

Silvery blue (Glaucopsyche lygdamus) on common fiddleneck (Amsinckia intermedia)



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Introduction

Whether you stumbled upon this guide by accident, or deliberately sought it out, it is likely you already have an interest in the habitat your yard can provide. This guide is intended to help you plan and install a garden that uses California native plants and trees to create habitat for native wildlife. In doing this, your yard will become a small fragment of a larger ecosystem and will likely draw wildlife that might surprise you. You may find native butterflies and bees visiting your flowers throughout the year. You may overturn logs to find newts and salamanders, and it is very likely that native hummingbirds, wrens, towhees, and many other birds will visit your yard, or take up residence there.



In many urban areas in California, yards occupy a large percentage of the land. These spaces can work together to provide larger habitat patches that support wildlife. For example, bees and other pollinators often move along residential streets, visiting flowers in many yards in order to meet their needs. Similarly, many birds establish homes in residential neighborhoods. Their territories often span several yards that together provide sufficient food and other resources, enabling birds to thrive and reproduce.

While yards already support wildlife and create habitat, we can make them better. Yards occupied by lawns and non-native vegetation and trees support relatively little wildlife, often

consume large amounts of water, can require chemicals to maintain, and can contribute to the spread of invasive species.

This guide focuses on how to create a habitat garden that draws from the native plants and trees of California. These species have deep evolutionary histories in California, making them extremely well adapted to our climate and able to support an exceptional diversity of wildlife. As the climate warms over the coming decades, we can draw from this diverse assemblage of plants to help cope with higher temperatures and more frequent drought, and we can use our gardens to help both plants and animals move to new locations as the climate shifts.

California is a botanical treasure, known worldwide logs that persist on the ground, water, tree cavities, for the exceptional diversity of plants. Our state and other features that enable wildlife and plants has both more total plant species and more plant to thrive. Together, all of these characteristics species found only in California than any other create complex ecosystems that are resilient, state in the country. In natural areas throughout beautiful, and functional. Therefore, our goal is not the state, these plants form groups and alliances just to provide recommendations for how to plant native plants, but rather to provide guidance on that are distinct, creating ecosystems that support a diverse array of animals, from insects to mountain how to combine native plants with other habitat lions and everything in between. elements to create functional habitat patches and thriving ecosystems.

It is the right assemblage of plants growing together, along with other characteristics such as





It is not necessary for your yard to be large in order to create a habitat patch. If you have a parking strip between the street and the sidewalk, a small front yard, or the potential to grow a rooftop or terrace garden, it is still possible to garden for habitat.

Over time, habitat patches in yards can serve many functions. In addition to supporting wildlife, your yard will be beautiful, providing space for recreation, rest, and contemplation. Trees and vegetation will provide shade and cool the air, providing much needed escape from extreme heat in cities during the summer months. In the winter, trees can capture rainfall, and vegetation and unpaved surfaces can absorb runoff from your roof, reducing the amount of runoff into storm drains and putting water back into the ground. Finally, trees capture carbon dioxide from the atmosphere, reducing the effect of the emissions that are responsible for climate change. For example, a single large old oak tree can capture enough carbon in a year to offset all of the carbon dioxide emitted by a car during that same period.

The topic of gardening with California natives is a large one, and there are many resources that can be used as a companion to this guide (see page 32 for key resources). Our intention is to provide a broad overview of the topic, with an emphasis on how to create habitat, and how to envision how your yard might contribute to the surrounding ecosystem. We have provided many links to other resources that we find useful, and we hope you find them useful too!

Regional Context

Santa Clara Valley: A brief ecological history

In the mid-19th century, creeks flowed from the Santa Cruz mountains across the Santa Clara Valley floor towards the extensive tidal marsh and mudflats that bordered the lower valley and South San Francisco Bay (Beller et al. 2010, Grossinger et al. 2007). The majority of the creeks found in this region did not flow all the way to the bay. Instead, they transitioned from well-defined meandering channels in the hills to shallow sloughs spread out over a large area of wet meadows before reaching the baylands. A few, such as Coyote Creek and the Guadalupe River, were large enough to remain wet year round, and drained all the way to the bay. Along these creeks, large riparian complexes containing willow groves many acres in size,





sycamore alluvial woodlands, and groves of box elders enriched these streams with a diversity of riparian vegetation that supported an exceptional diversity of wildlife.

At higher elevations farther from creeks and the baylands, a mosaic of habitat types included grasslands, valley oak savannas, oak woodlands, and chaparral, each spanning many thousands of acres in size. Closer to the baylands, seasonal meadow habitat complexes ranging from freshwater to alkaline were found at lower elevations. Extensive tidal marsh and mudflats bordered the lower valley with broad transition areas where tides met the land. Pockets of additional habitat types, such as valley freshwater marsh and willow groves, dotted areas of the valley floor, where groundwater was high or inundation by nearby streams was frequent.



HISTORICAL CONDITIONS, CIRCA 1850

The map above reconstructs the habitat characteristics of west Santa Clara Valley prior to significant Euro-American modification.



Opposite page from top: Tidal salt marsh; riparian habitat. **Figure on this page from:** Historical vegetation and drainage patterns of Western Santa Clara Valley, (Beller et al., 2010)

	Subtidal Water
	Tidal Flat
Jest -	Tidal Marsh
	Alkali Meadow
	Wet Meadow
	Valley Freshwater Marsh
	Perennial Freshwater Pond
	Willow Grove
	Sycamore Grove
	Wild Rose Thicket
	Box Elder Grove
	Oak Savanna
	Oak Woodland
	Chaparral



Western burrowing owl (Athene cunicularia hypugaea)

If you live in Santa Clara Valley, you can consult historical ecology maps to see what type of habitat would have been present in your yard before the landscape was urbanized (see page 10 for resources). Over the past 150 years, the Santa Clara Valley has undergone dramatic change. Transformed first for agriculture and then urbanized, only traces of the historical landscape remain intact today, and many of the development patterns we see today track historical habitat types. Older residential developments are mostly located on well-drained alluvial soils that once supported oak savannas, woodlands, and patches of grassland and chaparral. Large industrial, commercial, research and office park areas were generally developed more recently in places lower in elevation on historical seasonal meadows, perennial wetlands, and willow groves. Many creeks track their

historic paths, though most have been modified to contain floodwaters, significantly altering the hydrology of the Valley floor. Much of the historical tidal wetlands were diked for salt production throughout the early-to mid-20th century, and today, many are being restored to tidal marsh or maintained as ponds to support birds.

Although the Valley has changed dramatically over the last two centuries, a patchwork of protected open space, ranches and farmland, urban parks, and natural areas support diverse groups of species and communities, including unique native species like the California redlegged frog and western burrowing owl. Many of these open spaces, ranging in size from less than an acre to over 300 acres, already contain habitat patches that support wildlife.

Using History as a Guide

Historical habitat type information can be used to guide planting decisions today. For example, many of the physical features, such as soil type, groundwater depth, and stream courses, remain on the landscape today and are important factors that define what habitat type will do well in a given location. However, historical information should not be used in isolation. In some places, physical features have been altered. Soils have been imported and moved around. The depth to groundwater has changed in some areas, and in others, streams have been channelized or driven underground, and riparian forests have been removed. In these cases, a different habitat type may be more appropriate than what was present historically. For example, if your yard is adjacent to a creek today, riparian vegetation and trees may be well-suited to your yard even if they were not present historically.

Deciding what to plant in your yard, and identifying what habitat type may be most likely to succeed, should be based on a combination of historical information and contemporary site analysis. The following chapters provide a variety of tools for conducting a site analysis and will help



Wet meadow habitat

you to make informed decisions about appropriate plants for your yard that will enhance the larger ecosystem around your home. While investigating the current and historical conditions at your site, you may discover key information that helps inform decisions. For example, your site analysis may uncover persistent clay soils that cause poor drainage in an area that was historically wet meadow habitat. This information can be used to narrow your planting scheme to plants most likely to succeed in poorly drained soils, and this planting scheme may, in turn, help support wildlife that thrive in wet meadow habitats.

Native Plants & Climate Change

Site analyses and historical ecology are useful guides for defining short-lived plants that are likely to succeed in your yard over the next decade. However, for long-lived trees, this information should be augmented with a general understanding of future potential climate changes in your area. Selecting tree species that can withstand climate change will be important for ensuring their longevity. Some local tree species, including several native California oaks, are already adapted to periodic drought and warmer temperatures and can tolerate future conditions (Spotswood et al. 2017). In order to determine whether a tree is appropriate for potential future conditions in your yard, check the range map for the specific tree species on CalFlora. Generally, your garden should fall in the northern to middle area of a tree's range.

SFEI Resources for Historical Ecology

Resilience Atlas

The Resilience Atlas helps visualize the past, present, and future ecological conditions of the San Francisco Bay's edge and surrounding watersheds.

<u>Re-oaking Silicon Valley: Buidling Vibrant Cities with Nature</u>

This report explores how integrating oaks into urban landscapes can provide valuable functions for both people and wildlife.

Covote Creek Watershed Historical Ecology Study

This report uses historical evidence to picture how the Coyote Creek watershed looked and operated before intensive modification by humans.

Western Santa Clara Valley Historical Ecology Study

This report describes and maps historical habitats and channels in Western Santa Clara Valley.

Considering Your Landscape

The Role of Patches and Corridors

Where you are on the landscape partly defines what wildlife can be supported in your yard, as well as what potential your yard has to connect to other nearby ecological resources. Yards can complement larger patches of existing open space, adding valuable habitat and resources to these areas. For example, if your property connects to a park, your yard could provide additional habitat that is used by the wildlife in the park. Additional habitat in your yard can add value to the park, increasing its effective size, and enabling the park to more successfully support wildlife. If your yard backs up along a creek, riparian vegetation and trees could work with other patches along the creek to create linear corridors that support wildlife.

Two of the most important elements that help support biodiversity in urban areas are the size of a habitat patch (i.e. the size of an area of contiguous green space) and connectivity (i.e. continuous corridors of vegetation that enable wildlife and plants to migrate through the landscape) (Beninde et al. 2015, San Francisco Estuary Institute 2019). Small yards can help create these patches, either through adjacencies with existing greenspace or via coordinated efforts among neighbors to increase the total size of the habitat patch.

Patches that are 10 acres or larger can support significant numbers of plants and animals, and those larger than 130 acres often contain animals that are not found elsewhere in cities, such as animals that live in the interior of large forests

(e.g. hermit thrush), and animals that require relatively large patches of habitat (e.g. California quail). In Santa Clara Valley, parks often provide the most significant patches of habitat, and stream networks (including Los Gatos Creek, Guadalupe River, Coyote Creek, and their tributaries) are major sources of regional connectivity. Identifying regional connectivity corridors and large habitat patches will help you see how your yard could contribute to nearby habitat and build regional support for wildlife.

Exploring Your Regional Context

In order to identify the resources that exist nearby, take some time to explore your neighborhood. Start by looking at your landscape using Google Earth or Google Maps to see where your home fits in the larger landscape. Tools like tagged photos and Google Street View enable discovery of features that you may not have noticed. Look for clues like large trees, strips of green vegetation, and large yards. You may encounter things in familiar





areas that surprise you when you take the time to look, like a grove of oaks spanning multiple yards or a nearby abandoned lot that has lush native vegetation cover.

If you find interesting habitat features or patches and are curious whether they are closer to one acre or 10 acres, you can use the Ruler tool in Google Earth to measure the size of these features.

We also encourage you to take a walk around your neighborhood. You can bring binoculars and field guides to help identify local flora and fauna, and a map to help you orient. As you walk, note observations, like large native oak trees, or unexpected discoveries, like wildlife you happen upon. Integrating observations into your daily routine can also help you build ecological knowledge about your neighborhood. These observations can also be contributed to databases such as <u>iNaturalist</u> and <u>eBird</u>. These websites (which also contain mobile apps for recording observations) are used by scientists, and are providing critical data for understanding how species are changing over time. The observations you collect can also help guide decision-making about how your habitat garden can contribute most to supporting local biodiversity.

Explore your neighborhood by taking a walk or using Google Earth or Google Maps and their 'Street View' feature.

a. The Los Gatos Creek is a major source of regional connectivity. It is an example of a linear corridor.

b. The Los Gatos Creek Trail with willows along the left side of the path.

c. A row of oak trees lines the street.

Site Analysis



Site Selection

As you begin to consider the areas where you may want to install habitat planting, ask yourself the following questions:

- Are there small spaces (narrow strips along the driveway or the front of the house, e.g.) that could be converted to habitat planting areas?
- Are you interested in removing lawn or paving to create new habitat planting areas, either in your yard or between the sidewalk and the street in front of your home?
- Do you have planting areas that do not provide habitat that you would be interested in converting to habitat planting?
- Are there mature trees that you would like to keep and whose ecological and aesthetic value could be enhanced with the integration of habitat planting?

Plants are sensitive to their surroundings, and different species often have very different needs. Therefore, it is important to have a good understanding of the areas you will be planting so that you can plant the right plants for your space. Consequently, the first step will be determining which areas you would like to plant.

 Are there constraints inherent to your property that may limit the areas or types of plants you can install? (e.g. overhead power lines, underground utilities, septic systems, etc.)

After you have selected your planting areas, in order to design a successful and healthy habitat garden, you'll want to briefly examine the following characteristics of your space to inform your choice of plants (see page 30 for example plant palettes).

- Existing Vegetation
- Soils and Drainage
- Sun and Shade Distribution

A simple analysis will inform what plants will be most successful in your location. This chapter gives a brief overview of some simple things you can do to better understand your space and ensure your habitat garden will thrive.

Existing Vegetation

The plants already growing in any given space can be good indicators of what kinds of plants will grow well there in the future. Spend some time observing any plants that appear healthy and are already growing in the area in which you want to plant your habitat garden.

It can be difficult to judge plant health, but look for plants that have healthy foliage and trunks. Pay special attention to healthy plants that require little to no irrigation, as that is an indication that they are well adapted to your local climate, and note any plants that appear diseased (e.g., yellow or brown leaves, spindly growth, etc.) so that you can avoid planting them in the future.



Once you have found particularly healthy (or unhealthy) native plants in your space, try to identify them and learn a little about their likes and dislikes (water use, sun and shade preferences, etc). This information will help you determine what types of plants will do best in your new habitat garden – you will likely want to install plants that enjoy conditions similar to those enjoyed by the plants already thriving in your space, although you may choose to shift plant species considerably if you wish to lower water use. See page 30 for simple example plant palettes that have been tailored to a variety of garden conditions.

> Opposite page: manzanita (*Arctopstaphylos* sp.) This page: California wild rose (*Rosa californica*)



Flannel bush (Fremontodendron californicum)

There may also be plants growing on your site that appear to be thriving but would be best to remove because they are weeds or invasive species (see following page for more detail on invasive species). Try to determine whether there are any invasive species in your yard, and identify areas that will be priorities for weed control and invasive plant removal. Consider researching the most effective methods of weed control for the particular species that appear in your yard and developing a plan for maintenance over time (as many weeds can recur and require ongoing removal, which reduces over time).

Finally, keep an eye out for young oaks that are naturally sprouting ("recruits"). These young trees are often planted in yards by birds and squirrels, and they have many advantages. Recruits are free, already growing, and thus likely well adapted to the conditions. Although they can be initially slow growing, they will eventually grow as fast or faster than oaks purchased from nurseries (likely because they develop large healthy root systems before expending energy developing their aboveground foliage).

Invasive Plants

Invasive plants are not native to the are and once they are introduced, they qui establish, reproduce, and spread, causi harm to the environment, the econom to human health (Cal-IPC). Avoid plant invasive plants in your space, and remo any that are existing or that appear over time as they can escape and quickly sp

After identifying existing plants that woud like to keep, and before purch new plants, check your species list against invasive plant databases pro by groups like Plant Right (https:// plantright.org/about-invasive-plants plant-list) and Cal-IPC (https://www. ipc.org/plants/inventory). These lists constantly evolving, and therefore sl



ea,	be re-checked occassionally to determine											
iickly	if plants in your space may have been											
sing	classified as invasive.											
iy, or ting ove	Some invasive plants that are often found in nurseries include:											
ver	English ivy (Hedera helix)											
oread.	Cape ivy (Delairea odorata)											
t you nasing	Periwinkle (Vinca major)											
-	Mexican feathergrass (Stipa tenuissima)											
ovided	Pampas grass (Coraderia selloana)											
<u>s/</u>	Yellow flag iris (Iris pseudacorus)											
<u>.cal-</u> s are	French broom (Genista monspessulana)											
hould	Scotch broom (Cytisus scoparius)											





From left: english ivy (Hedera helix); pampas grass (Cortaderia selloana); periwinkle (Vinca minor)

If you find a young tree (recruit) growing in your yard...

1. Identify it.

To maximize your yard's habitat value, it is important to ensure that you are growing native trees or other trees with high functional value, and that they are the species you want in your yard. Native tree identification can be tricky, but resources like Cal Poly's Tree ID Key (https://ufei.calpoly. edu/forestree/treeid.lasso) can help. If you have trouble identifying a young tree, consider letting it grow bigger and then trying again when the leaves are more developed.



Valley oak

- Large, moderately to deeply lobed leaves (a wavy leaf edge).
- No spines along leaf edges.
- Deciduous (loses its leaves in winter).

3. Protect it.

Take steps to make sure your native oak recruit is not accidentally pulled, mowed, or damaged in some other way. You can place three stakes with brightly colored ribbon around it or use some other method to make sure it is visible and protected.

4. Maintain it.

As your recruit grows, you can trim its branches if needed to allow it to fit the space in your yard. It will likely need little if any watering, but if there is a drought or it looks dry and water stressed then give it a deep watering once per month during the summer and fall until the rains start.

2. Decide if you want to keep it.

If the recruit is a species that you would like to have in your yard, and it is in a desirable location with enough room to accommodate it as it grows, keep it!



Coast live oak

- Smaller leaves without lobes, with edges that sometimes roll under.
- Small spines along leaf edges.
- Evergreen (does not lose its leaves).



Potential Tree Recruits

Below are examples of native tree species to potentially keep and examples of invasive species to pull up if found growing in your space.

Keep it!





Coast live oak Quercus agrifolia

Valley oak Quercus lobata





California buckeye Aesculus californica

Blue elderberry Sambucus nigra



California sycamore Platanus racemosa

Willow Salix spp.

Opposite page: A valley oak (Quercus lobata) seedling found in a Bay Area garden.











Tree-of-heaven Ailanthes altissima



Blackwood acacia Acacia melanoxylon



Cherry plum Prunus cerasifera



European olive Olea europaea



Blue gum eucalyptus Eucalyptus globulus



Mexican fan palm Washingtonia robusta



Soils and Drainage

Developing a basic understanding of the physical characteristics of the soil in your space will help you install plants that are appropriate for the location. The two key attributes you will want to explore are your soil's texture and chemistry.

A good first step is to visually assess your soil conditions. You can do this by digging a hole (or series of holes) to a depth of 12–18 inches with a shovel or hand trowel. Pay attention to how difficult it is for you to dig the holes – if it is very difficult for you to dig a hole then it will also be very difficult for plants to penetrate the soil and establish healthy root systems.

Once you have a 12–18 inch deep hole, visually assess the vertical side of the hole and make a note of any obvious changes between the top and bottom of the hole.

Look for:

Signs that your soil is very densely compacted (usually this is the case if it is an area that has frequently been walked or driven on). If this is the case it was probably also very difficult to dig the hole in the first place. Compacted soil makes it difficult for plant roots to move through the soil, so if you believe your soil is compacted, it is often best to till the top 12 inches before planting.

Stark color changes (very light colored soils are often lacking in nutrients). If you see a sudden change from dark to very light colored soils within



the top 12 inches, mixing compost into your soil will help ensure plants get the nutrients they need.

Evidence of deleterious materials such as chunks of concrete or other refuse. Concrete and other refuse can alter the chemistry of your soil. If you see deleterious material, you should try to remove it to the extent feasible, and backfill with planting soil.

Once you've completed your visual assessment, it is helpful to determine the texture of the soils you will be planting in. The texture of a soil is determined by the size of the particles that make up the soil, and it is important to understand because of the strong relationship between soil texture, drainage, and the availability of nutrients for plants.

The Texture-by-Feel method will allow you to classify your soil into one of two categories:

- Coarse textured soil (e.g. sand, loamy sand, loam)
- Fine textured soil (e.g. sandy clay loam, clay loam, silty clay loam, sandy clay, clay, silty clay)

Above: Digging a hole can allow you to visually assess soil conditions.

Soil texture is closely related to drainage, and if you have a fine textured soil, you will want to pay special attention to how water moves through your site during winter storms.

Coarse-textured soils are typically well drained, which means that there will be little to no ponding on the soil surface after a heavy rain, and soil saturation will not persist for more than a few days. In contrast, fine textured soils are typically poorly drained, which means that your site may show ponding for many days, weeks or even months during the rainy season. Pay attention to how water moves through your site, as this will help determine the plants that will thrive there.

Some sites may also have perpetual soil moisture outside the rainy season due to leaky pipes, excess irrigation on or near the site, and natural seeps or wetlands on or near the site. If you see areas that are often wet for long periods of time, these can be great opportunities to plant water

loving trees and shrubs, or even add a small pond or water feature. These features can create valuable habitat areas.

Surface drainage can be improved in poorly drained areas by digging small swales or ditches, installing french drains, removing blockages to drainage, grading flat areas to slope, installing terraces, repairing leaking irrigation or water pipes, adjusting irrigation to avoid overwatering, or installing drought tolerant plants so that irrigation to the landscape is reduced. Minor improvements to soil drainage can be provided by tilling in organic mulch and gypsum to heavy clay soils so that water can more easily percolate into the soil.

Many of these simple elements can be installed relatively easily to address minor drainage issues, but more complex drainage problems should be handled in consultation with a professional landscape designer or contractor.



Swales and bioretention areas like this one next to a bike path can improve surface drainage

Soil Texture-by-Feel Method

- 1. Collect approximately 1 tablespoon of soil from the upper 6–12 inches of soil.
- 2. Place the soil in the palm of your hand and add a few drops of water.
- 3. Knead the soil until you've broken down any clumps and it feels like moist putty or dough.
- 4. Form the soil into a small ball and place it between your thumb and forefinger, then gently push the soil with your thumb, squeezing it upward over your forefinger to form it into a ribbon.
- 5. Allow the ribbon to extend over your forefinger until it breaks from its own weight. Note the length of the ribbon when it breaks.



If the soil does not form a ball or ribbon or forms a ribbon less than 1 inch long, it is a coarse textured soil (i.e., sand, loamy sand) that will be well drained and likely have very low nutrient availability. If your soil falls into this category, consider adding compost in order to increase nutrient availability for plants. The shorter the ribbon (or if the soil does not form a ball or ribbon) the more important it is to add nutrients.





Course textured soil (sand)



If the soil forms a ribbon longer than 1 inch, it is a fine textured soil (i.e., sandy clay loam, clay loam, silty clay loam, sandy clay, clay, silty clay) that will be slow draining and usually have higher nutrient availability. These dense soils often benefit from an amendment like gypsum to help improve soil structure and drainage. Amendment becomes more important with a longer soil ribbon (2 inches or longer).



Soil Chemistry & Nutrient Testing

To complement your assessment of your site's soils, it is a good idea to test the soil chemistry and nutrient levels to determine if any adjustments are warranted.

There are a range of test kits readily available at local garden supply stores, which include electric and chemical kits. Electric kits are simple prongs that can test for pH, which is an extremely important indicator of how available soil nutrients will be to plants. Chemical kits include a number of vials with chemicals that are dissolved in water, mixed with soil, and then compared to colored charts to estimate major nutrient levels.

There are also professional labs that specialize in soil analysis and can provide highly detailed assessments for a nominal fee. Many of these labs also will provide recommendations for amending soil to provide the best conditions to support your preferred landscape. A list of labs located in Northern and Central California can be found here.

Sun / Shade

Plants use sunlight to make food from carbon dioxide and water, so the amount of sun that a plant receives is a key element that determines whether it will thrive. The best way to analyze sun distribution in your space is to simply observe which areas of your space receive sunlight.

Sun distribution will change over the course of the day and year, so make note of sunny and shady areas in both winter and summer and at all times of the day. The extremes will fall on the summer and winter solstices, so those are excellent times to keep a special eye on your site throughout the day.

Spicebush (Calycanthus occidentalis) prefers part shade or sun and will not do well in full shade areas.

Full Sun

Part Sun/Part Shade





Plants that thrive with six or more hours of direct sunlight each day.

Trees and shrubs that start off small and grow larger can shade out other plants. Plan for this increased shading by choosing plants that can adapt to various sun and shade conditions. Above is an example of how the amount of sunlight a plant receives changes as a neighboring tree/shrub grows.

Your property's position in the larger landscape can also have an effect on the amount of sun or shade you can expect to receive, and on the micro-climate you experience in your yard. North-facing slopes tend to be cooler and wetter, while south-facing slopes, which are more exposed to direct sunlight, tend to be warmer and drier.

Once you have a basic understanding of how much sunlight different areas of your site receive, you can categorize each area as full sun, full shade, or part shade. As you spend more time in your garden and see how plants respond to the conditions, you'll gain a better understanding of the sun/shade distribution. This may inspire you to add different plants as your garden develops and matures.

Plants that thrive with three to six hours of sunlight each day.

Full Shade



Plants that thrive with less than three hours of sunlight each day.

Front Yard



Winter Solstice, 10 am



Winter Solstice, 3 pm



Summer Solstice, 10 am



Summer Solstice, 3 pm

Sun / shade distribution shifts depending on both season and time of day. Above, a small front yard shows varied shade patterns at different times of day on the winter solstice (December 21) and the summer solstice (June 21).



Winter Solstice, 10 am



Summer Solstice, 10 am

Sun / shade distribution shifts depending on both season and time of day. Above, a small backyard shows varied shade patterns at different times of day on the winter solstice (December 21) and the summer solstice (June 21).

Backyard



Winter Solstice, 3 pm



Summer Solstice, 3 pm

Planting Design

Now that you have a full understanding of your space, it is time to start designing! You'll need to choose where to get started, determine your habitat and design goals, select the species you will plant, and determine how to arrange them for maximum visual impact and habitat value.

Choose Where to Begin

Review the areas you initially selected for installing habitat planting and decide where you would like to begin. Starting with a small portion of your yard to experiment will still be beneficial ecologically, while also being more manageable for you.

AESTHETICS & SEASONALITY

The visual aesthetic of native habitat planting areas is generally different than that of conventional manicured landscapes. California native habitats are highly seasonal and can be perceived as overly dry and weedy in the late summer and early fall. Native landscapes can also often be perceived as messy or uncared for (Nassauer 1995).

You can soften the more rugged appearance of native plantings by placing aesthetically pleasing native species near the edges of your space or next to the sidewalk, clustering them densely to mask interior habitat areas that have a rougher appearance. You could

also include smalls signs, bird/bat houses, or other cues of a special habitat area to indicate that your space is special, cared for, and intentionally designed to look "wild."

Over time, as you and others are more exposed to native habitat plantings in residential neighborhoods, it is expected that appreciation of these spaces will grow, and the expectation of a manicured landscape will diminish. However, it will take time to establish the native habitat areas and for people to experience and appreciate the new benefits (wildlife, new sights, sounds and smells, etc.) these spaces can provide.

Set Habitat and Design Goals



Identifying the habitats that "belong" in your yard can be driven by what habitats and vegetation historically occurred in your area, or what currently occurs there, or some other locally native habitat that you personally enjoy.

To determine what habitats occurred in your area historically, you can do research through the internet or local libraries. Resources such as SFEI's <u>Resilience Atlas</u>, <u>Re-oaking Silicon Valley</u>, Coyote Creek Watershed Historical Ecology Study, and Western Santa Clara Valley Historical Ecology <u>Study</u> provide detailed information about the historical landscape of the area and may help you identify if you had oak woodlands, wetlands, willow groves, or other important habitat in your vicinity, that you can mimic with your new plantings. The plant species palette in Appendix A of this document identifies the habitats that the species occur in so you can select to fit the desired habitat type.

Chaparral

To determine what habitats currently occur in your area, use your observational skills to see what mature, healthy native trees you can identify within a mile or so of your yard and whether there are any large nearby open spaces that feature a creek, mature trees, or other remnant habitat elements. These are probably good indicators of plants that would grow in your yard and belong ecologically in your area.

Last but certainly not least, what types of native trees, shrubs, and groundcovers would you prefer? Big shady oaks? A dense tree thicket that provides privacy through screening of views? A meadow of wildflowers with butterflies and bees? If there is a specific habitat you want, look at the plant palette for that habitat type in Appendix A, and see if those plant species will be accommodated by the characteristics of your yard (see previous section on Site Analysis).

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Select Your Plant Species



The Native Plant Palette in Appendix A provides a diverse menu of native trees, shrubs, and groundcovers to choose from. For each species the table also provides diverse information about each plant to help you choose species.

In addition, see below for simple example palettes that you can use on your site. The site analysis you completed earlier will help you determine which palette is most suited for the areas you intend to plant.

Sunny & Wet Mix

Example habitat types: riparian, wetland

Botanical Name	Common Name	Notes
Asclepias fascicularis	narrow leaf milkweed	white/pink flowers
Cyperus eragrostis	tall flatsedge	textural/grassy, can spread and be weedy
Juncus patens	spreading rush	textural and grassy
Populus fremontii	Fremont cottonwood	large, fast growing tree
Salix laevigata	red willow	medium tree
Sisyrinchium bellum	blue eyed grass	blue-purple/pale blue flower

Sunny & Dry Mix

Example habitat types: chaparral, grassland, oak savannah, coastal scrub

Botanical Name	Common Name	Notes
Aesculus californica	California buckeye	medium tree
Arctostaphylos sp.	manzanita	shrub or small tree
Eriogonum fasciculatum	California buckwheat	white/pink flowers
Eschscholzia californica	California poppy	annual; orange/yellow flower
Festuca idahoensis	Idaho fescue	textural and grassy
Fremontodendron californica	flannelbush	shrub, yellow flowers
Monardella villosa	coyote mint	white, pink, purple flower
Quercus agrifolia	coast live oak	large tree

Shady & Wet Mix

Example habitat types: riparian, wetland

Botanical Name	Common Name	Notes
Alnus rhombifolia	white alder	tree, high water use
Calycanthus occidentalis	spicebush	shrub, dark red flowers
Cornus sericea	red osier dogwood	small tree / shrub, high water use
Fragaria vesca	woodland strawberry	white flowers, moderate water use
Heuchera micrantha	alum root	white or pink flowers, moderate water use
Iris douglasiana	Douglas iris	blue to purple flowers
Mimulus guttatus	seep monkeyflower	yellow flowers, understory, high water use
Polystichum munitum	sword fern	moderate water use

Shady & Dry Mix

Example habitat types: oak woodland

Botanical Name	Common Name	Notes						
Aquilegia formosa	columbine	red to yellow flowers						
Clematis lasiantha	chaparral clematis	white to cream flowers						
Corylus cornuta	hazelnut	small tree						
Epilobium canum	California fuchsia	red to orange flowers						
Festuca rubra	red fescue	textural/grassy						
Ribes californicum	California gooseberry	white to pink flowers						
Salvia spathacea	hummingbird sage	green to purple inflorescence						
Scrophularia californica	California bee plant	red to maroon flowers						



Opposite page: manzanita (Arctostaphylos sp). This page from left: Douglas iris (Iris douglasiana); blue eyed grass (Sisyrinchium bellum); coyote mint (Monardella villosa)





There are many excellent **resources**

available to help you garden with native plants



BOOKS

California Native Plants for the Garden by Carol Bornstein

Designing California Native Gardens by Glenn Keator and Alrie Middlebrook

Plants and Landscapes for Summer-Dry Climates of the San Francisco Bay Region by East Bay Municipal Utility District

Sunset Western Garden Book by Sunset Magazine

Wild Suburbia: Learning to Garden with Native Plants by Barbara Eisenstein

ONLINE RESOURCES

CalFlora

An online botanical resource maintained by an independent nonprofit. Provides taxonomic details, distribution map, associated plant communities, associated organisms, and links to plant descriptions, bloom period, nursery availability, landscaping information, and photographs. http://calflora.org/

CalScape

An online landscaping resource maintained by the California Native Plant Society. Provides plant description and typical plant growth characteristics, natural setting and estimated plant range, landscaping information and recommendations, and photographs.

http://calscape.org/

California Native Plant Link Exchange

An interchange for commercial native plant availability from nurseries. Uses information provided by Calflora.org. http://www.cnplx.info/

Local Native Plant Nursery websites, such as Las Pilitas Nursery, San Marcos Growers, and Watershed Nursery.

ReScape California

Education website for an organization that advocates for native plant landscapes. Contains community resources such as links to rebates and discounts, how-to guides, professional references, and plant selection recommendations.

https://rescapeca.org/

Cultivars

A cultivar is a variety of a plant that has been selected for specific traits over time. Cultivars often display more predictable characteristics than the related fully native plant, and many California natives have been bred to produce cultivars that display a certain form or color for aesthetic or maintenance reasons. However, highly modified cultivars are less likely to provide pollinators with the resources they need, like pollen and nectar. Whenever possible, use the fully native species to support greater biodiversity and provide the most resources to native wildlife. Where using the straight native species is not possible, cultivars are usually better than non-natives.





Yarrow (Achillea millefolium, top left) is sometimes selected for specific colors. Moonshine yarrow (Achillea 'Moonshine,' bottom left) is a cultivar characterized by bright yellow blooms. Sticky monkeyflower (Diplacus aurantiacus, top right) is another species selected for specific colors. Cherry sticky monkeyflower (Diplacus aurantiacus 'Cherry') is a cultivar characterized by deep pink flowers.

Purchase Your Plants

Selecting suitable plants for your space can be made more challenging by the sometimes limited commercial supply of native plants. Call your favorite local plant nursery, or one of the ones listed here, to find out what plants they have in stock (and in what quantity) before settling on a final plan.

Many nurseries publish lists online, so you can get a sense for what is available early in your design process. Nursery staff can also be helpful resources when you are trying to decide whether a certain plant will achieve your goals and thrive in the conditions in your space.

The California Native Plant Link Exchange website (http://www.cnplx.info/query.html) can be a helpful starting point for checking on general plant availability. Search for a plant in the database to see which nurseries carry this plant, then follow up with specific nurseries to make sure the information is up-to-date. Note that the search is case sensitive, so if you search by scientific name, make sure to capitalize the genus.

Below is a list of some Bay Area/Northern California nurseries that frequently (or exclusively) stock native species. This list is not comprehensive.

Annie's Annuals & Perennials Bay Natives Nursery Capitol Wholesale Nursery, Inc Central Coast Wilds East Bay Wilds The Watershed Nursery

Want to mix natives with ornamentals?

While this guide focuses on how to create a habitat garden that emphasizes native plants, plantings may be mixed due to a variety of reasons. Some users may want to include a vegetable and fruit section or integrate ornamentals with native species.

If you choose to install non-native plants into your garden, select plants that provide some wildlife function or that minimize water use. You can find a list of wildlife friendly non-native plants in Appendix A: Plant Palettes (74) with these features.

Arrange Your Plants

Use all the knowledge you gained throughout the site analysis process to help you put the right plants in the right places, in terms of sun/shade preferences, drainage requirements, and appropriate habitat types.

Designate low maintenance and high maintenance areas, concentrating high maintenance areas in places where you will spend most of your outdoor time or that you would like to view from inside your home.

Plant young plants with enough room for them to grow. Landscape design requires thinking temporally – research the mature size of plants and plan accordingly as plants can become stressed if overcrowded.



Create habitat areas that include plants that vary in height to create structural complexity.

Leave patches of bare soil for birds to use as foraging areas and for native bees to use as nesting areas.

In our drought prone region, designing your landscape to be water wise is vital to its long term success. Selecting plants that are appropriate for your location is the first step. Ideally, you will eventually be able to wean your drought-tolerant plants off of irrigation. However, in cases of extreme drought, even the right plants may need supplemental irrigation.

In order to make irrigation as simple as possible, arrange your plants in groupings of species with similar water needs. Appendix A in this guide (page 50) gives water use classifications of most species to help with this. This way, plants that do not like summer water can be separated from those that do like occasional supplemental water.



Wild ginger (Asarum caudatum)

Planting Design

Designing for Fire Safety

As a California resident, you are likely aware that wildfires are a major concern. This guide does not provide information on firescaping, so refer to the resources below to get started. Be sure to ask your local fire department about any fire-related laws and recommendations for your area.

Cal Fire (The Department of Forestry and Fire Protection)
http://www.fire.ca.gov/ and http://www.readyforwildfire.org/

California Wildfire Landscaping by Maureen Gilmer

Gilmer, M. (1994). California Wildfire Landscaping. Taylor Publishing Company.

About Trees

Including trees in your planting design can provide excellent ecological value. Vertical structure is important to habitat value, and trees are used by birds for nesting, resting, and foraging. In addition, they help reduce the urban heat island effect, which is when an urban area is significantly warmer than its surrounding areas due to human activities. Finally, the presence of trees can improve soil health; their foliage intercepts heavy rain which reduces soil erosion and their roots systems help rainwater move deep into the soil where it can recharge local aquifers.

The trees you plant to create habitat in your yard will be large components of the landscape, so plan carefully to accommodate their future size and look.

When choosing what species you would like to plant, take the following factors into consideration:

Do you want a deciduous or evergreen tree? Deciduous trees provide shade in the summer but drop their leaves in the winter, allowing sunlight through. This can be desirable for seating areas but if your priority is year-round screening, an evergreen tree may be best.

Are you planting near pavement? If the tree will be situated within 10 feet of sidewalks or patio paving, do some research to make sure the species you choose does not have aggressive roots that will lift paving.

Does your tree have enough soil to be healthy? Try to plant trees in the larger planting areas in your yard, and if you need to plant a tree where there isn't much soil, choose a smaller tree.

Sample Layouts & Plant Palettes



The following graphics and tables are intended as a launching point for designing your habitat garden. Each sample layout has a corresponding table with suggested plant species, divided into plant categories. Depending on the size of the area you intend to plant, select 1–3 plants from each category to create an attractive mosaic (or select plants with similar characteristics that you like and will work in your space). Keep in mind the flowering times of each species to create a planting of yearround blooming and to increase biodiversity (See Appendix A: Plant Palette for flowering times).

If you have a small area, select fewer plant species to create a more cohesive aesthetic. Larger areas can accommodate a larger number of species. Repeating clusters of the same plants will give the planting area visual appeal and can be more beneficial to wildlife like pollinators. Plant in a natural configuration rather than a rigid grid to emulate nature and complement the natural aesthetic.

Front / Back Yard



When making plant selections for your front yard, consider the degree of screening you would like your plants to provide. The sample layout depicted here uses larger woody shrubs for screening that also provide a tidy edge along the sidewalk. Research the mature height and width of shrubs and plant so that mature plants will not sprawl out into the sidewalk or street.

The front yard may also provide a good location for a pollinator garden that will attract beautiful butterflies to your yard. Large numbers of the

same flower will help attract pollinators, so select a few species and distribute throughout your pollinator patch in clusters of about three to nine.

The backyard is likely the place where you spend the majority of your outdoor time, so consider how the design and layout of the backyard will suit your needs. Although mown lawns provide little habitat value, they can be included in small patches for aesthetic or practical reasons. The backyard is also often a good place to experiment – less visible to neighbors and passersby.

Suggested Plants for Yards and Pollinators

Example habitat types: oak savannah, grassland

•		5			
Symbol	Botanical Name	Common Name	On-center Spacing (Ft)	Water Use	Notes
Large Accent Shrubs	5				
- Contraction	Cercis occidentalis	western redbud	8	VL	can tolerate some shade
E MAN	Morella californica	wax myrtle	10	Μ	can tolerate shade
Midsize Framework					
STIT WA	Arctostaphylos spp.	manzanita	varies, 4-6 typical	VL - M*	some species can tolerate shade
	Ceanothus spp.	Ceanothus	varies, 6 typical	VL - M*	some species can tolerate shade
Source of the second seco	Frangula californica	California coffeeberry	6	L	can tolerate shade
	<i>Salvia</i> spp.	sage	varies, 4-6 typical	VL - M*	full sun
Smaller Filler Shrub	s and Perennials				
	Asclepias californica	California milkweed	2	L	full sun
	Monardella villosa	coyote mint	2	VL	can tolerate some shade
	Penstemon heterophyllus	beard tongue	2	L	can tolerate some shade
	Scrophularia californica	California bee plant	3	L	low water use in shade
	Eschscholzia californica	California poppy	N/A – seed	VL	full sun
	Lupinus nanus	sky lupine	1	NA	full sun
	Sisyrinchium bellum	blue eyed grass	0.5	VL	can tolerate shade
Groundcover					
lat-	Festuca rubra	red fescue	N/A – seed	L	can tolerate shade
	Agrostis pallens	seashore bent grass	N/A – seed	L	can tolerate shade
	Fragaria chiloensis	beach strawberry	3	М	can tolerate some shade

*WUCOLS value varies by species

Sidewalk Strip



For a front yard sidewalk strip, make sure to select species that will not grow tall enough to obstruct drivers' views, and check local ordinances for planting in this area, such as Mountain View's "Traffic Visibility Triangle," which restricts the heights of plants at corners to preserve visibility. Generally select species that are easier to maintain and will not grow or fall into sidewalks

Suggested Plants for Sidewalks



Symbol	Botanical Name	Common Name	On-center Spacing (Ft)	Water Use	Notes
Midsize Framework	Shrubs				1
	Artemisia douglasiana	Mugwort	4	L	can tolerate shade
	Ceanothus spp.	California lilac	varies, 6 typical	VL – M*	select a low- growing variety; some species can tolerate shade
	Salvia spp.	VL – M*	full sun		
Smaller Filler Shrub	s and Perennials	-		-	-
	Achillea millefolium	yarrow	1	L	can tolerate shade
	Deschampsia cespitosa	tufted hairgrass	1.5	L	can tolerate some shade
	Diplacus aurantiacus	sticky monkeyflower	2.5	VL	can tolerate shade
	Elymus condensatus	giant bluerye	3	L	full sun
	Epilobium canum	California fuchsia	2.5	L	full sun
	Erigeron glaucus	seaside daisy	1	L	can tolerate some shade
	Eriogonum latifolium	coast buckwheat	1.5	VL	can tolerate some shade
	Penstemon heterophyllus	foothill penstemmon	2.5	L	can tolerate some shade
	Iris douglasiana	Iris douglas	2	L	can tolerate shade

*WUCOLs value varies by species

Screening Along a Fence



scraggly, or stray into neighbors' yards. Pay close attention to the mature size of the plants you select to make sure they won't get too large for the space.

Suggested Plants for Screening Along a Fence

Example habitat types: coastal scrub, oak savannah

Symbol	Botanical Name	Common Name	On-center Spacing (Ft)	Water Use	Notes		
Midsize Framewor	rk Shrubs	1	1		•		
	Frangula californica	coffeeberry	6	L	can tolerate shade		
	Baccharis pilularis	coyote brush	6	L	can tolerate shade		
	Ceanothus spp.	California lilac	varies, 6 typical	VL – M*	some species can tolerate shade		
	Holodiscus discolor	cream bush	6	L	best in part or full shade		
	Ribes sanguineum	red flowering currant	3	L	best in part shade		
	Salvia spp.	sage	varies, 4–6 typical	VL – M*	full sun		
Smaller Filler Shru	ıbs and Perennials						
	Achilliea milefolium	yarrow	1	L	can tolerate shade		
	Diplacus aurantiacus	sticky monkeyflower	2.5	VL	can tolerate shade		
	Epilobium canum	California fuchsia	2.5	L	full sun		
	Penstemon heterophyllus	foothill penstemon	2	L	can tolerate some shade		
	Salvia spathacea	hummingbird sage	2	L	best in part or full shade		
	Solidago velutina ssp. californica	California goldenrod	3	М	can tolerate shade		
	Monardella villosa	coyote mint	1.5	VL	can tolerate some shade		
	Scrophularia californica	California bee plant	3	L	part shade		

*WUCOLs value varies by species

Installation and Management

In addition to designing planting areas to benefit wildlife, you can improve the habitat of your yard by incorporating elements that are designed specifically for certain types of wildlife, and by maintaining your yard in an ecologically beneficial way.

Wildlife Considerations

Bird Nest Boxes

Incorporating nest boxes into your landscape is a great opportunity to provide nesting opportunities for cavity nesting bird species, and they can be easily observed and enjoyed. Nest boxes are commercially available from a variety of groups and organizations. However, they are most successful when designed specifically for a target species.

Potential target species for the Santa Clara Valley include Bewick's wren, oak titmouse, chestnut-backed chickadee, and violet green swallow. Guidelines for designing nest boxes for these species can be found on the Cornell Lab of Ornithology's NestWatch website: https:// nestwatch.org/learn/all-about-birdhouses/rightbird-right-house/

Water Features

Adding water features to your site can benefit native birds, butterflies, damselflies. and native bees. If you're interested in supporting these species on your site, consider adding small, shallow water features. These could include

pools of open water with gently sloping sides that are a maximum of 2-3" deep to attract birds, small wet pockets about 6" deep and 6–10" wide that support wetland vegetation to attract dragonflies and damselflies, or a combination of both types of features.

In general, these features should have some buffer from areas of heavy use, but you can maintain sight lines to the features so that you can enjoy the wildlife that is attracted to them. Dense planting on one side of the water feature can also provide refuge for wildlife, so that they can retreat to safety quickly. Including a water circulation feature like a trickling fountain can reduce the risk of mosquito breeding by eliminating still water, while adding the pleasant noise of running water to your yard (figure to the right).

Regular cleaning of any water feature is important to prevent the spread of disease. Use a mild bleach solution and scrub vigorously to remove any accumulated or adhered debris, and then flush thoroughly with clean water.



Domestic Cats

Outdoor cats can have a major impact on wildlife populations. It is estimated that domestic outdoor cats kill as many as 2.4 billion birds and 12.3 billion mammals annually in the US (Loss, Will and Marra 2013). If you own a cat, consider keeping it indoors to help protect your neighborhood's wildlife population. If it isn't possible for your cat to stay inside, add a bell to your cat's collar to decrease its hunting ability or consider purchasing a bird safety cat collar (such as the Birdbesafe® collar).



Anna's hummingbird (Calypte anna)

Figure 1. Landscape features that can benefit native birds, butterflies, and bees



Maintaining Native Planting Areas

Native landscapes designed for habitat are dynamic and may evolve over time as some plants thrive and others decline. Therefore, they often require a different type of maintenance that will result in a different and less manicured visual aesthetic, and that supports a wildlife use.



Pull weeds in the winter and spring when the soil is moist and weeds come out more easily.



If you hire a landscape company to maintain your garden, make sure they know and understand native plants.



Generally water early in the day, and water infrequently and deeply.

Use drip irrigation to reduce evapotranspiration rates.

Be careful with automatic irrigation systems that water even

Allow natural mulch (leaf detritus, etc) to accumulate in planting areas and leave root mass in the ground when cutting back dead plants to build up organic matter

Only trim or prune trees if you really need to, as it creates wounds that can allow pests to infect your trees. Avoid pruning trees during nesting season and avoid

Appendix A: Plant Palettes

The following section provides detailed information on plant palettes appropriate for Santa Clara Valley.



From left: common snowberry (*Symphoricarpos albus*); purple sanicle (Sanicula bipinnatifida), hummingbird sage (*Salvia spathacea*); California fuchsia (*Epilobium canum*); and California rose (*Rosa californica*)

Native Overstory



From left: California sycamore (*Platanus racemosa*); valley oak (*Quercus lobata*), red willow (*Salix laevigata*); California buckeye (*Aesculus californica*); and coast live oak (*Quercus agrifolia*)

Scientific Name	Common Name	Sun/Shade Tolerance	Color/Seasonality	Canopy Width	Water Use	Mixed Riparian Woodland	Mixed Oak Woodland	Oak Savanna	Bayside Scrub	Wet Meadow	Dry Meadow	Birds	Hummingbirds	Butterflies (Larvae and/or Adult)	Beneficial Insects	
NATIVE OVERSTORY																
Acer negundo	boxelder	Sun / Part shade	Golden fall foliage	50 ft	М	х	х	-	-	-	-	х	-	-	-	Provides moderate food resources for seed-eating birds species
Acer macrophyllum	big leaf maple	Sun / Part shade	yellow to pink flowers April to May	65 ft	М	X	х	-	-	-	-	-	-	х	-	Moth host, wind pollinated
Aesculus californica	California buckeye	Sun / Part shade	white to pale rose flowers; May-Jun	20-30 ft	VL	Х	х	х	-	-	-	Х	-	х	Х	Provides food resources for seed-eating birds and small for birds; seeds may be safety hazard near bike path;po
Alnus rhombifolia	white alder	Sun / Part shade	catkins Jan-Apr	40-70 ft	Н	X	-	-	-	-	-	Х	-	-	-	Food for birds; seasonal cover and nesting sites for birds
Arbutus menziesii	Pacific madrone	Sun / Part shade	Showy pink or white flowers in spring	50 ft	L	-	х	-	-	-	-	Х	-	х	Х	Food for insect and seed-eating birds, nectar plant for a
Platanus racemosa	California sycamore	Sun / Part shade	Bronze fall foliage	20-50 ft	м	x	-	-	-	-	-	х	-	x	-	Although this species often hybridizes with London plan in urban settings and has good wildlife value. Strongly ru trained eye can often detect (and reject) hybrids based of and small mammals; moderate seasonal cover and nest
Populus fremontii	Fremont cottonwood	Sun	Golden fall foliage	30-50 ft	М	Х	-	-	-	Х	-	Х	-	Х	Х	High wildlife habitat value - provides food resources tha including cavity-nesters, and moderate seasonal cover f
Quercus agrifolia	coast live oak	Sun / Part shade	Evergreen glossy dark green leaves.	50 ft	VL	Х	х	х	-	-	-	Х	-	х	Х	Food for butterfly larvae, acorns for birds and small mar and nesting sites for birds
Quercus berberidifolia	scrub oak	Sun / Part shade	Evergreen inconspicuous yellow flowers; Feb-Apr	15 ft	VL	-	x	x	Х	-	-	х	-	х	х	Attracts numerous birds, mammals, reptiles, and insects. Wing
Quercus douglasii	blue oak	Sun / Part shade	March to May	30 ft	VL	-	Х	x	-	-	-			Х		Host for CA sister and mournful duskywing, wind pollina
Quercus lobata	valley oak	Sun / Part shade	Bronze or gold fall foliage	50 ft	L	х	x	x	-	-	-	Х	-	х	Х	High wildlife habitat value - provides food resources tha birds, and moderate seasonal cover and nesting sites fo
Salix laevigata	red willow	Sun	Catkins Dec-Jun	5-10 ft	Н	Х	-	-	-	Х	-	Х	-	Х	Х	High wildlife habitat value - provides food resources tha and seasonal dense cover and nesting sites for a variety
Salix lasiolepis	arroyo willow	Sun / Part shade	Gold foliage in fall	15 ft	н	Х	-	-	-	х	-	Х	-	х	Х	High wildlife habitat value - provides food resources tha and seasonal dense cover and nesting sites for a variety

Observations

and small mammals, and good seasonal cover and nesting sites for a variety of bird

mammals, nectar for butterflies, food for butterfly larvae, and moderate seasonal cover len toxic to non-native honey bees

s; mature tree provides tall perching sites for birds

adult butterflies; year-round cover and limited nesting sites for birds

ne tree, and thus nursery stock is often a hybrid of the two species, it can be appropriate recommend that an expert assess nursery stock prior to purchase, because a well-on leaf shape, bark and branch morphology. Food for butterfly larvae seeds for birds ting sites for birds; mature trees provide tall perching sites for birds

t would be used by birds and butterfly larvae, tall perching and nesting sites for birds, for birds

nmals; mature trees provide tall perching sites for birds; high-quality year-round cover

Host for CA sister, Propertius duskywing, Gold-Hunter's Hairstreak, Mournful Dusky-

ted

it would be used by butterfly larvae, birds, and small mammals, tall perching sites for r a variety of bird species

t would be used by insect and catkin-eating birds, butterfly larvae, and adult butterflies, / of bird species

t would be used by insect and catkin-eating birds, butterfly larvae, and adult butterflies, y of bird species

Native Midstory



From left: manzanita (Arctostaphylos sp.); black sage (Salvia mellifera), California flannelbush (Fremontodendron californicum); western redbud (Cercis occidentalis); and chaparral currant (Ribes malvaceum)

					Use	Riparian and	Oak Woodland	avanna	le Scrub	leadow	eadow		ingbirds	flies e and/or Adult)	cial Insects	
Scientific Name	Common Name	Sun/Shade Tolerance	Color/Seasonality	Canopy Width	Water	Mixed Wood	Mixed	Oak Sá	Baysid	Wet N	Dry M	Birds	Humn	Butter (Larva	Benefi	
NATIVE MIDSTORY																
Arctostaphylos sp.	manzanita	Sun (some species tolerate part shade)	White to pink flowers	-	VL or L	х	х	-	х	-	-	Х	х	х	х	Food resource for butterflies and birds, provides cover fo
Artemisia californica	coastal sagebrush	Sun	Silvery light green to gray foliage	-	L	-	х	-	х	-	-	х	-	-	-	Foraging and nesting for birds, insects, and mammals
Baccharis pilularis	coyote brush	Shade tolerant	White to cream flower	-	L	X	х	x	х	х	-	х	-	х	х	Food for insect eating birds; dense year-round cover and
Baccharis salicifolia	mulefat	Shade tolerant	White flowers year round	-	L	X	-	-	-	х	-	Х	-	х	х	Food and shelter for birds, butterflies, insects, and other
Calycanthus occidentalis	spicebush	Sun / Part shade	Burgandy flowers Apr-Aug	-	М	X	-	-	-	Х	-	Х	-	х	х	Pollinated by beetles in the Nitidulidae family
Ceanothus cuneatus	buckbrush	Sun	White, pale blue, blue, or lavender flower	-	L	-	х	-	-	-	-	-	-	-	х	Attracts bees
Ceanothus oliganthus	hairy ceanothus	Sun	lavender flowers March to May	-	na	-	х	-	х	-	-	X	-	х	х	Host for several moths and possibly Erynnis skippers, fav
Ceanothus thyrsiflorus	blue blossom ceanothus	Sun / Part shade	Evergreen; blue flowers in spring.	-	L	x	х	-	Х	-	-	Х	-	х	х	Provides food resources that would be used by butterfly
Cercis occidentalis	western redbud	Sun / Part shade	showy purple flowers in spring; red, gold, or multicolored fall foliage	-	VL	x	х	-	х	-	-	-	x	-	x	Attracts bees
Cercocarpus betuloides	mountain mahogany	Sun / Part shade	Evergreen; green, red, or white flowers in spring	-	VL	-	х	-	-	-	-	-	-	х	х	Attracts bees
Cornus glabrata	brown dogwood	Part Shade	white to cream flowers May to June	-	М	x	х	-	-	-	-	Х	-	х	х	Can be host for echo blue butterfly, will attract bees as w
Cornus sericea	red osier dogwood	Part shade	Red-brown bark, white flowers in summer/fall	-	Н	x	-	-	-	x	-	x	-	-	-	Birds feed on fruits
Corylus cornuta	hazelnut	Shade tolerant	Inconspicuous yellow flowers; Jan- Mar	-	L	-	х	-	х	-	-	X	-	-	-	Shade-tolerant; provides food resources that would be u sites for birds
Frangula californica	California coffeeberry	Sun / Part shade	Evergreen	-	L	X	х	х	х	-	-	X	-	х	х	Attracts insects, food plant for butterfly larvae, nectar pla nesting sites for birds
Fremontodendron californicum	flannelbush	Full sun	Yellow flowers; April - Jun	-	VL		х	-	х	-	-	-	-	-	х	Very intolerant of summer watering after the first year
Garrya elliptica	coast silktassel	Sun / Part shade	Evergreen; Showy green or yellow flowers in winter.	-	L	x	х	-	-	-	-	Х	-	-	х	Provides food resources that would be used by fruit-eati
Heteromeles arbutifolia	toyon	Sun / Part shade	Evergeen, showy white flowers, prolific red berries	-	L	x	х	-	х	-	-	x	x	х	х	Provides food resources that would be used by adult bu nesting sites for a variety of bird species; attracts bees
Holodiscus discolor	cream bush	Shade tolerant	Small creamy white to pinkish flowers	-	L	x	х	-	х	-	-	-	-	-	x	Attracts bees
Lonicera interrupta	chaparral honeysuckle	Sun / Part shade	yellow flowers April to Aug	-	L	-	х	-	х	-	-	-	x	-	x	Host plant for checkerspots but mainly for those not exp
Lonicera subspicata	southern honeysuckle	Sun / Part shade	yellow to pink flowers May to Aug	-	L	-	х	-	-	-	-	-	x	-	х	Only moth hosts, but bees like it.
Morella californica	California wax myrtle	Shade tolerant	Flowers Mar-Apr Evergreen	-	М	х	-	-	-	Х	-	Х	-	-	-	Provides food resources that would be used by fruit-eati
Oemleria cerasiformis	oso berry	Part Shade	white flowers March to May	-	М	x	х	-	х	-	-	Х	-	-	х	Host for a few moth species. I suspect mostly attracts nig

Observations

or birds and other wildlife

d nesting sites for birds and small mammals

wildlife

vored by bees and early flowering.

larvae and nectar-eating birds and butterflies, and year-round dense cover for birds

vell

used by nut-eating birds and small mammals, and seasonal cover and possible nesting

ant for adult butterflies, fruit for birds and small mammals; year-round cover and limited

ting birds, and year-round cover and nesting sites for birds

utterflies and fruit-eating birds and small mammals, and moderate year-round cover and

ected to occur in Mtn View area

ing birds, and year-round dense cover and nesting sites for a variety of bird species

ight flying pollinators

NATIVE MIDSTORY

An 'X' in any category indicates that the plant is either associated with that habitat type or provides a benefit to the indicated wildlife.

Scientific Name	Common Name	Sun/Shade Tolerance	Color/Seasonality	Canopy Width	Water Use	Mixed Riparian Woodland	Mixed Oak Woodland	Oak Savanna	Bayside Scrub	Wet Meadow	Dry Meadow	Birds	Hummingbirds	Butterflies (Larvae and/or Adult)	Beneficial Insects	
Prunus ilicifolia	holly leaf cherry	Sun / Part shade	Showy cream or white flowers, prolific red or purple drupe.	-	L	х	х	-	-	-	-	х	-	х	Х	Food for butterfly larvae, fruit for birds and small mamm
Rhamnus crocea	redberry buckthorn	Sun / Part shade	small yellow flowers, Feb to March	-	L	-	х	-	х	-	-	х	-	x	х	Provides food resources for fruit-eating birds, and dense butterfly not common in south bay. Also host for ceanot
Rhus aromatica	fragrant sumac	Sun	Flower petals generally yellow; Mar-May	-	L	-	х	-	х	-	-	-	-	x	х	Food for insects, nectar plant for adult butterflies; seaso
Rhus integrifolia	lemonade berry	Sun / Part shade	White to pink flowers; Feb-May	-	L	х	х	-	х	-	-	х	-	X	Х	Provides berries for birds and small mammals, food sou birds
Ribes aureum var. gracillimum	golden currant	Sun / Part shade	yellow flowers Feb to April	-	na	-	х	-	х	-	-	х	x	x	х	Provides food resources for fruit-eating birds, and some but often too sparse to attract many.
Ribes californicum	California gooseberry	Part Shade	whilte to pink flowers Jan to March	-	VL	х	х	-	-	-	-	х	x	X	Х	Provides food resources for fruit-eating birds, and some but often too sparse to attract many.
Ribes malvaceum	chaparral currant	Shade tolerant	Pink to purple/white flowers	-	VL	-	х	-	х	-	-	-	-	-	х	Attracts bees
Ribes sanguineum	flowering currant	Shade tolerant	White, pink, or red flowers	-	L	х	-	-	х	-	-	х	x	X	-	Provides food resources for nectar-eating birds and but
Salix exigua	sandbar willow	Shade tolerant	Inconspicuous yellow flowers	-	н	х	-	-	-	х	-	х	-	х	Х	Host for butterflies such as Dreamy Duskywing, Viceroy,
Salvia mellifera	black sage	Sun	White to pale blue or lavender (pale rose; Mar- Jun	-	L	-	Х	-	х	-	-	х	x	x	Х	Attracts bees
Sambucus nigra ssp. caerulea	blue elderberry	Sun / Part shade	showy cream or yellow flowers, prolific black or purple berry	-	L	Х	Х	-	-	х	-	х	-	Х	Х	Food for insects, nectar plant for butterflies and birds, fr
Solanum umbelliferum	blue witch nightshade	Sun / Part shade	violet to purple flowers Jan to June	-	L	-	х	-	х	-	х	-	-	X	Х	Provides some nectar for bees and butterflies. Host plar make a cool noise to make the pollen spray out of pore
Symphoricarpos albus	common snowberry	Shade tolerant	Bell shaped pink flowers; May-Jul	-	L	-	х	-	-	-	-	-	x	-	-	Important shelter for various birds, host plant for Vashti
Viburnum ellipticum	common viburnum	Part shade / Shade	white flowers May to June	-	na	-	Х	-	-	-	-	-	-	-	Х	Host to several moth species. Have not observed to attr

Observations

nals; moderate year-round cover and nesting sites for birds

se year-round cover for a variety of bird species. Host plant for pale swallowtail - a othus silkmoth, a rare but impressive sphinx moth.

nal dense cover and nesting sites for birds

irce for butterfly adults and larvae, year-round dense cover and nesting sites for various

e cover for ground-foraging birds. Host for some moths, if dense flowers can draw bees

e cover for ground-foraging birds. Host for some moths, if dense flowers can draw bees

terlies; berries provide food for birds

Mourning Cloak, Western Tiger Swallowtail

ruit for birds and small mammals; seasonal dense cover and nesting sites for birds

nt for a few small moths. Bees sometimes drawn to this if flowers prolifically, and they es in the anthers like a tuning fork.

Sphinx Moth larvae

ract many bees, also not native to this area



Native Understory



From left: common yarrow (Achillea millefolium); tidy tips (Layia platyglossa), coyote mint (Monardella villosa); baby blue eyes (Nemophilia menziesii); and Douglas iris (Iris douglasiana)

Scientific Name Common Name Snu/Spage Lolecauce Color/Seasonalith Mixed Riparian Alice Riparian	Hummingbirds Butterflies (Larvae and/or Beneficial Insec	Hummingbirds Butterflies (Larvae and/or Ad Beneficial Insects
NATIVE UNDERSTORY Image: Contract of the second s		
Achillea millefolium yarrow Intermediate Shade Tolerance White to pink flowers; Apr-Sep - L X X X X X X	- X X	- X X Flowers attract many insects and bees
Agrostis exarata spike bentgrass Sun / Part shade Texture late spring - na - X - X X		Stays green throughout summer, can be used as soi
Allium unifolium one leaf onion Part shade / Shade May to June - VL - - - X - - - X - - - X - - - X - - - X	- X X	- X X Bees love it if dense, but will smell of onions
Aquilegia formosa columbine Shade tolerant Red to yellow flowers; Apr-Sep - L - X - X - - X X -	X - X	X - X Requires higher soil moisture, use in low spots that r
Artemisia douglasiana mugwort Sun to shade May-Nov - L X - - X X - - - X X - - - X X - - - X X - - - X X - - - X X - - - X X - - X X - - X X - - X X - - X X - - X X - - X X - - X X - - X X - - X X - - X X - - X X - - X X - - X X - - X X - - X X - - X X - - X X - - X X - - X	X	X Can look weedy, best for backdrop groundcover
Asclepias californica California milkweed Sun Purple April-July - L - X X - X	- X X	- X X Milkweeds are generally host plants for Monarch bu
Asclepias fascicularis narrow leaf milkweed Sun white/pink - L x X - x X - x A	- X X	- X X Attracts butterflies and insects, food source for butter
Asclepias speciosa showy milkweed Sun rose purple - yellow - L X X X X	- X X	- X X Attracts butterflies and insects, food source for butter
Baccharis glutinosa marsh baccharis Part shade white July-Oct - na X - - X -	- X X	- X X Host for Fatal Metalmark, attracted Common Bucke
Barbarea orthoceras American rocket Part Shade yellow flowers Feb to April - na X - - X -	- X X	- X X Host for cabbage white butterfly, bees like it
Berberis pinnata California barberry Sun to shade yellow Feb-May - M - X - X - X		Numerous birds attracted to the fruits, tolerates clay
Bromus carinatus California brome Shade tolerant Textural - na X X - - X		Competes well with nonnative weeds, sod-building
Calamagrostis nutkaensis reed grass Part shade Textural - M X - X X - X X -		Rhizomes help provide streambank stability.
Cardamine californica bitter cress Sun / Part shade white flowers Feb to April - na - X - X X - - - - - - X - X X - - - - - X - X X - - - - X - X X - - - - X - X X - - - - - X - X X - - - X - X X - - - X - X X - - - X X - X X - - X X - X X - - X X - X X - X X - X X - X X - X X - X X - X X - X X - X X <td>- X -</td> <td>- X - Will be visited by bees, but I have not witnessed in g</td>	- X -	- X - Will be visited by bees, but I have not witnessed in g
Carex barbarae Santa Barbara sedge Sun / Part shade Brown inflorescence and fruit; May-Aug - na X - - X		Birds will eat the seeds an duse grass fibers for nesti
Carex nudata torrent sedge Part shade / Shade Textural April-July - na X - - X -		Soil that accumulates in a tufts of C. nudata can eve
Carex praegracilis clustered field sedge Sun Textural May-Jun - M X - - X X X - X X		Can be used in poorly draining areas, space betwee
Carex tumulicola foothill sedge Sun / Part shade Textural - L X X X - X		Use true form, not Carex divulsa, which is nonnative
Ceanothus thyrsiflorus var. griseus Carmel ceanothus Sun / Part shade blue flowers March to May - L - X - - X -	- X X	- X X Actinorhizal plant may benefit from innoculation wit inoculum is not commercially available.
Chlorogalum pomeridianum soap plant Sun / Part shade May to Aug - VL X X X X X	- X X	- X X Good for bumblebees. Major host for brown elfin
Clarkia rubicunda farewell to spring Sun pink flowers May to Aug - na - X - X X	- X X	- X X Great for bees, host for white-lined sphinx moth, on
Clarkia unguiculata elegant clarkia Sun / Part shade pink to purple flowers June to Sept - na - X X - X	- X X	- X X Great for bees, host for white-lined sphinx moth, on
Claytonia perfoliata miner's lettuce Part Shade small white flowers Feb to May - na X X -	- X X	- X X Host for white-lined sphinx moth, one of the more of attractiveness for bees.

LEGEND

Water Use: as defined by WUCOLS, when available (Water Use Classification of Landscape Species) H: high water use; M: moderate water use L: low water use; VL: very low water use

Observations

bilizer in degraded areas

eive regular water. attracts bees

lies

larvae, spreads easily via underground stems; attracts bees

larvae, spreads easily via underground stems

outterfly.

system is useful for erosion control

t numbers

material. Strong root system filters water and is good for soil stabilization

ually provide habitat for establishment of other plants.

avers, and as non-native law grass replacement

ankia sp. Consider incorporating native soil known to contain Frankia sp., because such

f the more common large sphinx moth you will see in urban areas around here.

of the more common large sphinx moth you will see in urban areas around here.

mon large sphinx moth you will see in urban areas around here. Not much

An 'X' in any category indicates that the plant is either associated with that habitat type or provides a benefit to the indicated wildlife.

NATIVE UNDERSTORY

					. Use	l Riparian land	l Oak Woodland	avanna	de Scrub	1ead ow	leadow		ningbirds	rflies ie and/or Adult)	icial Insects	
Scientific Name	Common Name	Sun/Shade Tolerance	Color/Seasonality	Canopy Width	Water	Mixed Wood	Mixed	Oak S	Baysic	Wet N	Dry M	Birds	Humn	Butter (Larva	Benef	
Collinsia heterophylla	Chinese houses	Sun / Part shade	blue to purple flowers Feb-April	-	na	-	-	-	X	-	x	-	-	x	-	Annual wildflower, adds color to meadows in spring, rec
Cyperus eragrostis	tall flatsedge	Sun	Textural May-Nov	-	Н	-	-	-	-	X	-	х	-	-	-	Seed provides food for birds and small mammals
Deschampsia caespitosa	hairgrass	Sun / Part shade	Textural	-	L	Х	X	-	-	Х	-	х	-	-	-	Most often found in moist to very wet areas, such as fre
Deschampsia danthonioides	annual hairgrass	Sun / Part shade	Textural Mar-Aug	-	na	х	-	-	-	Х	-	-	-	-	-	Almost or never available
Dichelostemma capitatum	wild hyacinth	Sun	lavender/purple to blue flowers Feb to April	-	VL	-	-	-	-	x	x	-	х	-	х	Bees will visit, but is not corucopian species in most sett
Elymus condensatus	giant bluerye	Sun	Textural Jun-Aug	-	L	Х	X	-	X	Х	x	Х	-	-	-	Seed provides food for birds and small mammals
Elymus glaucus	blue wildrye	Shade tolerant	Textural	-	na	Х	X	Х	X	Х	х	х	-	-	-	Seed provides food for birds and small mammals
Elymus triticoides	creeping wildrye	Part Shade	Textural Jun-Jul	-	L	Х	X	-	-	Х	х	х	-	-	-	Seed provides food for birds and small mammals
Epilobium canum	California fuchsia	Shade tolerant	Red-orange Aug-Oct	-	L	Х	x	Х	х	х	х	-	x	х	х	Hummingbird and butterfly food source, attracts bees
Erigeron glaucus	seaside daisy	Sun	White, pink, purple May-Jul	-	L	-	x	-	x	х	-	-	-	х	х	Flowers attract many insects
Eriogonum fasciculatum	California buckwheat	Sun / Part shade	white, pink Apr-Sep	-	VL	Х	X	-	х	-	х	-	-	Х	х	Flowers attract many insects and bees
Eriogonum latifolium	Coast buckwheat	Sun / Part shade	white, pink, rose year round	-	L	-	X	-	X	-	-	х	-	х	х	Host to butterflies
Eriogonum nudum	naked buckwheat	Sun	May to Aug	-	L	-	X	Х	X	-	х	-	-	х	х	Favored by bees and butterflies for nectaring.
Eriogonum umbellatum	sulfur buckwheat	Sun / Part shade	white, yellow, red Aug-Oct	-	L	-	X	-	X	-	х	-	-	х	х	Flowers attract many insects
Eriophyllum confertiflorum	golden yarrow	Sun	yellow Feb-Aug	-	L	-	x	-	X	-	-	-	-	x	х	Attracts many beneficial insects
Eschscholzia californica	California poppy	Sun	orange, yellow Apr-Jul	-	VL	-	x	Х	-	-	x	-	-	-	х	Annual wildflower, adds color to meadows in spring, rec
Euthamia occidentalis	western goldenrod	Sun	Yellow Aug-Oct	-	na	х	-	-	x	Х	-	-	-	-	х	Flowers attracts many pollinators. Provides good bank s
Festuca californica	California fescue	Sun / Part shade	Textural Feb-Apr	-	L	Х	X	Х	-	-	х	х	-	-	-	Shade tolerant, great choice for under oaks
Festuca idahoensis	Idaho fescue	Sun / Part shade	Textural Jun-Jul	-	VL	-	X	X	-	-	х	х	-	-	-	Works well massed on parking strips and marginal area
Festuca rubra	red fescue	Shade tolerant	Textural Apr-May	-	L	Х	X	Х	X	Х	х	-	-	-	-	Can be used as turfgrass, does well in dry shade under
Fragaria chiloensis	beach strawberry	Sun / Part shade	White Feb-Nov	-	М	х	-	-	x	Х	х	х	-	-	х	Fast spreading evergreen, can be used as lightly tracked
Fragaria vesca	woodland strawberry	Shade tolerant	White Jan-Jul	-	М	Х	X	X	-	-	-	х	-	-	х	Does well under oaks and along streambanks
Gilia capitata	globe gilia	Sun	white Feb-Apr	-	na	-	-	-	X	Х	-	-	-	-	х	annual wildflower, adds color to meadows in spring, rec

Observations

quires mowing after seed set to avoid weedy appearance

eshwater/saltwater marsh, riparian areas, and woodland habitats

tings

quires mowing after seed set to avoid weedy appearance

stabilization

s; host of Lindsey's Skipper, Sandhill Skipper, Sonora Skipper

oaks

d turf, in parking strips and walkways.

quires mowing after seed set to avoid weedy appearance

An 'X' in any category indicates that the plant is either associated with that habitat type or provides a benefit to the indicated wildlife.

NATIVE UNDERSTORY

Scientific Name	Common Name	Sun/Shade Tolerance	Color/Sessonality	Canopy	Water Use	Mixed Riparian Moodland	Mixed Oak Woodland	Oak Savanna	Bayside Scrub	Wet Meadow	Dry Meadow	Birds	Hummingbirds	Butterflies (Larvae and/or Adult)	Beneficial Insects	
Glycyrrhiza lepidota	American licorice	Sun	June to Aug	-	na	-	-	-	-	-	x	-	-	×	x	If dense enough, will draw bees
Grindelia camporum	common gumplant	Sun	Yellow Mav-Nov	-	?	X	-	-	-	X	X	-	-	-	X	Attracts bees
Grindelia stricta	gumplant	Sun / Part shade	Yellow May-Oct	-	L	X	-	-	x	X	-	-	-	х	x	Nectar attracts Common Buckeye and Great Copper but
Helianthus annuus	sunflower	Sun	Yellow Jun-Oct	-	na	-	-	-	-	-	X	-	-	-	X	Attracts bees
Heracleum maximum	common cowparsnip	Part Shade	white flowers June to July	-	na	x	-	-	-	х	-	x	x	x	x	Larval food source for anise swallowtail butterfly, Spring ,
Heuchera micrantha	alum root	Shade tolerant	white, pink Apr-Jul	-	м	-	х	-	-	-	-	-	х	-	X	Shade tolerant, great choice for under oaks or in shady r
Hordeum brachyantherum	meadow barley	Sun	Texture Jun-Jul	-	na	Х	х	х	-	Х	х	х	-	-	-	Provides seed for nesting waterfowl
Iris douglasiana	Douglas iris	Sun to shade	lavender, red-purple, pale cream, veined purple May-Jul	-	L	х	х	х	х	х	x	-	-	-	x	Shade-tolerant
Juncus effusus	common rush	Sun	brown, texture Jun-Aug	-	М	-	-	-	-	х	-	х	-	-	-	Rhizomes form matrix for beneficial bacteria, excellent ac
Juncus patens	spreading rush	Sun / Part shade	Texture	-	L	-	х	x	х	х	x	x	-	-	-	Provides nesting material for birds
Juncus xiphioides	iris leaved rush	Part Shade	Texture May-Jul	-	na	-	-	-	-	-	-	х	-	-	-	Good for erosion control and can help stabilize stream b
Lasthenia californica	California goldfields	Sun / Part shade	Yellow Feb-Jun	-	na	-	-	х	-	х	x	-	-	-	x	Annual wildflower, adds color to meadows in spring, requ
Layia platyglossa	tidy tips	Sun	yellow, white Feb-Jul	-	na	-	х	-	-	x	x	-	-	-	x	Annual wildflower, adds color to meadows in spring, requ
Limnanthes douglasii	meadowfoam	Sun / Part shade	white, yellow Mar-Jul	-	na	-	-	-	-	х	-	-	-	-	x	Annual wildflower, adds color to meadows in spring, requ
Lomatium californicum	California lomatium	Part shade / Shade	yellow flowers March to April	-	L	-	-	-	x	x	x	-	-	х	x	Host for Anise Swallowtail
Lupinus albifrons	silver bush lupine	Sun	violet Apr-July	-	VL	-	х	-	x	-	x	x	-	х	x	Attracts bees
Lupinus nanus	sky lupine	Sun	Blue, lavender, pink, white Mar-Jun	-	na	-	-	х	-	х	х	х	-	х	-	Annual wildflower, adds color to meadows in spring, requ
Malva assurgentiflora	island mallow	Sun	pink to purple flowers Feb to July	-	L	-	х	-	х	-	-	-	х	х	-	Formerly Lavatera assurgentiflora. Host for the West Coa profusely.
Melica californica	California melicgrass	Sun / Part shade	textural June-Aug	-	na	-	х	x	-	X	x	x	-	-	-	Good choice for slope stabilization and erosion control, (
Melica imperfecta	coast melic grass	Sun / Part shade	Texture Feb-Mar	-	na	-	-	х	-	-	x	x	-	х	-	Seeds and cover for birds, butterfly larvae food source
Mimulus aurantiacus	sticky monkeyflower	Sun / Part shade	yellow, orange, red Mar-Aug	-	VL	-	х	-	х	-	-	-	х	х	x	Attracts hummingbirds, larval host for Common Checker
Mimulus cardinalis	scarlet monkeyflower	Sun / Part shade	corolla orange, red May-Sep	-	Н	X	-	-	-	х	-	-	х	-	x	Often found in shady, wet places
Mimulus guttatus	seep monkeyflower	Shade tolerant	Yellow Apr-Jun	_	Н	-	-	-	-	х	-	-	-	-	x	Attracts hummingbirds
Monardella villosa	coyote mint	Sun / Part shade	white, pink, purple Jun-Aug	-	VL	-	х	x	x	-	-	-	-	х	x	Attracts bees

LEGEND Water Use: as defined by WUCOLS, when available (Water Use Classification of Landscape Species) H: high water use; M: moderate water use L: low water use; VL: very low water use

Observations

terflies

Azure, Pale Swallowtail. Nectar source for hummingbirds and seed for bushtits, finches

rock outcrops

dition for wastewater

banks,

uires mowing after seed set to avoid weedy appearance

ires mowing after seed set to avoid weedy appearance

ires mowing after seed set to avoid weedy appearance

uires mowing after seed set to avoid weedy appearance

ast Lady and Painted Lady, outstanding for hummingbirds. Grows fast and flowers

drought tolerant

spot and Variable Checkerspot butterfly

NATIVE UNDERSTORY

An 'X' in any category indicates that the plant is either associated with that habitat type or provides a benefit to the indicated wildlife.

Scientific Name	Common Name	Sun/Shade Tolerance	Color/Seasonality	Canopy Width	Water Use	Mixed Riparian Woodland	Mixed Oak Woodland	Oak Savanna	Bayside Scrub	Wet Meadow	Dry Meadow	Birds	Hummingbirds	Butterflies (Larvae and/or Adult)	Beneficial Insects	
Nemophila menziesii	baby blue eyes	Sun / Part shade	white, blue Mar-Jun	-	na	-	x	-	-	х	х	-	-	-	х	Annual wildflower, adds color to meadows in spring, rec
Oenothera elata ssp. hookeri	common evening primrose	Sun / Part shade	yellow flowers Aug to Sept	-	L	Х	-	-	х	x	x	x	-	x	-	Mostly night-visiting pollinators
Penstemon heterophyllus	beard tongue	Sun	purple, blue May-Jul	-	L	-	x	-	х	-	-	-	х	Х	х	Attracts bees
Perideridia kelloggii	Kellogg's yampah	Sun	cream flowers June to Aug	-	м	-	-	-	-	х	X	-	-	X	-	Host for Anise Swallowtail
Phacelia tanacetifolia	tansy leafed phacelia	Sun	lavender/purple flowers March to May	-	na	-	x	-	х	-	х	-	-	-	х	Attracts bees and hoverflies (which eat aphids)
Polystichum munitum	sword fern	Shade	textural	-	м	Х	x	-	-	х	-	х	-	-	-	Fibrous root systems help stabilize slopes, provides hab
Ranunculus californicus	California buttercup	Sun / Part shade	yellow flowers Feb to May	-	VL	-	-	Х	-	х	х	-	-	-	х	Favorite of bees, also provides early season resources a
Rhus aromatica 'gro-low'	fragrant sumac	Sun	pale yellow flowers	-	L	-	X	-	-	-	-	-	-	Х	х	Food for insects, nectar plant for adult butterflies; seaso
Rosa californica	California rose	Sun / Part shade	pink Feb-Nov	-	L	Х	-	-	х	-	-	x	-	-	х	Attracts bees
Rubus ursinus	California blackberry	Shade tolerant	White Mar-Jul	-	L	Х	X	-	х	-	-	х	-	-	х	Attracts bees
Salvia clevelandii	Cleveland sage	Sun	purple, dark violet Apr-Jul	-	L	-	x	-	-	-	-	х	x	х	х	Flowers attract hummingbirds, butterflies, and many ins
Salvia leucophylla	purple sage	Sun	rose, lavender	-	L	-	X	-	-	-	-	х	X	Х	х	Flowers attract hummingbirds, butterflies, and many ins
Salvia sonomensis	Sonoma sage	Sun / Part shade	Blue to lilac or purple flowers; Mar-July	-	L	-	x	-	х	-	X	-	-	х	х	Sprawling habit helps to stabilize clay slopes
Salvia spathacea	hummingbird sage	Sun / Part shade	Green to purple inflorescence; Mar-May	-	L	-	x	X	х	-	-	х	x	-	х	Shade-tolerant; provides food source for nectar-eating
Sanicula bipinnatifida	snakeroot	Part Shade	maroon flowers March to May	-	na	-	x	Х	х	-	х	-	-	-	х	Attracts many beneficial insects
Scrophularia californica	California bee plant	Shade tolerant	red to maroon flowers; Mar-Jul	-	L	-	x	-	х	-	x	-	-	x	х	Attracts bees; can spread aggressively by underground
Sisyrinchium bellum	blue eyed grass	Sun / Part shade	Blue-purple or pale blue/ white flowers; Mar-May	-	VL	-	x	X	х	х	x	-	-	-	х	Attracts many beneficial insects
Solidago velutina ssp. californica	California goldenrod	Sun / Part shade	yellow flower July to Oct	-	м	Х	x	-	х	х	х	-	-	х	х	Attracts bees; spreads by rhizomes, can be aggressive i
Stipa cernua	nodding needle grass	Sun / Part shade	textural Feb to July	-	VL	-	X	Х	-	х	х	-	-	-	-	deer resistant, good for erosion control
Stipa pulchra	purple needlegrass	Intermediate Shade Tolerance	Textural	-	VL	-	x	Х	-	х	х	х	-	х	-	Seeds and cover for birds, butterfly larvae food source
Symphyotrichum chilense	pacific aster	Sun / Part shade	Violet flower; Jun-Oct	-	м	Х	X	-	х	-	X	-	-	X	х	Provides flowers in late summer and early autumn; attra
Trichostema lanatum	woolly bluecurls	Sun	Blue to pink or white flowers; Apr-Jun	-	VL	-	x	-	-	-	-	-	x	X	х	Host plant for larval stages of Northern checkerspot, fie

Observation	s
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quires mowing after seed set to avoid weedy appearance

bitat for several birds species

and color.

onal dense cover and nesting sites for birds

sects

sects

birds; attracts bees

stems

if over irrigated

acts bees; can spread aggressively if over-irrigated

eld crescent, pearl crescent butterflies

An 'X' in any category indicates that the plant is either associated with that habitat type or provides a benefit to the indicated wildlife.

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Scientific Name	Common Name	Sun/Shade Tolerance	Color/Seasonality	Canopy Width	Water Use	Mixed Riparian Woodland	Mixed Oak Woodland	Oak Savanna	Bayside Scrub	Wet Meadow	Dry Meadow	Birds	Hummingbirds	Butterflies (Larvae and/or Adult)	Beneficial Insects	
Trifolium willdenovii	tomcat clover	Sun	purple to pink flowers April to May	-	na	-	-	x	-	х	x	-	-	х	х	Liked by larger bees: host for orange sulphur, greenish t
Triteleia laxa	Ithuriel's spear	Sun to Shade	lavender/purple to blue flowers April to July	-	VL	-	x	x	-	x	х	-	-	-	Х	Bees will visit, but is not corucopian species in most sett
Wyethia angustifolia	mules ears	Sun / Part shade	Yellow flower; Apr-Aug	-	L	-	-	X	-	-	x	-	-	X	х	Attracts many species of butterflies, seeds attract birds a
NATIVE VINES																
Aristolochia californica	California pipe vine	Part Shade	Jan to April	-	L	X	X	-	х	-	-	-	-	X	-	Host plant for Pipevine Swallowtail
Calystegia purpurata ssp. purpurata	Purple western morning glory	Sun	white to pink flowers April to September	-	L	-	-	X	-	-	х	-	-	Х	Х	Genus hosts Morning-glory Plume Moth and Yellow stri
Clematis lasiantha	chaparral clematis	Sun to Shade	white to cream flowers March to July	-	L	-	x	-	х	-	-	-	-	Х	х	Will draw lots of bees when the flowers are dense
Lonicera hispidula	California honeysuckle	Sun to Shade	Winter Deciduous	-	L	Х	x	-	-	-	-	х	x	Х	-	20' tall, edible fruit, deer resistant.
Marah fabacea	California man-root/Wild cucumber	Sun to shade	Blooms March to April, prickly fruits ripen in summer	-	L	X	X	X	-	-	-	-	-	X	-	Can climb to a length of 6 meters.
Vitis californica	California wild grape	Sun to part shade	Cream, green, and yellow flowers, Spring	-	L	х	X	-	-	-	-	х	-	Х	-	Supports many species of birds and small mammals, ext

Observations

blue, northern cloudywing, southern dogface butterflies

tings

and beetles

iped Armyworm Moth

remely fast growing

An 'X' in any category indicates that the plant is either associated with that habitat type or provides a benefit to the indicated wildlife.

Non-Native Plants



From left: deergrass (*Muhlenbergia rigens*); southern magnolia (*Magnolia grandiflora*), moonshine yarrow (*Achillea* 'Moonshine'); weeping bottlebrush (*Callistemon viminalis*)

					r Use	d Riparian Iland	d Oak Woodland	javanna	de Scrub	Meadow	Aeadow		ningbirds	rflies ae and/or Adult)	ficial Insects	
Scientific Name	Common Name	Sun/Shade Tolerance	Color/Seasonality	Canopy Width	Wate	Mixed	Mixeo	Oak S	Baysi	Wet N	Dry N	Birds	Humr	Butte (Larva	Benef	
NONNATIVE OVERSTORY																
Acer buergerianum	trident maple	Sun to shade	Yellow flowers in spring, gold or red foliage in fall	20-25 ft	м							х	-	-	-	Provides food resources that would be used by seed-ea tall perching sites for birds
Acer rubrum	red maple	Sun / Part shade	Red, orange, or multi-colored fall foliage	40 ft	м							Х	-	-	-	Provides food resources that would be used by seed-ea tall perching sites for birds
Aesculus x carnea	red-horse chestnut	Sun / Part shade	Showy red flower	25-35 ft	М							Х	-	х	-	Provides food resources that would be used by butterfli
Arbutus x 'Marina'	Marina madrone	Full sun	Showy ping or rose flowers	40 ft	L							Х	х	х	-	Provides food resources that would be used by butterfli cover for birds
Callistemon citrinus	crimson bottlebrush	Sun / Part shade	Evergreen, showy red flowers in spring or summer	25 ft	L							Х	х	х	-	Provides food for nectar and insect eating birds, nectar
Callistemon viminalis	weeping bottlebrush	Sun / Part shade	Evergreen, showy red flowers in spring or summer	15 ft	L							Х	х	х	-	Provides food for nectar and insect eating birds, nectar
Celtis sinensis	Chinese hackberry	Sun to shade	Gold foliage in fall	40 ft	L							х	-	-	-	Provides food resources that would be used by fruit-ear birds
Corymbia ficifolia	red-flowering gum	Sun / Part shade	Evergreen, showy orange, pink, red, or rose flowers	25-40 ft	L							Х	х	Х	-	Food for nectar and insect eating birds and adult butter
Crataegus laevigata	English hawthorn	Sun / Part shade	Showy white to pink flowers	25 ft	М							Х	-	х	-	Provides resources that would be used by butterfly larva bird species
Crataegus phaenopyrum	Washington hawthorn	Sun	Showy white flowers, prolific red pome	25-30 ft	М							Х	-	х	-	Provides resources that would be used by butterfly larva bird species
Fraxinus dipetala	California ash	Sun / Part shade	white flowers March - June	10-12 ft	L							-	-	х	-	attracts butterflies
Geijera parviflora	Australian willow	Sun / Part shade	white flowers	20 ft	М							Х	-	-	-	Provides food resources that would be used by fruit-ear
Lagunaria patersonii	primrose tree	Sun / Part shade	pink to white flowers; red, gold, orange, or multicolored fall foliage	20 ft	L							Х	-	-	-	Provides food resources that would be used by fruit-eat perching sites for birds
Liriodendron tulipifera	tuliptree	Sun / Part shade	Bronze or gold fall foliage	40 ft	м							Х	-	-	-	Provides food resources that would be used by seed-ea tall perching sites for birds
Magnolia grandiflora 'Sam Sommers; 'St. Mary,' 'Majestic Beauty,' 'Little Gem', 'Russet'	southern magnolia	Sun / Part shade	Showy flowers, prolific fruit	20-50 ft	М							х	-	-	-	Provides food resources that would be used by fruit-eat species
Melaleuca ericifolia	swamp paperbark	Sun / Part shade	Evergreen; Yellow to white flowers		L							Х	х	х	-	Provides food resources that would be used by nectar- cover and nesting sites for a variety of bird species
Melaleuca linariifolia	cajeput tree	Sun / Part shade	Evergreen; white flowers		L							х	х	х	-	Provides food resources that would be used by nectar- cover and nesting sites for a variety of bird species
Melaleuca styphelioides	prickly paperbark	Sun / Part shade	Evergreen; white flowers		L							Х	Х	х	-	Provides food resources that would be used by nectar- cover and nesting sites for a variety of bird species
Metrosideros excelsa	New Zealand Christmas Tree	Sun / Part shade	Evergreen; red flowers		L							х	х	х	-	Provides food resources that would be used by nectar- cover and nesting sites for a variety of bird species
Prunus serrulata 'Kwanzan'	Japanese flowering cherry	Sun / Part shade	Showy pink flowers; Bronze or gold fall foliage	25-30 ft	М							Х	-	-	-	Provides food resources that would be used by fruit-eat of bird species
Quercus suber	cork oak	Sun / Part shade	Evergreen	40-70 ft	L							Х	-	х	-	Provides food resources that would be used by butterfly and nesting sites for a variety of bird species.
NONNATIVE MIDSTORY																
Amorpha californica	California false indigo	Part sun / Shade	purple flowers	-	L							-	Х	Х	-	Larval food source for the California dogface butterfly, f
Arbutus unedo	strawberry tree	Sun to shade	Evergeen; showy white flowers, prolific orange or red berry.	' 15 ft	L							Х	Х	Х	-	Provides food resources that would be used by nectar- of bird species
Ceanothus arboreus x thyrsiflorus var. griseus 'Ray Hartman'	Ray Hartman ceanothus	Sun	blue to purple flowers	10-20 ft	L							Х	-	Х	Х	Provides food resources that would be used by butterfly attracts bees

LEGEND Water Use: as defined by WUCOLS, when available (Water Use Classification of Landscape Species) H: high water use; M: moderate water use L: low water use; VL: very low water use

Observations

ating birds and small mammals, moderate seasonal cover and nesting sites for birds, and ating birds and small mammals, moderate seasonal cover and nesting sites for birds, and

lies (including larvae and adults) and birds and seasonal cover for birds

ies and nectar-eating birds, such as hummingbirds, as well as moderate year-round

for butterflies and bees; year round cover and nesting sites for a variety of birds

r for butterflies and bees; year round cover and nesting sites for a variety of birds

ting birds; moderate seasonal cover and nesting sites for birds; and tall perching sites for

erflies; year round dense cover and nesting sites for a variety of bird species

vae and fruit-eating birds, and moderate seasonal cover and nesting sites for a variety of

ae and fruit-eating birds, and moderate seasonal cover and nesting sites for a variety of

ting birds, and year-round cover and nesting sites for a variety of bird species

ting birds, year-round dense cover and nesting sites for a variety of bird species, and tall

ating birds and small mammals, moderate seasonal cover and nesting sites for birds, and

ting birds and small mammals, and moderate year-round cover for a variety of bird

eating birds, bees, and butterflies, and insect-eating birds, as well as year-round dense

eating birds, bees, and butterflies, and insect-eating birds, as well as year-round dense

eating birds, bees, and butterflies, and insect-eating birds, as well as year-round dense

eating birds, bees, and butterflies, and insect-eating birds, as well as year-round dense

ting birds and small mammals, and limited seasonal cover and nesting sites for a variety

y larvae and acorn-eating birds and small mammals, and moderate year-round cover

flowers attract adult butterflies and bees

eating birds and butterflies, and year-round dense cover and nesting sites for a variety

y larvae and nectar-eating birds and butterflies, and year-round dense cover for birds;

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NONNATIVE MIDSTORY

NONNATIVE OVERSTORY

Scientific Name	Common Name	Sun/Shade Tolerance	Color/Seasonality	Canopy Width	Water Use	Mixed Riparian Woodland	Mixed Oak Woodland	Oak Savanna	Bayside Scrub	Wet Meadow	Dry Meadow	Birds	Hummingbirds	Butterflies (Larvae and/or Adult)	Beneficial Insects	
Cephalanthus occidentalis	common buttonbush	Sun / Part shade	cream flowers	-	м					-		×	-	X	-	Flowers attract butterflies, plant provides some cover fo
, Cornus nuttalli	Pacific dogwwod	Part Shade	Aug to Oct	_	м			_				X	-	X	X	attracts birds
Eriogonum giganteum	St. Catherine's lace	Sun	Small white to rose flowers	-	L		-					-	-	-	X	Attracts bees
Keckiella cordifolia	climbing penstemon	Sun / Part shade	red flowers March to Aug	-	L							-	X	X	Х	Flowers attracts hummingbirds, bees, and butterflies
Rhus ovata	sugar bush	Sun / Part shade	White to pink petals with red sepals; Mar-May	-	L							х	-	-	-	fruits provide food for birds and small mammals
Ribes alpinum	Alpine currant	Sun / Part shade	Greenish yellow flowers April	-	na							х	-	х	-	Attracts birds and butterflies
Romneya coulteri	matilija poppy	Sun / Part shade	White flowers; Mar-Jul	-	VL							-	-	-	х	Attracts bees; spreads by rhizomes, can be aggressive i
Rosmarinus officinalis	rosemary	Sun	pale blue to white flowers; winter to spring	-	L							-	-	-	х	flowers attract many insects and bees
NONNATIVE UNDERSTORY																
Achillea 'Moonshine'	moonshine yarrow	Sun	bright yellow June-Sept	-	L							-	-	x	х	attracts bees and many insects
Baccharis pilularis 'Twin Peaks'	groundcover coyote brush	Sun	evergreen	-	na							-	-	-	Х	Usually only male plants are cultivated for landscaping
Berberis aquifolium	Oregon grape	Sun / Part shade	Yellow flowers Feb-April	-	L							Х	-	х	Х	Shade-tolerant
Bouteloua gracilis	blue grama	Sun	Textural	-	L							Х	-	-	-	Seed provides food source for birds and small mamma
Calamagrostis foliosa	leafy reed grass	Sun / Part shade	Textural	-	L							-	-	-	-	Tolerates a variety of soil as long as drainage is good
Cistus salviifolius 'Prostratus'	sageleaf rockrose	Sun	white spring	-	L							-	-	-	Х	Flowers attract many insects
Cyperus involucratus	umbrella plant	Sun / Part shade	Textural year round	-	Н							-	-	-	-	Can naturalize in riparian areas and should only be use
Erigeron karvinskianus	Santa Barbara daisy	Sun to Shade	white, pink Apr-Aug	-	L							-	-	-	Х	Attracts bees
Eriogonum crocatum	saffron / conejo buckwheat	Sun	yellow Apr-July	-	L							-	-	X	х	Flowers attract many insects
Eriogonum grande var. rubescens	rosey buckwheat	Sun / Part shade	pink, red, rose Apr-Sep	-	L							-	-	х	х	Flowers attract many insects and bees
Gaillardia x grandiflora	blanket flower	Sun	Yellow, orange, red Jun-Sep	-	L							-	-	-	Х	Attracts bees
Heuchera caespitosa	urn-flowered alumroot	Sun / Part shade	pale pink to white flowers May to Aug	-	na							-	-	-	х	Shade-tolerant
Heuchera maxima	corral bells	Sun / Part shade	white, pink Apr	-	М							Х	-	-	х	Shade-tolerant
Lavandula 'Goodwin Creek Grey'	lavender	Sun	violet flowers year round	-	L							-	-	-	Х	Attracts bees
Lavandula latifolia	spike lavender	Sun	lavender to purple flowers summer	-	L							-	-	-	х	Flowers attract many insects
Lavandula stoechas	Spanish lavender	Sun	Purple	-	L							-	-	-	Х	flowers attract many insects
Muhlenbergia rigens	deer grass	Sun / Part shade	Texture Jun-Sep	-	L							Х	-	-	-	Seed provides food for birds and small mammals
Nepeta cataria	catnip	Sun / Part shade	White Jul-Sep	-	L							-	-	-	Х	Attracts bees
Nepeta x frassenii	cat mint	Sun / Part shade	blue to violet flowers May to Sept	-	L							-	-	-	х	Attracts bees

LEGEND Water Use: as defined by WUCOLS, when available (Water Use Classification of Landscape Species) H: high water use; M: moderate water use L: low water use; VL: very low water use

Observations	NONNATIVE UNDERSTORY
r birds	
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f over irrigated	
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d in the campus interior	

An 'X' in any category indicates that the plant is either associated with that habitat type or provides a benefit to the indicated wildlife.

						arian I	k Woodland	na	crub	low	ow		birds	s nd/or Adult)	Insects	
Scientific Name	Common Name	Sun/Shade Tolerance	Color/Seasonality	Canopy Width	Water Use	Mixed Rip Woodlanc	Mixed Oa	Oak Savar	Bayside So	Wet Mead	Dry Mead	Birds	Humming	Butterflie: (Larvae ar	Beneficial	
Penstemon centranthifolius	scarlet bugler	Sun	red Apr-Jul	-	L							-	X	×	х	Attracts bees, butterflies, hummingbirds
Penstemon eatonii	firecracker penstemon	Intermediate Shade Tolerance	Red Jun-Jul	-	L							-	-	-	Х	attracts bees
Ribes viburnifolium	Catalina currant	Part Sun / Shade	Red Feb-Apr	-	L							-	х	-	х	attracts bees
Rosmarinus 'Prostratus'	creeping rosemary	Sun	blue flowers	-	L							Х	-	Х	Х	Attracts birds, butterflies
Salvia apiana	white sage	Sun	white, lavender Apr-Aug	-	VL							-	-	-	х	attracts bees
Salvia 'Bee's Bliss'	bee's bliss sage	Sun	purple flowers	-	L							-	Х	Х	Х	Flowers attract hummingbirds, butterflies, and many ins
Salvia elegans	pineapple sage	Sun	red flowers Aug to Oct	-	М							-	Х	-	х	Attracts humminbirds
Salvia greggii	autumn sage	Sun / Part shade	pink to red flowers	-	L							-	Х	-	Х	Attracts bees
Salvia leucantha	Mexican sage	Sun	white and purple	-	L							Х	Х	Х	Х	Flowers attract hummingbirds and many insects
Salvia microphylla 'Hot Lips'	little-leaved sage	Sun / Part shade	red / white flowers Apr-Jun	-	?							-	-	-	х	Attracts bees
Salvia officinalis	culinary sage	Sun	purple	-	L							-	-	-	Х	Attracts bees
Sporobolus airoides	alkali sacaton	Sun	Textural	-	L							Х	-	-	-	Seed provides food for birds and small mammals
Stachys byzantina	lamb's ears	Sun	purple-pink May to July	-	L							-	-	-	Х	Attracts bees

Observations

sects

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Department of Plant Sciences, University of California.

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