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Lorquin's admiral perched on American oenanthe (*Oenanthe sarmentosa*).

CHARLES KENNARD

Gardening for Wildlife with Native Plants

by Anne Hayes

My backyard is nothing to boast about, with its clumps of grass and sprawling blackberry canes. So I was surprised when a flock of white-crowned sparrows came to visit. As they scratched in the dirt for grass seed, I began to notice golden-crowned sparrows and towhees as well, and a scrub jay pounding acorns into the ground. What I had seen as barren called to these birds as a haven of sorts.

The sparrows returned for several days and then were gone. Where did they go? In my mind's eye I traveled with them as they flew up over my neighbor's manicured lawn, above the streets and shopping centers, in search of other lots like mine. I imagined looking down on this mosaic as a white-crowned sparrow might, and I marveled at how much habitat for wildlife remains in our densely inhabited landscape.

A QUILT OF BACKYARD HABITATS In the Bay Area's residential areas, 20 to 60 percent of the land remains open—it has not yet been sealed by paving or covered by structures—and every bit is potential habitat. Wherever there's soil and air, organisms are making a living: Fungi and bacteria silently go about the business of energy conversion, insects hunt and pollinate, plants extend roots downward and stems upward, and winged creatures—or furry or skin-breathing ones—eat and sleep. Habitat doesn't only mean parks and undeveloped lands; it also means backyards and front yards and side yards and median strips. It even means gardens of potted plants.

Habitat means different things to different creatures. For one kind of lichen, it can mean a patch of concrete. For the Anna's hummingbird that visited where I used to live, habitat meant a willow tree to nest in and nectar from California bee plants. Almost any red flower will attract a flexible feeder like the Anna's hummer, but California bee plant supports a host of other species as well. As a native of coastal California, its rich interactions with local wildlife have evolved over thousands of years.

In my new yard, I had inadvertently



created habitat for seed-eating sparrows simply by neglecting to mow. I began to wonder what I might accomplish if I purposely tried to bring wildlife to the yard, and I began to think about the larger habitat that might be created if my neighbors became wildlife gardeners as well. With care and attention, these patches of land could become refuges, little havens of biodiversity. Pieced together, they might make a crazy quilt of not-quite-wilderness that provides far more habitat than will ever be preserved as public open space.

And what's inviting to wildlife, of course, also benefits the broader environment. Anna's hummingbirds rely not only on nectar but also on small insects for nourishment; if you permit the presence of a few aphids because they make good bird food, then you probably won't have to use pesticides. If you plant locally appropriate native plants because you want to attract a greater variety of animals, you can skip the fertilizers because these plants don't need them. And since many natives are drought tolerant, you'll be conserving water too, a significant step when you consider that more than 50 percent of the water used by residences in the Bay Area is applied outdoors. So indeed, the choices we make in our yard—whether it's a half acre or a three-foot balcony—can make a big difference to wildlife and to the environment in general.

A DIALOGUE WITH PLACE

As I discovered, wildlife gardening begins with watching. It continues with gardening, participat-



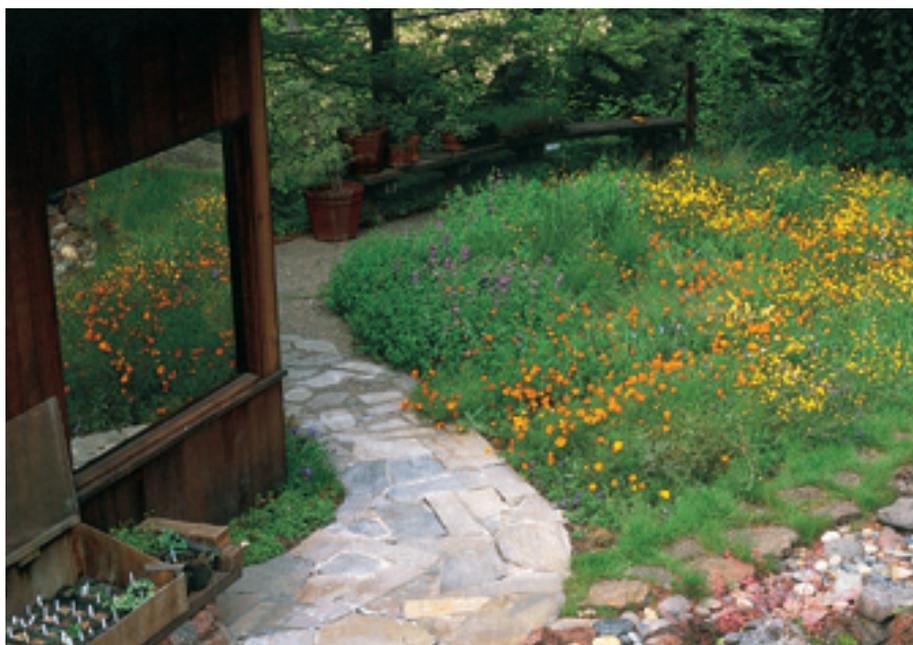
ing in the ebb and flow of the seasons, experiencing the give-and-take of soil and climate. Gardens are a meeting place between human effort and natural process, a place to engage in an ongoing and evolving dialogue with the natural world.

Over the last few years, I have worked with others from my neighborhood to transform an ivy-covered hillside in a city park in Oakland from monochrome to varied and bright, quick with life. When I first began planting that slope in Oakland with the Friends of Sausal Creek, the ground was so hard we had to use picks. Over time the earth became easier to work as we added mulch and planted spreading herbs whose fine roots broke up the soil. As the garden has matured, I have taken great pleasure in seeing it change. Where I once enjoyed an annual clarkia adorning a stone bench, I now delight in a pairing of perennial blue-eyed grass and low-growing ceanothus. The first manzanita that I planted is five years old now, grown

Left: Aerial view of houses and backyards in San Francisco, near Mount Davidson.

Above: A juvenile rufous/Allen's hummingbird feeds on the nectar of a California fuchsia (*Epilobium canum*).

A native bunchgrass meadow in the Berkeley hills, with California poppy (*Eschscholzia californica*), Chinese houses (*Collinsia heterophylla*), and buttercups (*Ranunculus californicus*).





Sometimes local variations produce California poppies of different hues.



tall and flourishing. And with the first warm breezes of spring, I return with anticipation to look for mourning cloak butterflies that are aloft again, having waited out winter in nearby alder hollows.

As part of the restoration of Sausal Creek, we created a demonstration garden, where we planted California natives as well as local natives. We chose a number of showy California natives for the garden because we wanted to draw visitors' attention to the beauty and utility of native plants in general. We planted local natives — species that occur in the Sausal Creek watershed — because they're uniquely adapted to local conditions, to the particularities of climate and soil that distinguish the Bay Area from other parts of the state.

PRESERVING LOCAL SPECIFICITY

California natives are plants that originate somewhere in California. Some California natives are used horticulturally — they have been collected from the wild and brought into production, and are distributed through the nursery trade. *Local natives* are those plants that grow naturally in a given watershed or specific region. Gardening with the local flora helps retain individual and regional variations in plant species. These variations are known as local specificity, and the California poppy provides a simple example.

Everyone knows this glowing orange flower, *Eschscholzia californica*. Our state flower occurs naturally throughout much of California. But it can look different in different places. Along the coast in Marin County, for example, *E. californica* can be quite yellow, and smaller. Same species, different look. Why this variation occurred is hard to say. It is not necessarily an adaptive trait — the plant's survival may not depend upon it.

attempting to preserve variation at multiple scales. Depending upon availability, you can grow plants that occur as locally as your watershed, or as broadly as your county or the entire Bay Area. More than 1,200 plants are native to the Bay Area, and they are the true native flora, the foundation of the wildlife garden that was our predisturbance landscape around the Bay.

PRESERVING THE ENVIRONMENT

Despite their differences, one thing that many natives have in common is that, once established, they don't require much watering. This is because they are adapted to our Mediterranean climate, which is characterized by six months without rain. In a region where water is a precious commodity, a plant's ability to thrive with little or no supplemental watering is a plus for both the individual pocketbook and the larger environment. One caveat: Not every native species is drought tolerant. After all, some native plants have adapted to growing near streams or bogs. Willows are great wildlife plants, but they like to keep their feet wet. In the garden, they would require more water than, say, a hummingbird sage that naturally occurs in dry chaparral. Likewise, redwood trees may be native to Alameda County, but a redwood in Livermore in eastern Alameda will need much more supplemental water than one (continued on page 31)

California pipevine (*aristolochia californica*) is the only native food source for the caterpillars of the pipevine swallowtail butterfly.



CHARLES KENNARD



Creating a Creek

When she gets out of the shower in the morning, Sue LaTourrette might find herself standing 10 feet from a great egret. “We live on a creek,” she says, “so we were used to wildlife. But we never had herons and egrets before!”

These days, great blue herons, hawks, and songbirds are frequent visitors. Raccoons stop by nightly. Last winter, Sue chronicled the courtship of mallards from her family’s prime wildlife viewing area: a pair of windows spanning the corner of the bathroom.

Peter and Sue LaTourrette’s home, though it is on a level cul-de-sac off a busy Los Altos boulevard, does not present the usual suburban face of prim foundation plantings surrounded by sod. About six years ago, the LaTourrettes killed the lawn and ripped out the swimming pool. Bermuda grass, star jasmine, oleanander, and cement were replaced with a broad, shallow pond and waves of diverse native vegetation meant to entice visitors in carapace, feathers, or fur. The back of the lot is shaded by a massive valley oak whose roots extend deep into the banks of Permanente Creek.

Another huge tree anchors the entrance to the LaTourrettes’ modest home—a nonnative magnolia. It survived the garden conversion simply because it was too big to take out, but a few other

exotics have been permitted to remain for other reasons. Sue and Peter cherish a Japanese maple that graces the walkway along the front of the house. And Peter, who is an avid birder, guiltily showed me a tobacco tree he put in behind the house. “It can be invasive,” he says, “but it’s a rich, rich hummingbird plant.”

The majority of the one-third-acre lot, however, has been given over to California natives. Low mounds and field stones set off a chaparral area, where brilliant magenta lavatera offsets more subdued hues of white sage. Bees congregate at coyote mint’s whorls of purple flowers. Yarrow grows everywhere, its blooms



SAXON HOLT



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here maroon instead of the more common white. Adding ballast to all this color are the evergreen leaves of Catalina currant. “We have a lot of species from the

kside haven

LOS ALTOS

by Anne Hayes



SUE LATOURRETTE



PHIL ROBERSON

Clockwise from lower left:

- The native perennials section of the garden includes white sage (*Salvia apiana*) and woolly blue curls (*Trichostema lanatum*) in the foreground, with golden aster (*Heterotheca sessiliflora*) and island buckwheat (*Eriogonum grande rubescens*) behind.
- The pond is surrounded with Berkeley sedge (*Carex tumulicola*); common rush (*Juncus patens*) is in the foreground, with pink farewell-to-spring (*Clarkia*) directly in front of it.
- A great egret in the LaTourrettes' pond.
- Peter and Sue LaTourrette in their garden.

Channel Islands," Sue explains. "When we started out," Peter adds, "we didn't know about the distinction between California and local natives. But we've learned about it since."

Peter LaTourrette was a birder, not a gardener, when he and Sue decided to renovate their yard. "I wanted an English cottage garden—with California natives," Sue says. "I wanted paths. I wanted to bring birds and butterflies into the yard." Sue drew up a plant list, then another one, and another. She found ongoing inspiration at nurseries, botanic gardens, and the Yerba Buena Nursery demonstration garden.

Modification has continued, based on messages from the gar-

den itself. It took the LaTourrettes three tries to find the right spot for their shade-tolerant coral bells, for example. The berms they built for structural variety, it turns out, also provide well-drained

soils. Around the pond, Sue and Peter planted six sedges. Now there are two dozen. "So many plants reseed themselves," says Sue. "They go where they want to. It's good to have a plan," she adds, "but you've also got to be willing to let nature take its course."

Peter takes lessons from the garden, but he also draws inspiration (and plant materials) from farther abroad. After losing a number of plants to the soggy spot behind the pond, Peter tried a scrub willow from Del Norte County. He planted yerba mansa under the willows when he noticed an association of these two plants along the Kern River in Southern California. Both have flourished and are now part

of a diverse assemblage of California native plants that has no analogue in nature but provides an abundance of food for wildlife.

The garden's success as habitat has been recognized by warblers, waxwings, dozens of bees—and environmentalists. On display inside is a certificate from the National Wildlife Federation, identifying the garden

as Backyard Wildlife Habitat #29302, providing animals with food, water, places to hide, and places to raise young.

At an estimated 300 years of age, the immense oak near the creek serves as a beacon to the birds, signaling the presence of water and the creek's high-quality habitat. Sue and Peter have capitalized on their proximity to the creek to draw into their yard many bird species attracted to water. The week that I visited, a Cooper's hawk—a species that in the Bay Area inhabits riparian corridors—stopped in for a drink at the LaTourrettes' pond.

Peter and Sue are clearly in love with their bit of land beside Permanente Creek. Peter says he spends about seven hours a week in the garden, tending the pond and "puttering, planting, moving plants." For anyone who wants to learn about native plants, Peter recommends choosing an area to experiment; it doesn't have to be the whole garden. And start planting. But, he reminds us, "you're on an annual cycle, so you don't learn things immediately. In the garden, you've got to give it all a little bit of time." 🐦

drawing with a lo

If not for an unassuming wire fence, you might mistake Judith Larner Lowry's garden for one of nature's own. The tall wooden gate resists slightly, then yields, permitting the visitor to step into a quiet community of coastal scrub. Undulating stands of coyote brush stretch in all directions, some low, some tall. Within this architecture, one begins to notice dozens of other species: Toyon is growing here, as are ceanothus and manzanita. Soaproot flower stalks, open and lanky, sprawl above coffeeberry, sticky monkeyflower, and seaside daisies. Dune tansy nods. Drifts of poppies and late-blooming wildflowers hail the breeze and wave satiny petals to the sun.

Wildflowers are Lowry's stock in trade—she sells native plant seed for California homes and gardens. Founded more than 20 years ago, Larner Seeds has grown to include a nursery, workshops, site consultations, and garden installation. Lowry's "Notes on Natives" pamphlets recently blossomed into *Gardening With a Wild Heart*, a meditative synthesis of her experience as a gardener and purveyor of native plants.

In the book, Lowry makes the case for gardening as a form of ecological restoration. "Using species in the local native plant palette to make comfortable, useful, beautiful gardens," she writes, "can also help restore ecosystems that have been fragmented or lost." To the extent possible, the backyard restoration gardener seeks to rebuild native plant and animal communities as they exist in the wild. He or she considers the yard as it must have been, and looks to intact



SAXON HOLT

plant communities for ideas about what it could become.

Lowry's own backyard sits on a marine terrace that was once—and in her yard is again—a rich complex of coastal plant communities, including scrub, prairie, and woodland. In the demonstration garden, through which visitors enter the property, the dominant community is scrub. "I started with dune and bluff species," Lowry says, "but they died out." Other plants like coyote brush, which was already on the site, flourished. Lowry took

her cue from the land itself, and began to structure the demonstration garden around that keynote shrub. Amid the islands and hedges she has created with coyote brush, she has interspersed a wild diversity of forbs—broad-leaved annuals—and smaller shrubs.

Lowry has been working on her site, which covers just under an acre, for nearly two decades.

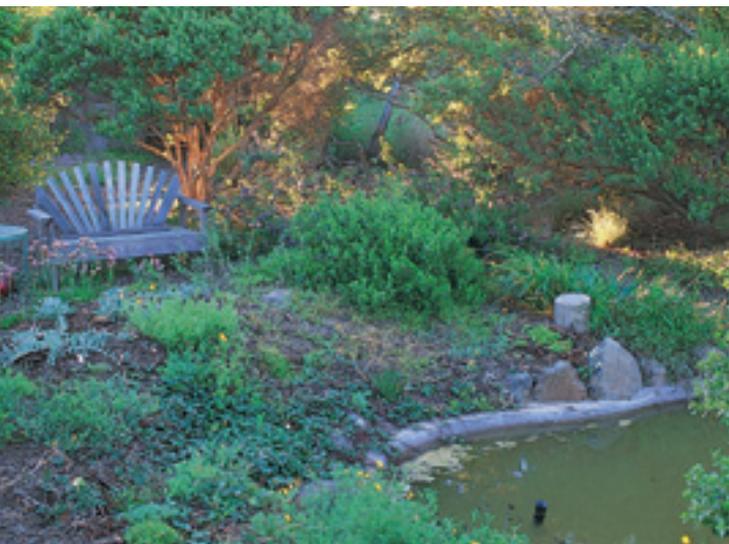


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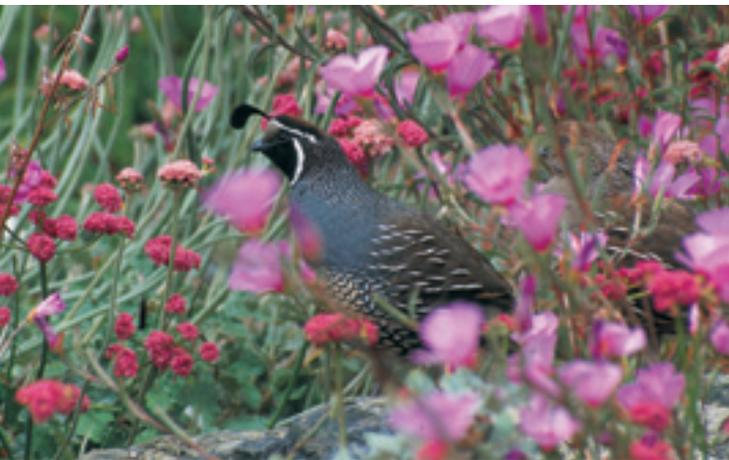
cal palette

BOLINAS

by Anne Hayes



SAXON HOLT



ALAN HOPKINS

Left: Judith Lowry sorts native plant seeds in her garden.

Top left and top center: The pond in front of the office is surrounded by several native grasses, Douglas iris (*Iris douglasiana*), and coyote brush (*Baccharis pilularis*).

Right: The gray-green of coastal wormwood (*Artemisia suksdorfii*) grows in front of desert bluebells (*Phacelia companularia*) and sticky monkeyflower (*Mimulus aurantiacus*) in Lowry's wild-flower garden.

Above: California quail foraging in a bed of *Clarkia* and island buckwheat.

When she began, it was almost entirely overrun with invasive exotics that she gradually removed by hand. Though invasive, such thickets nonetheless harbored wildlife that would have been rendered homeless by large-scale clearance. "Before we cleared one small area of broom and Cape ivy," she says, "we established another area for habitat with toyon and coffeeberry."

Over the years in this garden, the animal that Lowry has bonded with most is the California quail. Though they can fly, quail seldom do so for very long—they are, essentially, a terrestrial species. In environments

SAXON HOLT



with buildings and roads, most birds can fly from danger or to find food and shelter. But quail, like other animals anchored to the ground, have more to overcome in securing their needs.

Out here on the Bolinas Mesa, though, the quail feel right at home. Flocks scurry across the dirt roads, raising a ruckus. From the shelter of thickets they chortle and scold. They are year-round residents whom Lowry has courted with a mosaic of shrubs and bunchgrasses, open spaces and hiding places tailored to meet their preferences. They have graced her garden with their abiding presence.

For her human neighbors, Lowry has some ideas for landscaping as well. Rather than making windbreaks from short-lived or invasive species like Monterey cypress or blue gum eucalyptus, Lowry recommends what she

calls the "Bolinas Hedge," a mix of coffeeberry, California wax myrtle, creek dogwood, and California hazelnut. All occur locally, grow without much water, and require little pruning. And, of course, they're better for local wildlife.

To illustrate that native plants can satisfy a variety of tastes, Lowry has formally pruned a hazelnut shrub on one side of her office door and let one grow naturally on the other.

She has a small cottage garden around the patio outside her office, where she has used a variety of California natives—some cultivars, not all local—to create an intimate, flower-filled setting that would charm even the most recalcitrant conventional gardener. Wildflowers, she says, are an easy way to win anyone over to an appreciation of the beauty of native plants.

As a backyard restorationist, Lowry might say that gardening is about participating, not creating. When red-ribbon clarkia appeared in a corner of her garden, Lowry fell down on her knees in delight. "I had never seen it here. I'd seen it three miles from here, but not *here*. And this is the experience as a gardener that I treasure most: when plants move around, when other plants appear. Then I know that things are happening without me." 🐦

Illustrations by Peg Steunenberg



California fuchsia—*Epilobium canum*
(formerly *Zauschneria californica*)

If you want to attract hummingbirds to your garden when many other nectar sources have dried up, plant California fuchsia. This 1- to 3-foot-tall, semi-evergreen perennial spreads rapidly and widely by underground stems. Its aboveground stems are upright, densely clothed with narrow, gray-green leaves, and festooned with brilliant crimson, tubular flowers from late summer into fall. Growing naturally on dry slopes and rocky areas, California fuchsia can tolerate full sun to part shade, occasional summer water or drought, and various soils (although well-drained is best). To control its scraggly tendencies and rejuvenate the plant, prune its stems almost to the ground in winter.



Hummingbird sage—*Salvia spathacea*

Hummingbird sage is just as attractive to hummingbirds as California fuchsia, but blooms earlier in the season. It grows as a coarse-textured perennial ground cover, spreading by underground stems. Its leaves are large and oblong, medium green, and sweetly fragrant. From mid-spring to early summer, it is a showstopper, with whorls of magenta flowers surrounding stems that rise 1 to 3 feet above the leaves. It can be found in the wild on sunny or shady slopes. In the garden, it grows very well in dry shade and in many soil types. If it's grown in full sun, occasional summer watering will keep it lush. The long-throated flowers provide nectar for hummingbirds and butterflies.



Coyote mint—*Monardella villosa*

This lovely and diminutive plant will grace a garden with fragrance and color and bring butterflies for years if accorded the neglect it prefers. Coyote mint is an evergreen, slightly woody small shrub growing at most 1 foot tall. Its leaves are small, oval, deep green to gray-green, and pungently minty. In late spring to early or mid-summer, dense heads of pink to lavender flowers bloom at the stem ends. In the wild, this plant grows on rocky slopes and thus prefers well-drained soil and little summer water. When grown under lush garden conditions (heavy or rich soil and moderate water), it becomes leggy and less attractive. Butterflies and other insects will visit the flowers.



California pipevine—*Aristolochia californica*

There is so much to recommend this plant: Its foliage is lovely, its flowers are unique, it thrives with no attention, and it's a feast for wildlife. California pipevine is a deciduous vine that climbs slowly for the first three or four years and rather rampantly thereafter. It grows naturally along streams and in woodlands, and prefers partial to full shade. It tolerates summer drought and many soil types. Its unusual but delicate, pipe-shaped, pale green flowers bloom in early spring before the lush, heart-shaped leaves emerge. Tiny fungus gnats pollinate the flowers and the leaves provide the only native food source for the larva of the pipevine swallowtail butterfly. The beautiful blue and black adult butterflies visit the flowers in May and June.

Text by Sue Rosenthal



Douglas iris—*Iris douglasiana*

Our native irises have a clean and simple beauty that makes the Dutch hybrids look positively gaudy. The 1- to 2-foot-long, dark green, sword-shaped leaves of Douglas iris grow from fanlike arrangements into large, dense mats over several years. Early spring brings beautiful flowers that resemble butterflies in shades of white, blue, or purple. Douglas iris is native to grassy slopes and shaded woodlands and will tolerate a wide range of conditions and soils, making it an easy addition to the garden. In hot interior areas, though, it needs partial shade and some summer water. If you look closely at the flower petals, you will see the narrow guidelines that direct bees to the nectar within.

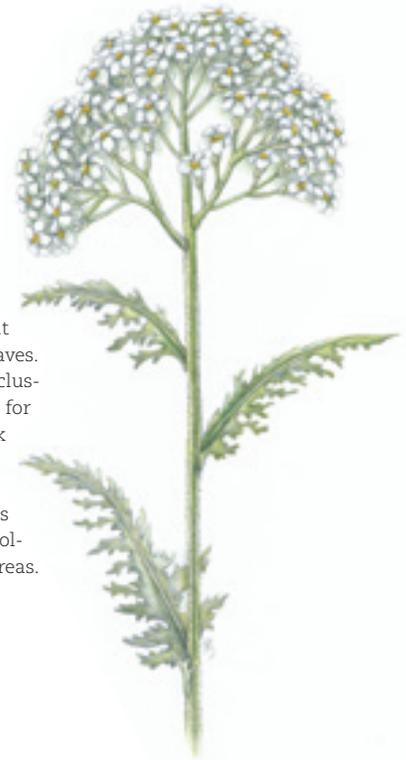
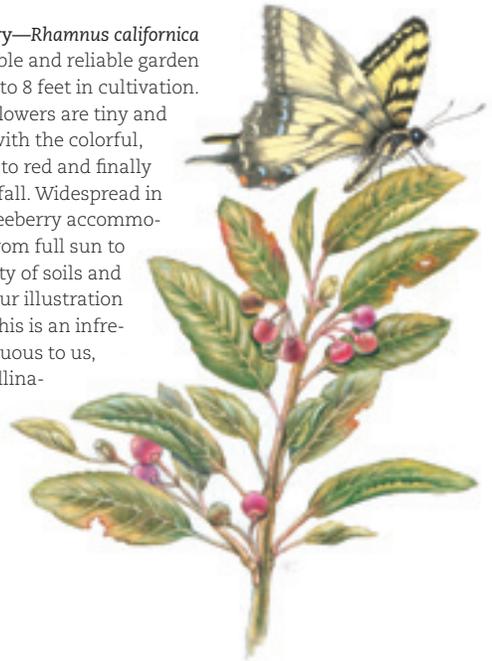


Silver bush lupine—*Lupinus albilfrons*

Although difficult to find commercially as a container plant, silver bush lupine grows abundantly in the Bay Area and is well worth the magical experience of starting from seed. This evergreen, woody, 2- to 5-foot rounded shrub is clothed in beautiful silvery leaves shaped like cartwheels. In spring, spikes of fragrant blue-purple flowers rise above the plant in profusion. In nature, silver bush lupine grows on dry slopes and fields and thus in the garden prefers full sun, well-drained soil, and little or no summer water. Bees and butterflies visit the flowers, which change color subtly to signal successful pollination. The dry fruit pods expel small seeds that provide summer forage for birds and small mammals.

Coffeeberry—*Rhamnus californica*

This evergreen shrub is a most adaptable and reliable garden plant that grows rapidly to heights of 3 to 8 feet in cultivation. Its summer-blooming, yellow-green flowers are tiny and not showy; the real display comes with the colorful, small berries that change from yellow to red and finally purple-black in late summer through fall. Widespread in the coastal counties of California, coffeeberry accommodates a range of garden conditions, from full sun to moderate shade. It also tolerates a variety of soils and occasional or no summer water. Our illustration depicts leaves chewed by beetles, but this is an infrequent occurrence. Although inconspicuous to us, the flowers attract a variety of insect pollinators, including butterflies; birds and small mammals eat the ripe berries.



Yarrow—*Achillea millefolium*

This attractive and easy garden plant is a mecca to many butterfly species. It spreads rapidly as a dense ground cover a few inches to a foot tall, with fragrant and delicately fernlike, dark green to gray-green leaves. From late spring through summer, large, flat-topped clusters of small white flowers serve as landing platforms for pollinating bees and butterflies that come to drink nectar. In winter, the leaves provide forage for birds. Native to grasslands and meadows, yarrow grows in full sun to part shade and in many soil types. It looks best with occasional water during the summer but tolerates drought in coastal areas.

starting with t

Kathy Welch had already begun to consider renovating her yard in the Oakland hills when she made a few discoveries. “I found a trillium poking out. It was beautiful, a deep claret color. It had struggled through the ivy! I also found soaproot and California polypody.”

Polypody is a small fern that, like the wake-robin trillium, grows in shaded canyons along most of the California coast. The lot behind Welch’s house is long and sloping, and is defined by a small grove of coast live oaks whose lofty limbs provide a graceful counterpoint to the steep pitch of the land. Having been a docent at the UC Botanical Garden for more than a decade, Welch was able to spot the few native plants remaining under the oaks despite a sea of ivy swamping the trees.

At the time, she was already conferring with Michael Thilgen, a principal of Four Dimensions Landscape Development in Oakland, about ways to protect the oaks. He proposed a more ambitious project to restore a portion of the yard to the oak woodland it had once been. So began a dialogue about habitat restoration that led to the crafting of a sophisticated but accessible landscape that moves seamlessly from the built environment to the wild, from the dwelling of humans to the realm of wildlife.

Though very much anchored by the oaks, the quarter-acre backyard is also emphatically a garden. As you emerge from the house, your eyes fall to a small pond at the perimeter of the flagstone patio. Tall stalks of scarlet



SAXON HOLT

monkeyflower lean out over the water’s edge, leading the eye up and out over the entire yard. To either side of the pond, the upright plumes of a showy bunchgrass—not a native—block the view, creating a sense of enclosure.

The grasses along the patio have been planted parallel to the house, in order to echo its geometry. “The interaction of the exotic and the native—the architectural and the natural—comes into play throughout the garden,” says Thilgen. Here, closest to human habitation, the exotic and architectural take precedence.

Broad stone steps lead away from the patio. In sloping beds



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on either side of a landing are Welch’s kitchen garden and her flower beds filled with both native and exotic flowers, vegetables, and herbs. The effects are stunning: Blue-gray grasses mingle with purple and burgundy

Above: The deck in Welch’s garden is shaded by coast live oak (*Quercus agrifolia*) and vine maple (*Acer circinatum*) trees and surrounded by *Festuca* ‘Siskiyou Blue’ (a garden hybrid) and alumroot (*Heuchera*).

h e o a k s

OAKLAND HILLS

by Anne Hayes



SAYON HOLT



PETER LATOURETTE



SUE ROSENTHAL

Top left: A winding path leads to an oak grove.

Top center: The path here is lined by creeping thyme (a nonnative) and Douglas iris.

Top right: A bushtit forages for small insects on the leaves of a coast live oak.

Center: Kathy Welch, Michael Thilgen, and Pluto.

flowers; lettuce grows amid a plethora of sharp-scented herbs. Smaller stone steps laid directly in the soil and interspersed with woolly thyme wind through an exposed, south-facing slope planted with California natives that, Thilgen says, “evoke a chaparral community.” These hardy shrubs such as lavender and St. Catherine’s lace are adapted to dry conditions and bright sunlight. Shrubs dominate now, but in the garden’s first year, Thilgen sowed wildflower seeds in this area. These annuals provided beauty and variety while the shrubs were setting root and gaining height. Wildflowers are great starter plants in any wildlife garden—many are easy to grow,

and they attract a variety of pollinators.

Walking on decomposed granite now, you duck under a low oak limb and enter an open area under the oaks. “Here,” says Thilgen, “it gets to be more like a walk in the woods.”

Protecting the oaks was Welch’s highest priority. Having endured summer water, strangulation by English ivy, and other insults, the oaks were in decline when she arrived. She and Thilgen began to look around for understory species, plants that naturally occur under oaks. “To the extent possible, we put in what we could find in the watershed,” Welch said. Thilgen collected seeds locally and grew them at home—an ambitious project. California fescue, phacelia, and fringe cups now line the trail. Shade-tolerant shrubs grow here too: thimbleberry, snowberry, coffeeberry, and others. One can almost imagine the oaks above them breathing a collective sigh of relief.

When she wanders among the oaks, Welch says, “I feel that I’m in an oak woodland, and a lot of

that has to do not only with the plants, but with everything else that comes to see you there.” At the Botanical Garden, Welch studied pollinators and flower types, and now she sees those relationships played out in her yard. Insectivorous birds—chickadees, nuthatches, bushtits—come to feed on the bees and flies that are, as she says, moving pollen in the garden.

From the bottom of the slope, you can look back up to the house, through the woodland, the chaparral, the flower beds. “There’s a good bit of leisure in this garden,” Thilgen acknowledges. “There’s enough length to establish a mood and then gradually move out of it, into something adjacent.” But he maintains that any garden can gracefully acknowledge the interplay between nature and humanity.

“Garden design,” says Thilgen, “can be a metaphor for human relations with the rest of nature. We are an industrial society; we don’t have much of an idea anymore how to work with the land. So that’s what this”—Thilgen gestures to the garden around him—“is about: exploring the possibilities.” 🐦

Walk around your garden this spring and see for yourself what's happening; bees are everywhere. I'm not just talking about the familiar honeybee, *Apis mellifera*, which, since its introduction to North America 380 years ago, has become synonymous in the public's mind with "bee." Look a little closer and you'll notice an assortment of bees that don't quite look like those familiar Italian imports. These are California's native bees, busy collecting pollen and nectar from every imaginable floral resource in a drive to provide offspring with enough food to grow up strong and replace them the following spring. California, with its vast assemblage of more than 5,000 native plants, has an impressive diversity of native pollinating bees—more than 1,500 known species. Here in the Bay Area we can expect to see at least 75 of these.

Anyone who has ever kept honeybees knows they are fair-weather pollinators and sloppy ones at that. Cloud cover and cool temperatures send them buzzing back to the hive for shelter. They will visit nearly every flower regardless of whether it

much more to lose, solitary bees rarely sting potential predators (including humans).

Native solitary bees fall into four general categories: ground nesters, leafcutters, cavity nesters, and masons. Ground nesters excavate burrows in sandy soil or cliff banks. Leafcutters excise semicircular swatches of leaf material, which they fashion into a cylindrical vessel to hold the pollen cake upon which they lay their egg. Cavity nesters use beetle emergence holes in trees, the hollow stems of plants, crevices under bark, and even the furrows of the chiseled epitaphs on cemetery headstones. Mason bees collect pollen and pack it into natural cavities before laying a single egg on the pollen loaf. The cavity is then sealed off from predators and the elements with a mud plug. Mason bees are also readily attracted to artificial nest boxes, as are native bumblebees. Bumblebees, which nest colonially, are extremely efficient pollinators, visiting only unpollinated flowers and "working" even in low temperatures and light rain.

Recent research has shown that native bees prefer native

plants when given the choice, though most species are able to feed on introduced species as well. In monitoring done on garden plots in the East Bay, bees were observed to prefer native plants over exotic ornamentals by a ratio of four to one. Not surprising, given that many horticultural varieties of landscape plants

have been selected for their ability to produce showy blooms for us, the human purchaser, at the expense of nectar or pollen production. So they are less attractive to pollinators than the simple, natural structures of native plant blooms.

While nothing can replace the wildlands we have lost to development, backyard gardens can be good foraging habitat for our native pollinators. Indeed, recent investigations suggest that urban plantings can have a significant impact on the numbers and diversity of native bees. Dense stands of native flowering plants are particularly attractive to them, and patches of about 16 square feet are more desirable than isolated plantings here and there. Bees get more bang for the buzz when there are lots of flowers to visit in a small area; flying from plot to plot expends valuable energy and uses up fuel and time. Many solitary bees nest within 50 yards of their foraging sites, so providing artificial nest boxes near pollen sources will help to promote a healthy population of bees in your yard. In turn, bringing native bees into your surroundings will ensure a better fruit/seed set for your plants, give you hours of entertainment, and create a foundation for a healthy native landscape right outside your window. 🐝

EDWARD ROSS

EDWARD ROSS



Left: *Halictidae agapostemon* on a thistle (Chiles Valley, Napa County).

Right: *Xylocopa tabaniformis* takes nectar from a monkeyflower (Mill Valley).

has already been pollinated. But when conditions are right, 15,000 workers streaming out of the hive can do a lot of pollinating in a short period of time; hence their value as crop pollinators and honey producers.

Unlike the honeybee, most native bees are solitary species that do not form huge colonies with discrete divisions of labor. They may nest communally where habitats are prime, but they go about their work primarily as individuals sharing a common resource. What the honeybees provide through sheer volume, the native bees provide in efficiency. Since native bees evolved in concert with our flora over the millennia, their peak of activity coincides with the bloom cycles of native flowers and shrubs. Some pollinate specific types of plants, or even particular plant species.

Besides pollinating flowers, trees, and shrubs, native bees are themselves food for a wide range of other wildlife. Lizards, dragonflies, bats, mantids, frogs, toads, assassin bugs, spiders, songbirds, and other bees and wasps feed on them. Unlike colonial nesters such as honeybees and wasps, which have

It's really not that hard to transform your garden into a welcoming habitat for native wildlife. But you do need to know where to start. Here are a few steps to help you begin:

1. Start small. Working in a small area makes the project manageable and increases the likelihood of success. Remove a patch of lawn, expand or create borders, or replace plants in a corner that has been troublesome, perhaps one that required a lot of water or chemical inputs.

2. Clear the ground. Dig out perennial weeds such as blackberry and ivy; pull up annuals such as chickweed. When you've finished, water several times over the next month, and pull any seedlings that appear. This technique, called presprouting, gives you a head start on recurring annual weeds.

3. Get to know your garden patch. The Pacific Ocean is the predominant factor in California's climate, and it affects



TONY MOROSCO

Plant sales by local CNPS chapters are a great source of native garden plants.

every Bay Area garden, keeping coastal summers cool and winters mild. Farther inland, temperature fluctuations are greater—hotter in the summer, colder in the winter. The varied topography of the Bay Area also creates **microclimates** in each neighborhood. Hills block or redirect wind and fog and rain, while valleys and gaps permit these forces to come pouring through. Thus a gardener in Martinez might deal with conditions different from one in Walnut Creek, and both work in circumstances quite different from a gardener in San Francisco's Sunset District.

Each garden plot has its own particular conditions as well. Knowing the amount, and timing, of **sun and shade** is paramount in determining what you'll be able to grow. Which direction does

your garden face? When do shadows creep across it? If you live along a creek, you'll need to find plants that do best in moist conditions.

How much **rain** your garden receives is determined by climate and topography, but there may be particularly cool and moist, or warm and dry, places in your garden. A low spot where rainwater consistently collects, for example, might create ideal conditions for a mini-wetland. A south-facing bed along a white wall will be the place to put sun-loving plants that want warmth.

Soil also influences what will grow and where. Get to know your soil by squeezing a handful when it's moist. If it clumps together, then it's mostly clay. If it falls apart, it's primarily sand. The ideal soil, like a good potting mix, holds together loosely. It will drain well but also retain moisture and deliver nutrients.

Clay soils do not drain well, so if you have them, you'll

want to look for plants that tolerate poor drainage. If you want to grow natives that require good drainage (as many do), you can plant on a slope or build broad 18- to 24-inch mounds using a good garden soil mix.

4. Learn about local native plants. This means learning what naturally grows in your area and getting a sense of what does well in your garden's conditions. Attend programs given by the local California Native Plant Society (CNPS) chapter; go on walks led by park naturalists; join work parties with a creek group doing restoration in your watershed.

To see what natives look like at different times of the year, visit the appropriate section of a botanic garden, or visit Bay Area nurseries that specialize in native plants. Are any of your neighbors growing natives? Ask what has worked for them.

5. Make a plan. Decide which plants you want to have in your garden, and how to lay them out.

As you plan, consider the **needs of wildlife**. Food, water, shelter, and places to raise young are the essential elements of wildlife habitat. **Food** means all things plant-related: pollen, nectar, berries, seeds, stems, and leaves. It also means bugs; they're food for other bugs, for birds, mammals, reptiles, and amphibians. So avoid insecticides.

Moving **water** attracts more species than still water, but even a shallow basin on the ground, kept clean and refilled regularly, will provide birds with a place to drink and bathe.

To provide **shelter** for the greatest number of species, diversify the architecture of the garden; that is, select plants that will occupy different levels when mature. Also, a variety of plantings will provide reproductive space for more species. Leave leaf litter in place, and use mulch.

Keeping these elements in mind, draw up a plant list. Consider selecting and grouping species by community (e.g., grassland, coastal scrub, chaparral), since they are adapted to similar conditions and will do well together. These combinations can be very beautiful.

6. Buy plants and put them in! A good source of local native plants are sales held by CNPS chapters. Some botanic gardens sell native plants, and there are several "natives only" nurseries in the Bay Area. An increasing number of traditional nurseries also carry a selection of natives. (See "Resources" on page 30.) Conventional wisdom holds that natives are best planted in the fall and winter, to capitalize on the rain. While this is true, native plants can be put in through the spring—they'll just need watering to get established.

7. Tend the garden. The rewards of gardening unfold over time, as your awareness and experience grow. Help your plants get established with regular watering through the first two summers. Once established, most local natives should need no additional summer water, fertilizers, or pesticides. Keep weeding. For additional guidance, see the "Resources" section on page 30, and visit www.baynature.org. 🐦

NATIVE PLANT GARDENING RESOURCES

Nurseries, Seed Suppliers, Plant Sales, and Botanic Gardens

NOTE: Always check in advance for hours of operation.

California Flora Nursery

P.O. Box 3
Somers and D Sts.
Fulton, CA 95439
(707)528-8813
Nursery plants.

California Native Plant Society

All Bay Area chapters hold annual native plant sales.

- East Bay: www.ebcnps.org
- Marin: www.marin.cc.ca.us/cnps
- Milo Baker (Sonoma): www.sonic.net/~vulpia/cnps/mbaker.html
- Napa Valley: www.ncfaa.com/skyline/cnps.htm
- Santa Clara Valley: www.stanford.edu/~rawlings/blazcon.htm
- Willis Linn Jepson (Solano): www.cnpsjepsonchapter.org
- Yerba Buena (S.F. and San Mateo): www.cnps-yerbabuena.org

Freshwater Farms, Inc.

5851 Myrtle Ave.
Eureka, CA 95503
(800)200-8969
www.freshwaterfarms.com
California wetland and riparian native plants and seed.

The Gardens at Heather Farm

1540 Marchbanks Dr.
Walnut Creek, CA 94598
(925)947-1678
www.gardenshf.org
Nonprofit educational garden with a native plant demonstration garden.

Larner Seeds

P.O. Box 407
Bollinas, CA 94924
(415)868-9407
www.larnerseeds.com
Mail order seed. Also, nursery plants, especially coastal natives. Demonstration garden.

Mostly Natives Nursery

P.O. Box 258
27235 Hwy. 1
Tomales, CA 94971
(707)878-2009
www.mostlynatives.com
Nursery plants, especially coastal natives.

Native Here Nursery

101 Golf Course Dr.
Tilden Regional Park
Berkeley, CA 94708
(510)549-0211
www.ebcnps.org
Nursery plants native to the East Bay.

Rana Creek Nursery

35351 E. Carmel Valley Rd.
Carmel Valley, CA 93924
(831)659-3820
www.ranacreek.com
Native grass seed and nursery plants, emphasizing habitat restoration.

Regional Parks Botanic Garden

Wildcat Canyon Rd. at South Park Dr.
Tilden Park
Berkeley, CA 94708
(510)841-8732
www.nativeplants.org
Ten-acre California native plant garden. Nursery plants April through December; large, annual plant sale in April.

Saratoga Horticultural Foundation

15185 Murphy Ave.
San Martin, CA 95046
(408)779-3303
www.saratogahortfoundation.org
Nursery plants.

Seedhunt

P.O. Box 96
Freedom, CA 95019
www.seedhunt.com
Mail-order seed of annuals and perennials.

Strybing Arboretum & Botanical Gardens

Ninth Ave. at Lincoln Way, Golden Gate Park, S.F.
(415)661-1316
www.strybing.org
Garden includes large California native section. Plant sales throughout the year, some include natives.

U.C. Botanical Garden at Berkeley

200 Centennial Dr., Berkeley
(510)643-2755
www.mip.berkeley.edu/garden
Garden includes large California native section. Sales at various times of year; most include some natives.

Wayward Gardens

1296 Tilton Rd.
Sebastopol, CA 95472
(707)829-8225
www.waywardgardens.com
Nursery plants. Specializes in "flora for fauna."

Yerba Buena Nursery

19500 Skyline Blvd.
Woodside, CA 94062
(650)851-1668
www.yerbabuenanursery.com
Nursery plants. Demonstration garden.

Books

Bauer, Nancy. **The Habitat Garden Book: Wildlife Landscaping for the San Francisco Bay Region.** Coyote Ridge Press, 2001.

Clear and compact beginner's guide to native and nonnative plants that attract birds, bees, butterflies, and beneficial insects.

Francis, Mark and Andreas Reimann. **The California Landscape Garden: Ecology, Culture, and Design.** University of California Press, 1999.
Bringing the California landscape and wildlife into the garden through ecological gardening practices.

Hagen, Bruce, et al. **Compatible Plants Under and Around Oaks.** Oakland: California Oak Foundation, 2000.
Guidelines for planting under or near native oaks.

Hayes, Anne and Shannah Anderson. **The Gardener's Guide to Native Plants of the East Bay.** Aquatic Outreach Institute, 2001.
Useful beginner's guide to plants and resources for the East Bay native plant gardener.

Lowry, Judith Larner. **Gardening with a Wild Heart.** Berkeley: UC Press, 1999.
Meditation on wildland ecology, restoration gardening practices, and native plant horticulture.

Ornduff, Robert. **An Introduction to California Plant Life.** Berkeley: UC Press, 1974.
Guide to California's plant communities and the environmental influences that determine their distribution.

Schmidt, Marjorie. **Growing California Native Plants.** Berkeley: UC Press, 1980.
Detailed growing information for many native plants.

Sonoma County Master Gardeners. **Flora for Fauna: Habitats for Birds, Butterflies, and Beneficial Insects.** Wayward Gardens, 1999.
Includes a database of plants and the types of fauna they attract.

Stein, Sara. **Noah's Garden: Restoring the Ecology of Our Own Backyards.** Boston/N.Y.: Houghton Mifflin Co., 1993
Follows the transformation of the author's garden as part of her efforts to restore the native ecosystem.

Websites

The Bay Area Gardener
www.gardens.com
Resources for Bay Area gardeners.

California Academy of Sciences
www.calacademy.org/research/botany/wildflow/index.html
Provides detailed information about California wildflowers.

California Native Plant Society
www.cnps.org
Information about native plants and links to local chapters' websites, many of which contain native plant gardening advice.

eNature
www.enature.com
Includes information and advice on backyard habitat gardening.

Classes, Workshops, Lectures, Walks

Aquatic Outreach Institute (Richmond)
(510)231-5655
www.aoinstitute.org
Gardening for Wildlife workshops are currently offered to residents and educators in Contra Costa and Alameda Counties.

California Native Plant Society
www.cnps.org
Links to walks and programs focusing on native plants offered by local chapters. Gardening with Natives group (Santa Clara Valley CNPS Chapter) Monthly meetings, and annual native plant garden tour. Contact Stephanie Morris at StephLMorris@hotmail.com

Friends of the Jepson Herbarium (Berkeley)
(510)643-7008
<http://ucjeps.berkeley.edu/jepwkshp.html>
Wide variety of workshops and classes on botanical and ecological subjects.

LifeGarden (Walnut Creek)
(925)937-3044
www.LifeGarden.org
Classes, tours, and lecture series about ecological gardening and topics such as native plants.

Marin County Stormwater Pollution Prevention Program

(510)499-3202
www.mcstoppp.org
Taking Root workshops for K-5 teachers about creating healthy school gardens.

Regional Parks Botanic Garden (Berkeley)

(510)841-8732
www.nativeplants.org
Classes and lectures on native plant botany, horticulture, and natural history.

Glen Schneider and Lyn Talkovsky

(510)644-1776 or (510)231-5912
East Bay landscape professionals offering classes and information on gardening for wildlife using local native plants.

Strybing Arboretum Society (San Francisco)

(415)661-1316 ext.300
www.strybing.org
Classes on botany and horticulture.

Many Bay Area community colleges have horticulture departments that offer classes in ecology, native plants, garden design, and more.

Advice / Libraries

UC Cooperative Extension

<http://ucanr.org/ce.cfm>

UC Botanical Garden at Berkeley Sick Plant Clinic

200 Centennial Dr., Berkeley
First Saturday of each month.
(510)643-2755

Helen Crocker Russell Library of Horticulture

Strybing Arboretum, Ninth Ave. at Lincoln Way, Golden Gate Park, S.F.
(415)661-1316 ext.303
www.strybing.org/hcrlib.html

California Native Plants Discussion Group

www.calypteanna.com/ca-natives.html
Listserv for people with questions about California native plants.

For additional resources, visit www.baynature.org

Thanks to Jeanne Ateljevich, editor of *Manzanita* (the newsletter of the Friends of the Regional Parks Botanic Garden), for permission to excerpt resources listed in the Fall 2001 issue.

(continued from page 19) planted in foggy, west-facing Montclair. The moral of the story: The most successful gardeners study their sites and choose the plants appropriate for them. The happy ending: The right local native in the right place will save water.

Using natives also reduces the amount of fertilizers or pesticides needed in a garden; having evolved here, these plants don't need the artificial boost provided by fertilizers or the lethal protection against insects that pesticides bring. Indeed, many native plants will attract insects that provide their own natural pest control, by preying on other bugs. (In gardening circles, these predators are known as beneficial insects.) In the 1950s, James Tilden identified 165 insects closely associated with coyote brush, a common hardy native; that's a record no exotic species could match. And while some gardeners may shudder at the thought of inviting insects into their yards, that's what is needed in order to attract birds, frogs, and other wildlife.

GARDENING FOR BEAUTY Gardening for wildlife using local native plants is not only about ecological practicality, however. It's also about beauty—the beauty of the plants themselves and of a garden that acknowledges and amplifies life in a semi-arid land. Gardening with local natives gives us the opportunity to celebrate California's seasonal cycles of rain and its absence. During the dry time, plants slow down and settle into dormancy. Resinous scents fill the air; greens change to tawny and gray. The garden becomes a place of meditative quiet. When the first rains come, the plant world wakes up with astonishing speed. Washed clean, last season's leaves burst into growth, and the new season begins to unfold.

The climatic rhythms and beauty of California's flora has long been recognized. Its springtime profligacy awed early visitors and helped create our state's mythic image. Individual plants, too, drew the eye of many an appreciative observer, inspiring poetry, song, and field guides. *The Wild Flowers of California*, written in 1897, is unabashed in its enthusiasm for the colorful, almost sensual qualities of native plants. In her 1940 book *Hardy Californians*, Lester Rowntree advocated more widespread horticultural use of natives in California and beyond. Gerda Isenberg, founder of Yerba Buena Nursery in Woodside, inspired a generation of restorationists and native plant gardeners in the 1970s and 1980s.

Besides a history, native plant gardening has a future. Local governments from Seattle to St. Paul are landscaping with native plants, and they're urging residents to do the same. The Audubon Society has launched a national "garden for life" initiative; since 1973, the National Wildlife Federation has been encouraging gardeners to use native plants to create better habitats for wildlife.

The idea is gaining popularity locally for the same reason it is gaining attention nationally: Native plant gardening is a positive and rewarding action anyone can take (if you don't have your own yard, there's a good chance the local school or library does). And it has potentially far-reaching environmental benefits. It has caught on in the Bay Area also because the local flora

Getting Chemicals out of the Garden

The use of chemicals in home gardens is one of the major sources of pollution in residential neighborhoods. Bay Area gardeners apply 85 tons of the commonly used pesticide (bug killer) diazinon around their homes each year. This is in addition to the herbicides (weed killers) and fertilizers they use in an effort to keep the bloom on their roses and the green in their lawns. But once applied to the plants, these toxic compounds find their way into our water and our air.

Diazinon is now being phased out for all uses in urban areas, due to the Environmental Protection Agency's concern about its potential health impact on children. Approval for home use of another commonly used pesticide, chlorpyrifos, was withdrawn last year. These two chemicals were found in dozens of the most popular garden pest control products.

Herbicides are also a matter of grave concern. Last year in independent tests, a common home lawn herbicide containing the chemicals 2,4-D, dicamba, and mecoprop was found to reduce fertility, cause miscarriages, and elevate rates of non-Hodgkin's lymphoma and birth defects.

Years ago I grew roses in my yard. I sprayed them to combat blight and rust, but they still looked bedraggled much of the time. Then a friend suggested that I find plants that belonged here, that would thrive without the use of chemical sprays. That's when I began to grow California natives. They tend to be more resistant to pests and diseases, and are better equipped to outcompete weeds, thus reducing the need for pesticides, fungicides, and herbicides. I haven't used a pesticide or fertilizer in a decade, and I have a beautiful, healthy garden—and a child—to show for it. *Kathy Kramer*



has so many devoted advocates. One of these is Judith Lowry, whose garden is shown in these pages.

When Lowry moved to Bolinas in the early 1980s, there wasn't a single native plant garden in town. Now there are 36. At the time, Lowry says, promoting the use of native plants felt like swimming against a heavy tide; enthusiasts were viewed as well-meaning crackpots, and it was next to impossible to find sources of plants or seeds. But now she sees a groundswell in favor of

the use of natives, which she attributes in part to the concept of gardening for wildlife. "A lot of people are drawn in," she says, "when you say it's better for the birds, better for the pollinators, and better for the insects."

It's also better for people. Spending time outside enlivens the senses. Learning about our local flora and fauna enlarges awareness. Stitching together a landscape that is safe for plants, animals, and people benefits all of life. 🐦

"Gardening for Wildlife with Native Plants" was made possible by the generous support of:



Santa Clara Valley Water District (SCVWD) manages Santa Clara County's wholesale drinking water resources, coordinates flood

protection for its 1.7 million residents, and provides stewardship for the county's 10 reservoirs and more than 700 miles of streams. (www.valleywater.org)



East Bay Municipal Utility District (EBMUD) provides water to 1.3 million people in cities and communities in Alameda and Contra Costa Counties, and wastewater treatment services to more than

640,000 people. Water conservation and recycling are key components of the District's integrated resource plan, which is designed to ensure a sustainable supply of water for the future and to protect and enhance water quality and ecosystems in the Delta and San Francisco Bay. (www.ebmud.com)



Marin County Stormwater Pollution Prevention Program (MCSTOPPP), serving all 11 cities/towns and the unincorporated areas of Marin, has been working since 1993 to protect and enhance water quality in local creeks. It

provides information on less toxic pest management, native plants for wildlife, creekside plants, and invasive plants. (415-499-6528 or www.mcstoppp.org)



Alameda Countywide Clean Water Program is a consortium of public agencies working together to reduce stormwater pollution and protect our creeks and San Francisco Bay. (www.cleanwaterprogram.com)



Alameda County Water District (ACWD) provides a reliable supply of high-

quality water at a reasonable price to its customers in Fremont, Newark, and Union City. It seeks to design and operate safe, efficient facilities; to maintain a diverse and creative workplace; and to be a good neighbor and steward of the environment. (www.acwd.org)



U.S. Fish and Wildlife Service Coastal Program. USFWS is the principal federal agency responsible for conserving, protecting, and enhancing fish, wildlife, plants and their habitats for the continuing benefit of the American people.

The Service manages the 93-million-acre National Wildlife Refuge System, which is celebrating its 100th anniversary in 2003. (www.fws.gov)



Contra Costa Water District (CCWD) provides reliable, high quality water to residents of central

and eastern Contra Costa County. To help assure a long-term sustainable supply of water, CCWD carries out a cost effective water conservation program. By reducing water demand, conservation enhances water quality and the environment of the Sacramento/San Joaquin Delta, benefiting both people and the environment. (www.ccwater.com)



California Native Plant Society (CNPS) is a science-based conservation organization with 10,000 members and volunteers in 32 chapters. Our mission is to increase understanding and appreciation of California's native plants and to conserve

them, and their natural habitats, for future generations through education, science, advocacy, horticulture, and land stewardship. Contact information for local chapters can be found at www.cnps.org.

CONTRIBUTORS

Anne Hayes, former environmental educator and program director at the Aquatic Outreach Institute, now gardens and writes from her home in Santa Cruz. She was the co-author of *The Gardener's Guide to Native Plants of the East Bay*.

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Kathy Kramer, founder and former executive director of the Aquatic Outreach Institute, is now the proud stay-at-home mother of Peter, age 3, and an independent consultant on environmental education and outreach.

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Sue Rosenthal is a native plant enthusiast active in the East Bay chapter of the California Native Plant Society and the Friends of the Regional Parks Botanic Garden.

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