and create energy efficient, and beautiful wild gardens around our homes. *Reimagining The California Lawn* is a major contribution to this movement. But don't let it stop here. Buy the book. Plant the garden!

—Brett Hall

The California Wildlife Habitat Garden: How to Attract Bees, Butterflies, Birds, and Other Animals by Nancy Bauer. 2012. University of California Press, Berkeley CA. 232 pages. \$29.95, soft-cover. ISBN#: 978-0-520267-81-7.

This book offers step-by-step instructions on how to build your garden into a sustainable ecosystem by selecting plants that will attract desirable insects and birds. Ultimately it



will help you maximize the amount of wildlife using your property, which will then provide you with enjoyment for years to come.

It is a must-have for novice gardeners, and an invaluable resource for more experienced gardeners looking to expand or improve their wildlife garden. It is well written, applicable throughout California, easy to understand, and has stunning photographs. The author is an experienced and successful wildlife gardener, writer, and educator. Clearly she put a lot of work into writing this book since the "Books and Resources" appendix is almost ten pages long, along with a four-page bibliography. It is packed with so much useful information that it might

A Special Offer for CNPS Members



Pacific Horticulture is the only quarterly publication written by and for gardeners and plant lovers who understand the need for responsible gardening in the summer-dry climates of the West Coast states. The magazine features California natives and other non-invasive mediterranean-climate species, superb color photography, in-depth book reviews, scientific reports, and a regional garden events calendar. Visit us at www.pacifichorticulture.org.

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replace several of your gardening or wildlife books, as well as save you time researching questions on the Internet.

Using examples of gardens from around the state (Walnut Creek, Tujunga, Novato, Sebastopol, San Jose, Fountain Valley, and Mill Valley), the book covers the basics for starting a wildlife habitat, and also offers information on how to sustain it into the future. Each includes a plant list and covers in detail one specific topic, such as habitat gardening basics, birds, pollinators, how to build a wildlife pond, and how to remove a lawn. While the author does include the use of some non-native (and non-invasive) plants to attract more wildlife, the focus is on California's native plants.

The author includes a helpful appendix on "Invasive Pest Plants" and refers the reader to the great work of the California Invasive Plant Council for more information. The remaining

ten appendices are practical sources of more specific information on such topics as "Oaks in the Landscape," "Plants for Hedgerows," and "Seasonal Plants for Hummingbirds." My favorite part of the book is the appendix on "Common California Butterflies and Host Plants" because it's a comprehensive yet concise list of butterflies and their host plants that you will actually encounter in your garden regardless of which part of the state you live in.

Although I'm an experienced native plant gardener, I learned many new things from this book. For instance, did you know that mosquito dunks are a more environmentally friendly option and have less impact on wildlife than do non-native fish for mosquito control? I was also glad to see the author discuss the importance and value of composting your green waste on site, whenever possible, rather than sending it away in a gas-spewing truck to take up more room at the

landfill (and possibly furthering the spread of invasive plants).

One disagreement I have with the author is on the use of herbicides. The author never uses any chemicals, but there are times where the responsible use of an herbicide is actually better for the health of the garden than other weed control methods. One example is a hillside of iceplant (*Carpobrotus edulis*). It should be sprayed and left to decompose on site rather than being ripped out, to avoid opening up the soil to erosion and weeds.

Nancy Bauer's book will help you in two ways: it will increase the habitat value of your yard, and it will minimize your impact on Mother Earth. The reader should be cautioned that gardening for wildlife is not a panacea for species extinction. The author makes a strong case and is 100% correct about the importance of welcoming wildlife—especially insects—into your garden to make up for the loss of open space and biodiversity, and the overly manicured home landscapes that proliferate. While we should all try to maximize the habitat value of our gardens, we still need to continue to advocate for what's left of our open space, because most species need more than what our home gardens can ever provide in order to survive.

—Carolyn Martus



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Growing California Native Plants, Second Edition: Expanded and Updated, by Marjorie Schmidt (1905–1989) and Katherine L. Greenberg. 2012. University of California Press, Berkeley, CA. 286 pages. \$26.95, paper. ISBN#: 978-0520266698.

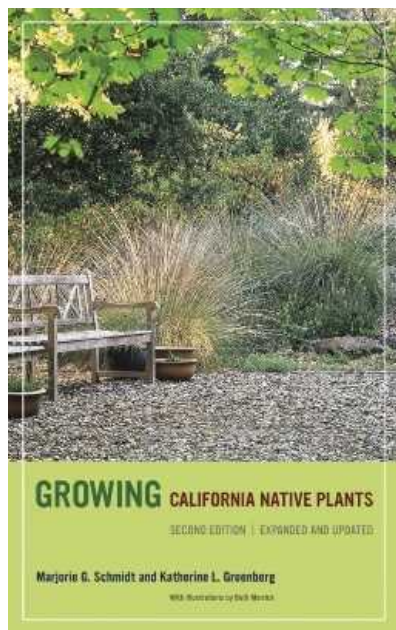
When the first edition appeared in 1980, Marjorie Schmidt's book was one of the few resources for gardening with California native plants and remained so for many years. Now 30 years later, the field is almost crowded. And so much the better!

In this new edition, the entire book has been revised and updated in content and appearance. Where color photographs were confined to four pages of glossy paper in the center of the book, the new edition is printed on glossy paper. This permits color pictures to be interspersed throughout

the text, which is thus more readable. The overall tone of the book is less technical and is directed more toward the beginning native plant gardener. The new edition has also shrunk in size—from 366 pages to 286.

This new look is introduced in the Table of Contents where the book is clearly divided into three main sections: Gardening with Native Plants, Plant Descriptions, and Plant Selection Guide. These are followed by a glossary, which has also been revised to reflect the less technical orientation of this edition, an exhaustive list of resources, and an index.

The first section, **Gardening with Native Plants**, offers fewer detailed instructions for propagating and culti-



vating native plants than did the previous edition. As an example, seven pages are devoted to *Propagation by Seed* in the first edition. This topic is condensed to a page and a half in the second edition, reflecting both the increased availability of such information and some changes in approach.

The **Plant Descriptions** section is further divided into Trees, Shrubs, Perennials, Annuals, Bulbs, Vines, and Grasses. Note that vines and grasses have been added! These divisions were titled *Growing Native Trees, Shrubs, Bulbs, Perennials, and Annuals* in the first edition and each entry included specific cultivation information.



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 —Theodore Payne

Descriptions in Edition 2 are more oriented to the beginning gardener and are less scientific in tone. The headings *Culture* and *Estimate of Garden Value* have been dropped and some of that detail incorporated into the new text. Specifics such as distribution, size, exposure, and so on are presented in condensed form at the beginning of each article. The extensive tables found under some genera such as *Arctostaphylos* and *Ceanothus* in the old book are quite reduced in the new edition. A five-page chart in the first edition lists the *Ceanothus* alphabetically by

species. In the new book, there are two shorter tables, one for ground-cover and low shrubs, the other for medium to tall varieties.

The **Plant Selection Guide**, which consists of checklists of plants suitable for many different garden situations, replaces the *List of Native Plants by Garden Requirements and Uses*. Entries in the old format include scientific name, common name, and uses. A symbol denotes where more information is available in the text. The Plant Selection Guide in the second edition is simply a checklist arranged by usage.

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Much overlapping information has been eliminated.

The advantage of the revised edition of *Growing California Native Plants* is ease of use and portability. *California Native Plants for the Garden* (Bornstein, Fross, and O'Brien) covers pretty much the same territory. With the elimination of much of the technical information in the new edition of Schmidt's work, the two books offer

pretty much the same level of information on native plant gardening. The arrangement of plant description by category in the second edition of *Growing...* offers faster access to specific plants. This, combined with its convenient size, make it an excellent native plant guide to take along to the nursery to help the aspiring California native plant gardener with selection.

—Sarah Jayne



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This San Jose garden was designed for the birds, literally! It includes over 30 species of natives, 17 of which were specifically selected to attract birds. In addition, all of the concrete from the demolition was reused, including some to create this raised pond-less waterfall. The sound of the water, which runs only twice a day, attracts even more birds. Photograph by Stephen Rosenthal.

ERRATA: On page 37 of the last issue of *Fremontia* (Vol. 40, No. 1, Vol. 40, No. 2), the plant in the top photo was identified as Parish's yampah (*Perideridia parishii*). The correct species name is ball parsley or ranger's buttons (*Sphenosciadium capitellatum*). Thanks to Jake Sigg for catching this.

BENEFITS OF NATIVE PLANTS

Native vegetation evolved to live with the local climate, soil types, and animals. This long process brings us several gardening advantages.

SAVE WATER

Once established, many native plants need minimal irrigation beyond normal rainfall.

LOW MAINTENANCE

Low maintenance landscaping methods are a natural fit with native plants that are already adapted to the local environment. Look forward to using less water, little to no fertilizer, little to no pesticides, less pruning, and less of your time.

PESTICIDE FREEDOM

Native plants have developed their own defenses against many pests and diseases. Since most pesticides kill indiscriminately, beneficial insects become secondary targets in the fight against pests. Reducing or eliminating pesticide use lets natural pest control take over and keeps garden toxins out of our creeks and watersheds.

WILDLIFE VIEWING

Native plants, birds, butterflies, beneficial insects, and interesting critters are "made for each other." Research shows that native wildlife prefers native plants.

SUPPORT LOCAL ECOLOGY

As development replaces natural habitats, planting gardens, parks, and roadsides with California natives can provide a "bridge" to nearby remaining wildlands.

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This is what a garden can look like in its first year when planted with small native perennials and a few annuals. Care must be taken not to allow the annuals to smother the perennials. Photograph by Pete Veilleux.

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SUBMISSION INSTRUCTIONS

CNPS members and others are invited to submit articles for publication in *Fremontia*. If interested, please first send a short summary or outline of what you'd like to cover in your article to *Fremontia* editor, Bob Hass, at bhass@cnps.org. Instructions for contributors can be found on the CNPS website, www.cnps.org, under Publications/*Fremontia*.

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Celia Kutcher served as curator of the Fullerton Arboretum from 1978–2000, and is conservation chair for the Orange County Chapter, CNPS.

GUEST EDITORIAL

The mission of the California Native Plant Society is to conserve California native plants and their natural habitats, and increase understanding, appreciation, and horticultural use of native plants. At CNPS, we advocate the use of native plants wherever possible in our landscapes and home gardens.

This is not to say that plants from other areas outside our geographical borders are “bad” plants. But as author, professor, and ecologist Douglas Tallamy writes in his book *Bringing Nature Home*, “All plants are not created equal, particularly in their ability to support wildlife.” Native plant gardening connects us to our region, restores vestiges of our damaged ecosystem, encourages biodiversity, and helps us cherish and understand the incredibly rich botanical heritage that we enjoy as Californians. When we garden with native plants we are choosing to share our love of the California flora with others.

In addition to the enjoyment native plant gardening affords us, it always provides us with this opportunity to make a difference. As Tallamy says, “For the first time in history, gardening has taken on a role that transcends the needs of the gardener.”

I hope this special horticultural issue of *Fremontia* has given you new ideas about gardening with native plants and promoting their use, and that you share it with friends and neighbors. We are all very grateful to our authors, reviewers, and editors for translating their expertise into the poetry of their words, and to our photographers who tell whole stories without words. Their inspiration contributes more tools to help us band together and continue to grow a vibrant native plant community.

—Laura Camp, Chair
CNPS Horticulture Program

(continued on inside back cover)