

San Francisco Bay Conservation and Development Commission

# Shoreline Plants

A LANDSCAPE GUIDE  
FOR THE SAN FRANCISCO BAY



# *Shoreline Plants*

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FOR THE SAN FRANCISCO BAY**

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**San Francisco Bay Conservation and Development Commission**

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## ABOUT BCDC

The 27-member San Francisco Bay Conservation and Development Commission (BCDC) was created by the California Legislature in 1965 in response to broad public concern over the future of the San Francisco Bay. The Commission is made up of appointees of the California Governor and Legislature, local governments and state and federal agencies. The Commission is charged with:

- Regulating all filling and dredging in the San Francisco Bay.
- Regulating new development within the first 100 feet inland from the Bay shoreline to ensure that maximum feasible public access to the Bay is provided.
- Protecting the Suisun Marsh -- the largest remaining wetland in California.
- Minimizing pressures to fill the Bay by ensuring that the limited amount of shoreline area suitable for high priority water-oriented uses is reserved for ports, water-related industries, water-oriented recreation, airports and wildlife refuges.
- Pursuing an active planning program to study Bay issues so that Commission plans and policies are based upon the best available current information.
- Administering the federal Coastal Zone Management Act within the San Francisco Bay segment of the California coastal zone to ensure that federal activities reflect Commission policies.
- Participating in the regionwide state and federal Long-Term Management Strategy (LTMS) for dredging and dredged material disposal in the San Francisco Bay.
- Participating in California's oil spill prevention and response program.

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*Coastal Salt Marsh*

## *Who should use this guide*

This landscape guide is intended to be used by anyone working on a shoreline project within the Commission's jurisdiction.

Although the types of projects that come before BCDC vary, there is usually a need to:

- evaluate what plants exist or previously existed on the project site;
- consider how the landscape may be changed by the project; and
- decide what landscape changes would create the most attractive and usable shoreline.

This guide seeks to provide permit applicants, consultants and the public with specific guidance regarding shoreline planting. The guide discusses why planting is important, provides a context of what historically grew here, discusses today's shoreline landscapes, provides a plant list, addresses a number of landscaping issues and provides a list of useful resources. Although this guide is primarily intended for permit applicants, it will also serve as a useful reference for shoreline projects that are outside of the Commission's permit jurisdiction.

## *How to use this guide*

The first three sections, "Planting Objectives," "Bay History and Plant Communities" and "Typical Bay Shoreline Landscapes Today," provide essential background information and a context for addressing Bay shoreline landscape conditions. The following three sections, "Plant List," "Plant Palettes" and "Additional Information and Resources," provide more practical hands-on information for developing appropriate landscape designs.

This guide covers myriad issues concerning shoreline planting and should be viewed as one of many resources to consult. Most projects will require more detailed study, such as how to deal with poor soils, successfully restore a native habitat, control invasive non-native plants or plan for stormwater management.

This guide serves as a companion to two other guides provided by BCDC: *Shoreline Spaces: Public Access Design Guidelines for the San Francisco Bay* and *Shoreline Signs: Public Access Signage Guidelines*.

# PURPOSE OF THE GUIDE

*Who should use  
this guide and how*



# II PLANTING OBJECTIVES

*Why we should plant  
along the Bay Shoreline*



*Marsh habitat*

Steve Crooks



*Marsh restoration project at  
Martinez Regional Shoreline*



*Logs can provide habitat*

The Commission has three primary objectives for guiding planting along the Bay shoreline: improving habitat, improving the public access experience and stabilizing the shoreline.

## *Improve Habitat*

Much of the Bay shoreline has been disturbed and radically altered over the last 200 years. Development and urbanization have left only a small amount of the original shoreline and most of the shoreline habitats that once hosted a great diversity of plant and animal species no longer exist. As the shoreline continues to change, we have the opportunity to re-create some of the habitats that once existed.

Restoration areas are not the only suitable sites to develop habitat. For example, parks can include a buffer of native plants between intense recreational use areas and the shoreline, rather than lawn right to the water's edge. Industrialized shoreline sites, such as an airport or warehouse building, can be restored to salt marsh along with upland coastal scrub. Semi-urban projects, such as an office park or residential development, can include a buffer of primarily native plant materials directly along the shoreline before transitioning to a more formalized landscape with a mix of natives and non-natives. It is important to remember that restoration design can be complex and that success often relies on an interdisciplinary design team, including hydrologists and geotechnical engineers.

With the goal of creating and improving habitat wherever possible, here are a few general principles to note:

*Leave natural objects such as logs and rocks on the site to provide habitat.*

With a more traditional landscape approach, there may be a tendency to clear the site of debris and start with a clean

slate. With wildlife in mind, these natural objects may have habitat value, while at the same time providing a bit of visual interest and preserving some of the site's natural or cultural history. However, it is important to note that creosote piles, asphalt and any other deleterious materials should be removed.

*Do not plant invasive species along the shoreline.*

Invasive plants can choke out existing native species and may even be detrimental to wildlife. Refer to the "Do Not Plant List" in the last section of this guide.

*Landscape with native plants in large masses to provide useful habitat.*

In order to successfully provide native re-vegetation for habitat improvements, plants should be placed in large masses rather than long, narrow areas that do little to provide habitat benefits.

## *Improve Public Access Experience*

Besides the very important goal of improving habitat for wildlife, we can also improve the Bay shoreline for people. There are three main things that plants can do to improve the public access experience:

*Enhance Shoreline Appearance*

Plants along the shoreline can beautify the landscape and enhance the visual experience for shoreline visitors. Replacing a degraded shoreline with native plants or softening the hardscape of an urban edge with vegetation improves those areas dramatically. Plants can also be used as the design element in a shoreline landscape, such as a sea of waving grasses, a grove of oaks or a more architectural allée of London Plane trees.

### *Enhance and Preserve Views*

Trees as well as low plantings can frame desirable views. For example, a view corridor looking down a street or path may be enhanced by rows of trees that lead the eye toward the Bay. However, it is important not to block view corridors to the water with trees. Landscaping can also be used to screen less desirable views.

### *Reinforce a Sense of Place*

Plants can also be used to reinforce a sense of place along the Bay's edge. Along with particular smells, sounds and sights of the Bay and its shoreline, plants also function to make the San Francisco Bay area special and identifiable. The native plants that characterize shoreline landscapes, such as pickleweed marshes or live oak groves, are familiar to all residents of the region. Plants play an important role in making a place unique.

For further guidance on improving the public access experience, refer to the Commission's guidelines entitled *Shoreline Spaces: Public Access Design Guidelines for the San Francisco Bay*.

## **Stabilize Shoreline**

Another important reason to plant along the Bay shoreline is to help stabilize the shoreline and reduce erosion. Although planting may not be practical or effectual in all situations, it can provide a cost effective and beautiful method for stabilizing the shoreline in some areas. Most eroding shorelines are unstable for physical reasons, such as excessively steep slopes, incident wave energy and deficient local sediment, and cannot be addressed by planting alone. In many cases, "soft" vegetative stabilization techniques will need to be used in conjunction with "harder" methods such as riprap. When plants are used for shoreline stabilization, a fairly wide vegetated bench is needed to dissipate the wind-wave energy before striking the shoreline. In more riparian areas, fiber mats and planting combined with rock at the toe of the slope can be successful.

Using vegetation for shoreline stabilization has several advantages over more structural means: lower installation cost, no need for heavy equipment access, lower maintenance costs, creation of a natural looking shoreline and wildlife habitat, and protection of water quality by filtering sediments and pollutants. If riprap is the best choice for shoreline stabilization, inter-planting between the rocks, particularly at the highest part of the revetment, can help to soften its appearance. For further information on shoreline stabilization refer to the Commission's report "Protecting Shoreline Property from Tidal Erosion: An Analysis of the Effectiveness and Environmental Impacts of Administratively Authorized Protective Structures." Shoreline stabilization projects require an interdisciplinary approach, which may include geotechnical engineers, restoration ecologists and landscape architects.



*Plants dramatize industrial backdrop.  
Union Point Park, Oakland Estuary*



*Distinctive landscape of a pickleweed marsh*



*"Honeycomb" mats used for stabilization  
along Albany shoreline*



*China Camp State Park*

## Bay History

Two hundred years ago, the San Francisco Bay looked dramatically different than it does today. The Bay was much larger and its shoreline characterized by vast, diverse plant communities. Large expanses of flat, gray-green salt marshes and the adjacent mudflats thrived along much of the Bay shoreline, teeming with flocks of resident and migratory waterfowl feeding on abundant plant and aquatic life. Upland of the salt marshes lay grasslands interspersed with low coastal scrub plants graduating up to oak woodlands in the hillsides surrounding the Bay basin. This transition from the low-lying salt marshes to hilly oak woodlands typically occurred over the distance of a few miles. In some places, the transition from shoreline edge to woodlands occurred much more abruptly. Even today, in some areas of Marin County, the mixed evergreen forest nearly reaches the shore along steep hillsides plunging toward the Bay.

Prior to the Gold Rush, the San Francisco Bay region was inhabited by many Native American tribes who had lived in the region for 4,000 years, as well as Spanish settlers who first arrived in the mid-1700's and had established many ranches in the region by 1800. However, the dramatic changes that we see in the shoreline landscape today began with the great migration west of settlers that came with the Gold Rush and the advent of the railroad. As San Francisco became more crowded, residents began to create more land by filling in the Bay. As the region's population exploded between the mid-1800's through the turn of the century, the Bay continued to shrink as people diked tidal marshes for agricultural uses, salt making and waste disposal. Until the formation of BCDC in 1965, major Bay filling occurred at a rapid rate to accommodate industrial uses, create airport runways, provide for military bases and additional landfills, and to build the major freeways and bridges that ring and cross the Bay today.

With an understanding of this history, we can bring back pieces, large and small, of the habitat and visual landscape that once existed. Although only one component, replanting with vegetation that may have historically flourished in these areas is an important part of the restoration process.

### *Bay Plant Communities*

“Plant community” is a term used to describe a group of plants that are likely to be found growing together under similar ecological conditions. In this section, we will describe the dominant plant communities that once grew along the Bay shores, some of which still exist today.

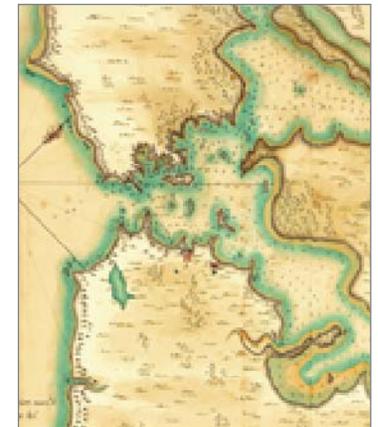
### *Why it is important to understand the Bay plant communities*

Not all projects will seek to re-create these plant communities. Even projects that are attempting to restore native habitat will have difficulty replicating what once grew here, since the shoreline has been completely transformed and may not be able to provide the topography, area and soils needed to create and sustain these plant communities. However, it is still important to understand the nature of what these plant communities looked like and what plants they typically included as context for how our shoreline landscapes could be planted today. The more we use native plants in groupings that resemble what existed in the past, the better chance we have to provide wildlife habitat. Additionally, we can diminish water use and maintenance costs by choosing plants that are naturally adapted to the area. These plant communities also help to reinforce a natural sense of place.



## BAY HISTORY AND PLANT COMMUNITIES

*What the Bay used to look  
like and what grew  
along its shoreline*



Bancroft Library

## Coastal Salt Marsh



Coastal salt marsh

Coastal salt marshes once flourished widely along the Bay shoreline, but now exist mostly in small, scattered sections. This community is significant because it serves as crucial feeding and nesting habitat for resident and migratory waterfowl. In addition, the organic matter this community produces supports many of the Bay's wildlife communities. Today, it is estimated that only 10-15% of the coastal salt marshes in the Bay remain due to diking for agriculture or filling to create more land. Despite such vast change, San Francisco Bay continues to serve as one of the largest and most complex salt marsh systems in the state.

Coastal salt marshes existed along the Bay margins where sediment accumulated to form a muddy, shallow slope protected from wave action by sand and shell beaches or wide mudflats. This plant community contains low-growing grasses and herbaceous (not woody) perennials that range from a few inches up to three feet in height and exist in three distinct zones: low, middle and high (see graphic below). These three zones are differentiated by the amount and frequency of saltwater inundation by the tides. Plants in this community are adapted to wet, salty soils.

Although this plant community is not nearly as widespread as it once was, there are many projects underway to restore large areas of salt marsh in order to re-create this valuable habitat. In some areas, brackish marshes are found adjacent to salt marshes. Brackish marshes occur where freshwater flows mix with salt water and tends to be dominated by alkali bulrush (*Bolboschoenus maritimus*). Historically, coastal salt marshes transitioned to coastal grasslands and then to coastal scrub beyond.

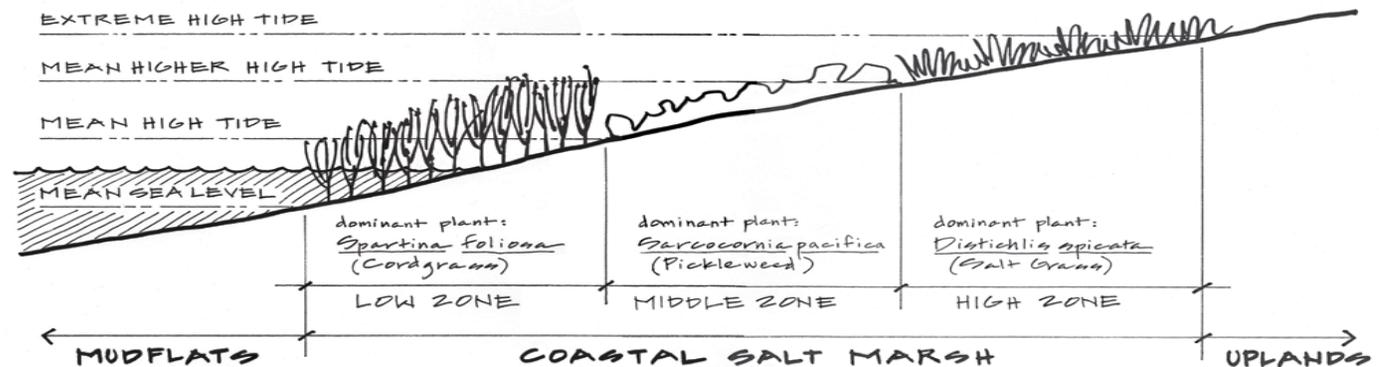
### TYPICAL COASTAL SALT MARSH PLANTS

#### Botanical Name

*Atriplex prostrata*  
*Distichlis spicata*  
*Frankenia salina*  
*Grindelia stricta* var. *angustifolia*  
*Jaumea carnosa*  
*Limonium californicum*  
*Sarcocornia pacifica*  
*Spartina foliosa*  
*Triglochin maritima*

#### Common Name

saltbush  
 salt grass  
 alkali-heath  
 Pacific gumplant  
 fleshy jaumea  
 sea-lavender  
 pickleweed  
 cordgrass  
 seaside arrow-grass



COASTAL SALT MARSH ZONES

## Coastal Grassland



Grassland leading into marsh at Point Pinole Regional Shoreline

Steve Crooks

Coastal grasslands once grew along broad, gentle slopes reaching down to the Bay. They were generally located in areas with shallow, fine-textured clay or sandy-clay soils and exposed to strong winds. These grasslands, sometimes referred to as prairies, contained a mix of grasses, wildflowers, bulbs and herbaceous perennials, and typically had no trees or large shrubs. Historically, these grasslands were covered with perennial bunchgrasses and some annual grasses. The low valley grasslands were most likely dominated by creeping wild rye (*Leymus triticoides*) and meadow barley (*Hordeum brachyantherum*) and the uplands may have been dominated by either scrub or wildflowers rather than grasses. Today, these areas are dominated by non-native annual grasses, which were introduced by settlers and their livestock who arrived during the 1700's-1800's. These large grasslands, which stretched several miles inland in some areas, have mostly disappeared with urban development. However, a few examples of this plant community can still be found in the vicinity of Point Molate and Point Pinole Regional Shorelines.

### TYPICAL COASTAL GRASSLAND PLANTS

Botanical Name	Common Name
<i>Agrostis pallens</i>	Diego bent grass
<i>Deschampsia cespitosa</i>	Pacific hairgrass
ssp. <i>holciformis</i>	
<i>Elymus glaucus</i>	blue wild rye
<i>Festuca rubra</i>	red fescue
<i>Iris douglasiana</i>	Douglas iris
<i>Leymus triticoides</i>	creeping wild rye
<i>Nassella pulchra</i>	purple needle grass
<i>Sisyrinchium bellum</i>	blue-eyed grass



Grassland leading into oak woodland

Steve Crooks

## Coastal Scrub

This plant community consists of groupings of low shrubs interspersed with grassy open meadows. Coastal scrub occurs mostly on wind-exposed shores with deep, well-drained fractured rocks and gravelly soils that allow for deep taproot penetration. Soil and exposure are important factors in deciding where this community would be appropriate. The shrubs tend to be very adaptable and drought tolerant and range in height from one to five feet high.

### TYPICAL COASTAL SCRUB PLANTS

Botanical Name	Common Name
<i>Artemisia californica</i>	California sagebrush
<i>Baccharis pilularis</i> var. <i>consanguinea</i>	coyote bush
<i>Eriogonum nudum</i>	buckwheat
<i>Lupinus albifrons</i>	silver bush lupine
<i>Mimulus aurantiacus</i>	sticky monkey flower
<i>Rhamnus californica</i>	coffeeberry



Open meadow within coastal scrub

Steve Crooks

## Coastal Beach and Dune



Crissy Field dunes

This plant community, also known as the coastal strand or backshore, grows along sandy beaches just above the high tide line. Coastal beach and dune plants are able to withstand a number of harsh conditions including strong winds that cause the dunes to move and shift. Additionally, the sand can have a high concentration of salt and become very hot on sunny days. The plants are all low growing and include grasses, some herbaceous species and a few shrubs, but no trees.

### TYPICAL COASTAL BEACH AND DUNE PLANTS

Botanical Name	Common Name
<i>Abronia latifolia</i>	yellow sand-verbena
<i>Ambrosia chamissonis</i>	beach-bur
<i>Atriplex leucophylla</i>	beach saltbush
<i>Fragaria chiloensis</i>	sand strawberry

Historically, there were 23 miles of beaches along the Bay's 400-mile shoreline. Today there are only about 7 miles of beaches. Most of these were constructed, or developed after Bay fill events, and do not support this plant community. A good example of the coastal beach and dune community grows along San Francisco's Crissy Field. These historic dunes were expanded by a restoration project completed in the late 1990's.

## Coast Live Oak Woodland

This plant community often mixes with coastal grassland and generally begins at the foot of the hills and moves upward along the hillsides and into the ravines. The coast live oak woodland represents the tree-dominated vegetation around the Bay, other than the mixed evergreen forests found along the eastern Marin shoreline. This community is dominated by coast live oaks (*Quercus agrifolia*) and buckeyes (*Aesculus californica*), which occur at varying densities, with an undergrowth of grasses and other herbaceous plants and low, scattered shrubs. Generally, these oak woodlands would have been located far back from the Bay shoreline, perhaps by a few miles. Although, at one time, Alameda was a peninsula covered with coast live oaks.

### TYPICAL COAST LIVE OAK WOODLAND PLANTS

Botanical Name	Common Name
<i>Aesculus californica</i>	buckeye
<i>Cercis occidentalis</i>	Western redbud
<i>Heteromeles arbutifolia</i>	toyon
<i>Quercus agrifolia</i>	coast live oak
<i>Rhamnus californica</i>	coffeeberry
<i>Rubus ursinus</i>	California blackberry



Oak woodland. Novato near former Hamilton Airfield

## Other Shoreline Plant Communities

Beyond the dominant plant communities just described, there are others that occur near the Bay shoreline. Mixed evergreen forest, which occurs around the Bay only in eastern Marin, is dominated by a mix of broadleaf and conifer evergreen trees that include tanoaks (*Lithocarpus densiflorus*) and bays (*Umbellularia californica*). Riparian woodlands grow along streambanks leading to the Bay and tend to be dominated by box elders (*Acer negundo*) and willows (*Salix laevigata*, *S. lasiolepis*). Riparian woodlands also have an understory which includes marsh baccharis (*Baccharis douglasii*), California rose (*Rosa californica*), California blackberry (*Rubus ursinus*) and California grape (*Vitis californica*), and grows mostly between the more wooded areas and tidal marsh.



Marsh with oak woodland on hills behind. Martinez Regional Shoreline

# IV TYPICAL BAY SHORELINE LANDSCAPES TODAY

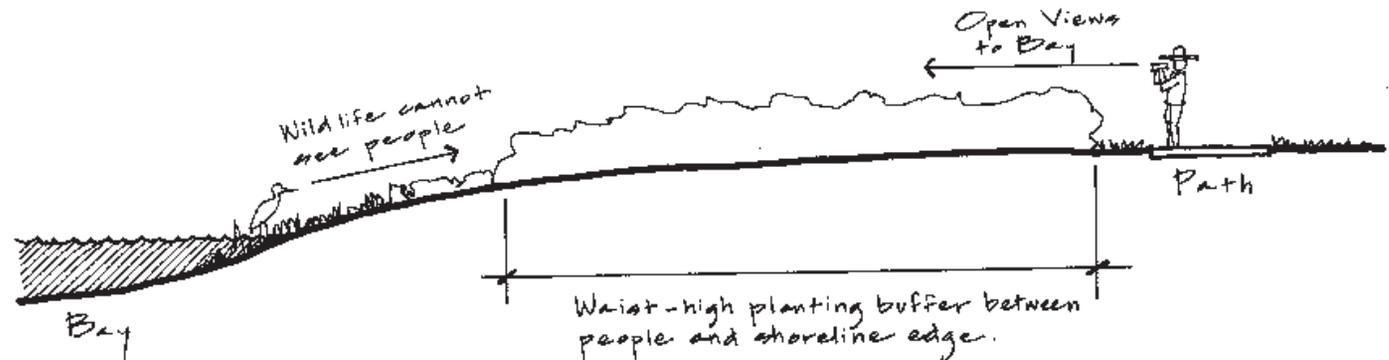
*Existing landscape conditions along the Bay and guidance on how to plant these areas*

The edge of the San Francisco Bay has been moved and the land adjacent to the shoreline has been so heavily developed that many of the plant communities that once thrived around the Bay either do not exist, have been drastically altered or exist only in small scattered patches. This section will discuss the types of landscape conditions that exist along the Bay's altered shoreline and provide guidance on how to landscape these areas. Each land use description provides some guiding principles for planting that type of area.

## *Natural Areas*

Natural areas include wildlife reserves and refuges, restoration sites and newly created habitat areas. They may be small areas that occur within parklands or large areas of land that are almost entirely devoted to habitat purposes and allow only limited public access. Examples of these areas include the Don Edwards National Wildlife Refuge in the South Bay, Corte Madera Marsh State Ecological Reserve in the North Bay and Point Pinole Regional Shoreline in the East Bay. When managing, restoring or creating these types of areas, here are a few important points to consider:

- *Involve an interdisciplinary team of experts for the restoration design process.*  
Restoration design is very complicated and requires the involvement of many experts including geotechnical engineers, hydrologists, botanists, biologists and restoration ecologists. This team can offer an understanding of local tide elevations, as well as sediment sources and types, which will help determine what plants will be successful. For example, it would not make sense to plant a coastal beach and dune community in a location with no sand transport; likewise, marsh plants require a fine-grained sediment medium to be successful.
- *Plan for long-term landscape management.*  
It is crucial to create a plan for long-term management of restoration projects. Who will fund and carry out long-term landscape management? Who will monitor the site for invasive plant species and control them? Are adjacent land areas actively managed or will they simply provide a constant seed source of weedy species that may make it difficult to maintain the desired habitat?



**VEGETATION BUFFER**

- *Manage landscape with the protection of wildlife in mind.*

Sometimes the management of natural areas can be disruptive or even injurious to wildlife. For example, spring and summertime mowing of natural meadow areas can disturb bird nests and even kill bird young, if not carried out properly. Therefore, mowing should be done in a way that minimizes disturbance to wildlife, such as having someone walk in front of the mowers to scout out nesting sites and ensure their protection.

- *Use planting to separate people from wildlife habitat.*  
Vegetation can serve as an effective means of providing both a physical and visual buffer between public access areas and habitat areas. Planted buffers can discourage people and their pets from entering sensitive areas while also visually screening people from the wildlife (See figure on page 10). Vegetation can serve as a more cost effective means to control public access, rather than fencing or boardwalks. In addition, vegetation has a natural appearance and also provides additional wildlife shelter and habitat. For further guidance on this topic, refer to the Commission's report "Public Access and Wildlife Compatibility."
- *Control "weed seed" prior to native re-vegetation.*  
Non-native, invasive plant species pose the single biggest problem in most native re-vegetation projects. With some projects, it is recommended to water, germinate and kill non-native invasive plants for at least two cycles before native planting begins.
- *Perhaps do not plant anything.*

In some cases, primarily in re-establishing coastal salt marsh, it may not be appropriate to install any new plant material. A team of restoration designers may decide to prepare the site by grading it to appropri-

ate elevations and topography, removing invasive non-native plant species, removing debris and then simply wait for plant material to establish through the existing abundant seed sources. This approach is often the most effective for coastal salt marsh restoration. Because of the large abundant seed source available in the Bay, it may be better not to plant the common species of the coastal salt marsh community as they will establish naturally where conditions are right. This approach must be considered very carefully in relation to the site's context. If the surrounding areas are dominated by invasive species within dispersal distance, they will dominate rapidly if nothing is planted. Non-planting is appropriate for native-dominated settings, but relatively few urban shorelines.

- *Plant for particular wildlife species when possible.*  
Consider the needs of specific wildlife species that are targeted for a particular restoration site to help guide plant choices. For example, if a project is seeking to provide habitat for an endangered species, such as the California Clapper Rail, the proposed planting should be carefully chosen to provide the appropriate shelter and forage for this species. It is also important to understand that too much shrub cover along the shoreline can provide a haven for urban edge predators, such as raccoons, red fox, rats and feral cats, and can interfere with predator control efforts.



*Many experts were involved in this marsh restoration project. Martinez Regional Shoreline*



*Vegetation and fencing discourages access into this habitat area.*

## Parklands

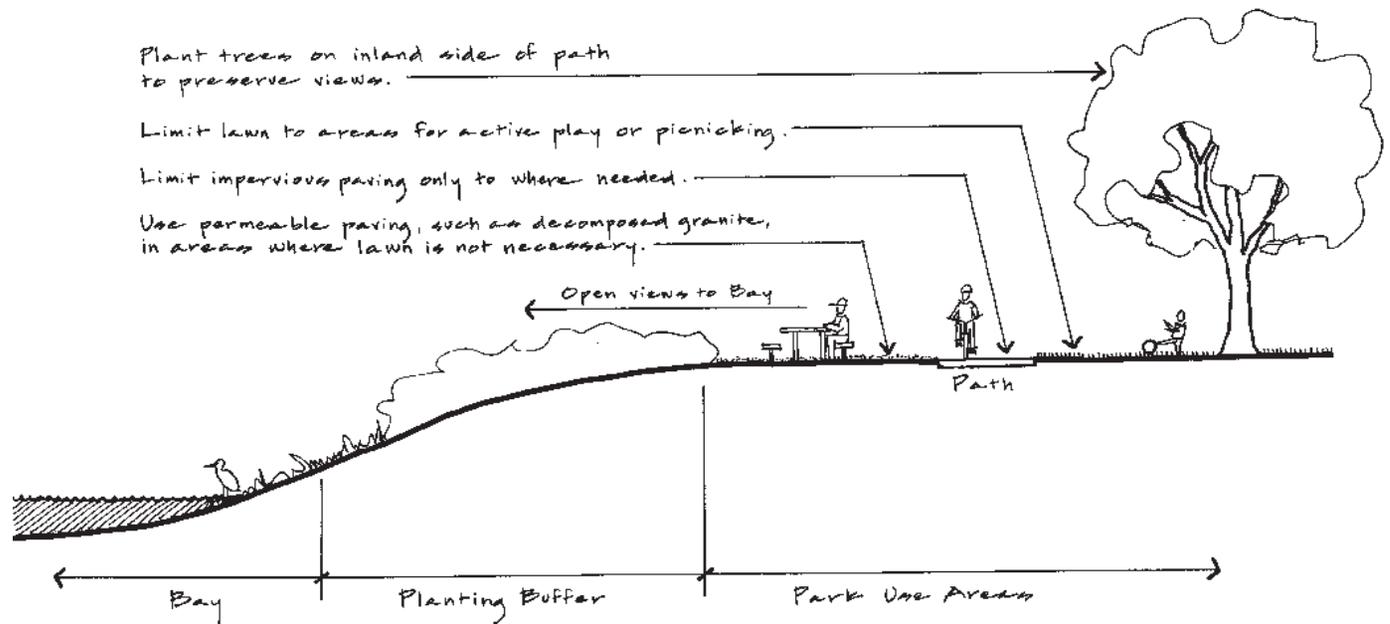
Parklands range from small community parks to regional, state and federal parks. Many abut a natural area or have large natural areas within them interspersed with recreational use areas for active play, sports, pathways, play structures, picnic areas, shoreline access to beaches, or water access for boating and swimming. Sometimes parklands are also developed adjacent to marinas.

- *Direct public access to the shoreline through planting.*

In many cases, it is desirable to control public access to the shoreline either to protect wildlife, prevent erosion or to protect public safety. Where access to the shoreline is appropriate and desired, be sure to provide pathways at regular intervals so that re-vegetated areas do not get trampled.

- *Provide landscape buffers between recreational use areas and habitat areas.*

Landscaping can be used in parklands to provide both a physical and visual buffer between a recreational use area and habitat. These landscape buffers can help minimize the impact that human activities have on wildlife. With some landscape buffers, it is important to use plants that will only grow waist-high (3-4 feet tall) in order to maintain views to the Bay from a shoreline path or a parking area where shoreline visitors may want to view the Bay from their cars.



CONSIDERATIONS ALONG A PARKLAND SHORELINE

- *Limit lawn to those areas where it is needed for active play or picnicking.*

Lawn should usually be planted only in areas where it is necessary for a particular use such as a sport field or a picnic area. Otherwise, use plants that require less water, less maintenance, and less fertilizer and create less landscape waste. Scarce maintenance resources can then be applied to other important needs such as invasive plant removal. Refer to the list of lawn substitutes under “Plant Palettes.”

- *Use trees wisely.*

Trees are often desired in a parkland setting to provide shade for park users or to create visual interest in the landscape. However, historically trees did not usually exist along the Bay shoreline except along the sheltered east Marin shores. Avoid planting trees next to tidal marshes (generally no closer than 200 feet) where they may provide perches for raptors that prey upon endangered species. Furthermore, it is also important not to block public views to the water with trees.



*Use lawn where it will be actively enjoyed.*



*Park trees at Martin Luther King Regional Shoreline*



*Vegetation buffer between park area and shoreline.  
Martin Luther King Regional Shoreline*

## Semi-Urban Areas

Semi-urban areas generally include office and residential developments, light industrial parks or other developed uses that are often placed in a landscaped setting.

pathways or some lawn to sit on, which should be appropriately accommodated.

- *Landscape semi-urban shorelines to correspond with user needs.*

Semi-urban landscapes are often made to look like parks with expanses of lawn, special paving materials and a highly-manicured landscape. Often, these landscapes are infrequently used due to the type and intensity of uses that surround them. In some cases, however, the number of people spilling out of adjacent uses for lunchtime strolls may warrant wider

- *Use the shoreline trail as a dividing line.*

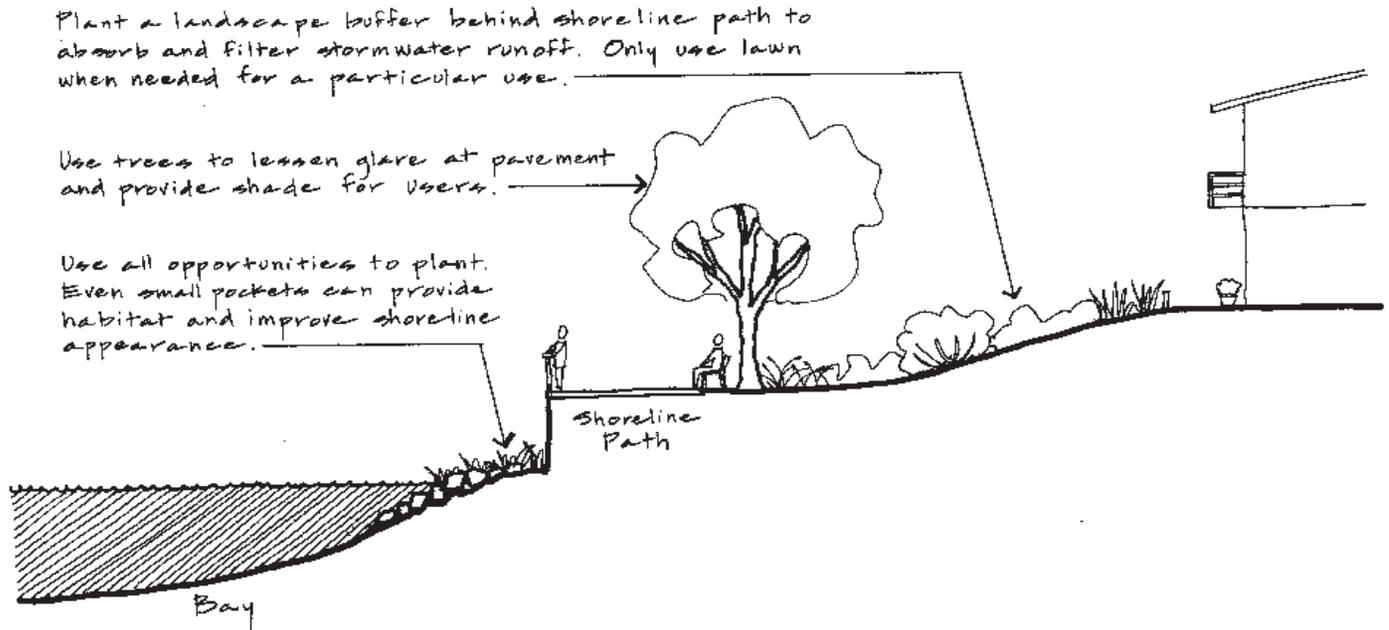
In many cases, there is a desire to mix native and non-native plant species within semi-urban landscapes. One helpful rule of thumb is to plant the Bay side of the trail with natives and use a mix of natives and non-natives on the inland side of the trail.



*This semi-urban landscape employs a pleasing mix of shrubs. The trail is roughly used as a dividing line between native and non-native species.*



*Low massings of native plants located on the shoreline side of the trail. Elmhurst Slough*



## Urban Areas

These areas are highly developed shorelines such as the San Francisco waterfront along the Embarcadero, Jack London Square in Oakland, or the promenades in downtown Suisun City and Benicia. These landscapes contain mostly hardscape with paving and buildings set close to the shoreline and have minimal space left for planting.

- *Frame and maintain views to water.*

Urban shorelines often have trees planted in a regular rhythm along the shoreline or a parallel roadway. Place these trees so that they do not block view corridors to the water.

- *Use all opportunities to plant.*

These urban hardscape areas often need some landscaping to make them more attractive and habitable for users. Trees may provide needed shade for the users and also absorb reflected heat and glare. Planting beds may provide visual relief from the surrounding hardscape. Sometimes, a small, park-like setting within a large expanse of pavement can provide a precious, outdoor space for urban dwellers.

- *Pay attention to hydrology and aeration in urban landscapes.*

Although it can be difficult to provide optimum planting conditions in urban settings, it is important for street trees to receive adequate water and air to their root systems, which often lie beneath paved areas. This can be accomplished by placing gravel filled tubes vertically in the tree wells, in order to deliver adequate water and air to the tree root systems.

- *Choose plants to fit the urban environment and conditions.*

Plants in the urban environment must be able to withstand many harsh conditions including air and water pollution, extreme wind gusts and vandalism. Also, the form and appearance of plants appropriate for an urban setting are different than plants found in a more natural environment. These qualities should be carefully considered when selecting plants for an urban landscape.



*Trees in urban landscape*

## *Industrial Areas*

These areas may include ports, airports or industrial warehouses along the shoreline.

- *Plant industrial shorelines to provide habitat.*  
Shorelines adjacent to industrial lands can offer good opportunities for habitat enhancement projects, such as shorebird roosting areas. Industrial uses can produce loud disturbances, but these uses are often set back from the shoreline. The immediate shoreline edge may be relatively quiet and undisturbed, since these areas are often off-limits to the public due to the nature of the adjacent land use.
- *Use plants to visually buffer large, unsightly buildings or equipment.*  
Trees and shrubs can soften an expansive blank building wall and improve the view of the industrial shoreline from the Bay or other public spaces. While considering the use of trees as visual buffers, be careful not to block sightlines to the water from inland areas. It is also important to consider that working waterfronts can be very interesting to look at and should not always be hidden from view. For example, the massive cranes adjacent to Middle Harbor Shoreline Park on the Oakland waterfront serve as character-defining features along this shoreline.
- *Remember to maintain the shoreline landscape in industrial areas.*  
There is a tendency to undervalue the landscapes of industrial shorelines because they are not used by large numbers of people and, as a result, may be poorly maintained. Maintenance of these shorelines is important for the health of wildlife and also in order to be aesthetically pleasing from adjacent shorelines or bridges.



*Cranes help define the landscape at Middle Harbor Shoreline Park, Oakland*

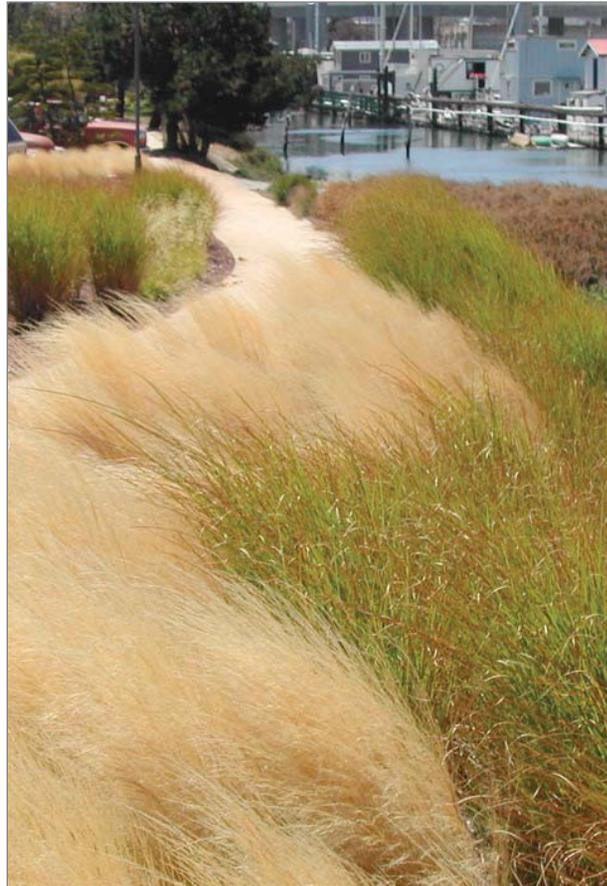


*Industrial landscapes also require maintenance.*

The following list of plants should be viewed as a point of departure. Although the list is primarily composed of plants native to the Bay region, it also includes non-native ornamentals that are compatible with our climate, have proven themselves to be dependable landscaping plants and have proven to be neither invasive nor harmful to wildlife. It is also important to note that the list includes California natives that are not native to the Bay region but are adaptable to local conditions, are not invasive and have landscape value.

A landscape of native plants can be attractive and interesting to look at. In the past, the availability of native plants was so limited that it led to the repeated use of the same native plants, with little variety. This is not the case today, as there are many nurseries that supply an abundant diversity of native plant species. Many of these nurseries will propagate plants for a specific project. Designers now have a great opportunity to utilize an expanded variety of native plants along the shoreline.

The last section of this guide discusses plants that should not be planted because they have proven to be invasive and harmful to habitat (refer to the “Do Not Plant List”).



## V

### PLANT LIST

*A to Z list of plants to use  
along the Bay shoreline*

\* Plant community names abbreviated as follows:

salt marsh = coastal salt marsh  
 grassland = coastal grassland  
 scrub = coastal scrub  
 beach/dune = coastal beach and dune

oak woodland = coast live oak woodland  
 brackish marsh = brackish marsh  
 riparian = riparian woodland  
 mixed evergreen forest = mixed evergreen forest

\*\* Indicates whether native around the Bay, native to California or not native:

BAY = native around the Bay  
 CA = native to California  
 NO = not native

Botanical and Common Names	Plant Community*	Plant Type	Native:**	Description: preferences, tolerances, attributes
<i>Abronia latifolia</i> yellow san verbena	beach/dune	groundcover	CA	evergreen groundcover forms 1-3' wide leafy mats; broad, thick leaves and small yellow flowers; prefers sun and sandy soil; use as dune cover in sandy soils
<i>Acer macrophyllum</i> bigleaf maple	riparian	tree	BAY	fast-growing deciduous tree 20-100' tall; sun to part shade and occasional water; excellent shade tree; good wildlife shelter
<i>Acer negundo</i> ssp. <i>californicum</i> California box elder	riparian	tree	CA	deciduous tree 20-40' tall; pale green leaves turn yellow in fall; fast-growing; great in tough soil
<i>Achillea millefolium</i> white yarrow	grassland, scrub, beach/dune	perennial	BAY	herbaceous, evergreen perennial up to 2' tall; fern-like, aromatic leaves; prefers full sun; drought tolerant; attracts butterflies and bees; may use as lawn substitute; OK from seed, great planted
<i>Aesculus californica</i> buckeye	oak woodland	tree	BAY	deciduous tree 15-30' tall; fragrant, white blooms May-June; sometimes drops leaves in July; white bark color; tolerates seacoast; attracts butterflies; does well in a variety of conditions
<i>Agrostis hallii</i> Hall's bent grass	grassland	grass	BAY	1-2' tall finely textured grass; spreads by rhizomes, may be used as lawn substitute; sun to part shade; tolerates poor soils
<i>Agrostis pallens</i> Diego bent grass	grassland	grass	BAY	1-2' tall grass similar to <i>A. hallii</i> although more compact; works well as lawn substitute - requires occasional water to stay green through summer; tolerates poor soils
<i>Alnus rubra</i> red alder	riparian	tree	BAY	deciduous tree 40-50' tall by 20-30' wide; dark green leaves with rust-colored under side; light gray bark; good along coast - tolerates brackish marsh; fast grower in poor mineral soils

Botanical and Common Names	Plant Community*	Plant Type	Native? **	Description: preferences, tolerances, attributes
<i>Ambrosia chamissonis</i> beach-bur	beach/dune	perennial	CA	perennial with gray-green leaves forms loose mats on sand; stems with flower spikes; high ornamental value
<i>Arbutus unedo</i> strawberry tree		shrub/tree	NO	evergreen multi-stemmed shrub/tree 15-30' tall and wide; dark green leaves, reddish bark, pink flowers turn to red fruit; full sun to part shade; tolerates wind and seacoast conditions
<i>Arctostaphylos edmundsii</i> Little Sur manzanita	scrub	groundcover	CA	evergreen ground cover 6-12" high by 4-6' wide; red bark and pink-white flowers March-April; prefers part shade and occasional water; attracts butterflies; needs well-drained soil
<i>Arctostaphylos hookeri</i> Hooker's manzanita	scrub	shrub	CA	evergreen shrub 18"-4' high by 4-6' wide; forms dense mounds; red bark and pink-white flowers March-April; full sun to part shade; tolerant of drought and sandy soils; attracts butterflies
<i>Arctostaphylos densiflora</i> 'Howard McMinn' Howard McMinn manzanita	scrub	shrub	CA	evergreen shrub forms 5-6' tall mound by 7' wide; pretty red bark; pink-white flowers March-April; prefers full sun and well-drained soil; drought tolerant; attracts butterflies
<i>Arctostaphylos nummularia</i> glossyleaf manzanita	scrub	shrub	CA	evergreen shrub 2-3' tall; small bright green leaves and white flowers; prefers some shade and good drainage; drought tolerant; attracts butterflies
<i>Arctostaphylos pumila</i> sandmat manzanita	beach/dune	groundcover	CA	low, spreading groundcover 1-2' tall; dull green leaves, white-pink flowers; native to Monterey Bay dunes; good cover in sandy soil near coast
<i>Arctostaphylos uva-ursi</i> 'Pt. Reyes' manzanita	beach/dune	groundcover	CA	evergreen groundcover 1-2' tall by 10' wide; forms dense mats with glossy green leaves; prefers full sun and good drainage; attracts butterflies; good for erosion control
<i>Armeria maritima</i> ssp. <i>californica</i> sea-thrift	grassland	perennial	CA	herbaceous, evergreen perennial 6" tall by 6-12" wide; pink flowers in spring; prefers full sun and good drainage; nice as border accent; may use as lawn substitute
<i>Artemisia californica</i> California sagebrush	scrub	shrub	BAY	evergreen shrub 2-5' tall by 4-5' wide; fragrant, silvery gray foliage; full sun; tolerates drought and wind; prefers well-drained, coarse or rocky soils; good as filler



*Coyote bush in background with blackberry brambles in front.*  
Eastshore State Park

Botanical and Common Names	Plant Community*	Plant Type	Native:**	Description: preferences, tolerances, attributes
<i>Artemisia douglasiana</i> mugwort	riparian	perennial	BAY	herbaceous perennial low growing to 3'; leaves dark green on top, silvery beneath; spreads by underground runners; prefers shade, moist banks
<i>Aster chilensis</i> California aster	salt marsh	groundcover	BAY	evergreen groundcover 4-6" tall; pale violet flowers summer-late fall; vigorous grower, spreads rapidly - plant with care; now uncommon around the Bay although found along Suisun marsh edges
<i>Atriplex californica</i> California saltbush	beach/dune	shrub	CA	evergreen shrub; tolerates drought, heat, wind, alkaline/saline/clay soils; regionally extinct
<i>Atriplex lentiformis</i> quail bush	salt marsh	shrub	CA	evergreen shrub 4-10' tall; blue-gray leaves and small white flowers; tolerates drought, heat, wind, alkaline/saline/clay soils; good habitat plant
<i>Atriplex leucophylla</i> beach saltbush	beach/dune	groundcover	CA	perennial groundcover; tolerates drought, heat, wind; needs sandy soils
<i>Atriplex spatula</i> var. <i>spatula</i> spear oracle	salt marsh	annual	CA	evergreen shrub; tolerates drought, heat, wind, alkaline/saline/clay soils
<i>Atriplex triangularis</i> spearscale	salt marsh	annual	CA	1-3' tall annual; broad triangular green leaves and small greenish flowers June-Nov; grows in upper zone of salt marsh
<i>Baccharis douglasii</i> marsh baccharis	salt marsh, riparian	shrub	BAY	evergreen shrub; tolerates drought, salt spray, alkaline soils; grows in high zone of salt marsh; thrives easily; provides wildlife shelter
<i>Baccharis pilularis</i> var. <i>consanguinea</i> coyote bush	scrub	shrub	BAY	large evergreen shrub to 6' tall; tolerates drought, salt spray, alkaline soils and poor soils; thrives easily; provides wildlife shelter
<i>Baccharis pilularis</i> ssp. <i>pilularis</i> dwarf coyote bush	scrub	groundcover	CA	evergreen groundcover; tolerates drought, salt spray, alkaline and poor soils; thrives easily; provides wildlife shelter
<i>Bolboschoenus maritimus</i> alkali bulrush	salt marsh, brackish marsh	perennial	BAY	perennial sedge 1-5' tall with triangular stems; extremely salt tolerant; grows in salt or brackish marshes

Botanical and Common Names	Plant Community*	Plant Type	Native?***	Description: preferences, tolerances, attributes
<i>Brodiaea californica</i> brodiaea	grassland, oak woodland	perennial	CA	grasslike leaves, cluster of funnel-shaped purple flowers on 8-30" stalks; plant dormant after bloom; some species also known under the genus <i>Dichelostemma</i> or <i>Triteleia</i> ; attracts butterflies
<i>Brodiaea elegans</i> harvest brodiaea	grassland	perennial	CA	grasslike leaves, flower stems 12-18" tall with purple flowers in summer; easy to grow - multiplies freely
<i>Bromus carinatus</i> California brome	grassland	grass	BAY	6-12" tall perennial grass; provides good forage; difficult to get certified native seed although does well from seed
<i>Camissonia cheiranthifolia</i> ssp. <i>cheiranthifolia</i> beach evening primrose	beach/dune	perennial	BAY	perennial with prostrate stems that form large mats at maturity; bright yellow blooms; needs sandy soils
<i>Carex praegracilis</i> meadow sedge	grassland	grass	BAY	deciduous to evergreen perennial sedge to 12" tall; dark green leaves; tolerates foot traffic - can serve as unmowed turf; likes moisture
<i>Carex tumulicola</i> dwarf sedge	grassland	grass	BAY	1-2' tall by 1-2' wide clumping grass; prefers part shade and upland location; self sows easily; may use as lawn substitute
<i>Carpenteria californica</i> bush anemone		shrub	CA	evergreen shrub 6' tall by 4' wide; dark green leathery leaves, white flowers with yellow centers in spring; prefers full sun, some water with good drainage; can be espaliered
<i>Castilleja ambigua</i> salt marsh owl's clover	scrub, salt marsh	annual	BAY	herbaceous annual; yellow flowers with purple markings; locally extinct or rare; can be hard to grow
<i>Castilleja foliosa</i> indian paintbrush	scrub	perennial	BAY	somewhat woody perennial 1-2' tall with narrow gray-green leaves; orange-red flowers; can be hard to grow
<i>Ceanothus gloriosus</i> ceanothus	beach/dune	groundcover	CA	12-18" tall by 12-16' wide; dark green leaves with light blue flowers; attracts butterflies, hummingbirds and bees; tolerates coastal wind; needs well-drained soil
<i>Ceanothus griseus</i> var. <i>horizontalis</i> Carmel creeper 'Yankee Point'	scrub	groundcover	CA	evergreen groundcover 3' tall by 10' wide; glossy dark green leaves and medium blue flower clusters; fast-growing; attracts butterflies, hummingbirds and bees; tolerates coastal wind; needs well-drained soil



*Ceris occidentalis*  
Western redbud

Botanical and Common Names	Plant Community*	Plant Type	Native:**	Description: preferences, tolerances, attributes
<i>Ceanothus maritimus</i> maritime ceanothus	scrub	shrub	CA	1-3' tall by 3-8' wide; blue-green leaves, white to pale lavender flowers; attracts butterflies, hummingbirds and bees; needs well-drained soil
<i>Ceanothus thyrsiflorus</i> blue blossom	scrub	shrub	BAY	6-10' tall by 8-20' wide; glossy green leaves, light to dark blue flower spikes; very hardy; attracts butterflies, hummingbirds and bees; needs well-drained soil
<i>Ceanothus thyrsiflorus</i> var. <i>repens</i> creeping blue blossom	scrub	groundcover	BAY	8" tall by 12' wide; shiny bright green leaves; white flowers in spring; attracts butterflies, hummingbirds and bees; needs well-drained soil
<i>Cercis occidentalis</i> western redbud	oak woodland	shrub/tree	CA	deciduous shrub/tree 10-20' tall and wide; open branching form; magenta flowers early spring before bright green heart-shaped leaves; dark purple seed pods; prefers full sun to part shade, good drainage, little water; can grow as espalier
<i>Chlorogalum pomeridianum</i> soaproot	scrub	perennial	BAY	herbaceous perennial with long, wavy blade-like leaves 12" tall with 2-4' white flowers stalks; prefers sun; Native Americans ate bulbs and also used as a soap
<i>Clarkia rubicunda</i> farewell-to-spring	grassland	annual	BAY	to 5" tall; pink to lavender flowers spring- early summer; prefers sandy soil
<i>Cordylanthus maritimus</i> salt marsh bird's beak	salt marsh	annual	CA	branched annual with fairly prostrate stems; narrow hairy leaves; purple and white tubular flowers; endangered; very difficult to grow
<i>Corylus cornuta</i> var. <i>californica</i> western hazelnut	mixed evergreen forest	tree	BAY	deciduous tree; open, multi-stemmed form 5-12' tall; bright yellow fall color; needs shade; beautiful small tree
<i>Cotinus coggygria</i> smoke tree		shrub/tree	NO	deciduous shrub/tree 10-15' tall and wide; striking purple leaves; prefers sun to part shade, good drainage, little water; hardy in poor soils
<i>Danthonia californica</i> var. <i>californica</i> California oatgrass	grassland	grass	BAY	2-6" high clumps with 1' tall flower spikes; sun to part shade; tolerates moderate foot traffic; can be hard to grow
<i>Deschampsia cespitosa</i> ssp. <i>holciformis</i> Pacific hairgrass	grassland	grass	BAY	dark green bunchgrass to 1' tall; tolerates light foot traffic and salinity; provides good forage

Botanical and Common Names	Plant Community*	Plant Type	Native?***	Description: preferences, tolerances, attributes
<i>Deschampsia elongata</i> slender hairgrass	grassland	grass	BAY	4" tall tufts of yellow-green leaves with 1-4' tall flower stalks; provides good forage
<i>Dichelostemma capitatum</i> blue dicks	grassland, scrub, oak woodland	perennial	BAY	herbaceous perennial; 2' tall stems with blue-violet flowers; prefers excellent drainage, full sun and no water; tolerant of many soils and exposures; naturalizes over time
<i>Dichelostemma congestum</i> Ookow	grassland, oak woodland	perennial	BAY	herbaceous perennial; 2' tall stems with lavender blue flowers; prefers excellent drainage, full sun and no water; attracts butterflies; effective in drifts
<i>Dichelostemma ida-maia</i> firecracker flower	grassland	perennial	CA	grasslike leaves to 20" high; buds open to 2" long scarlet-red tubular flowers; effective in meadowlike plantings
<i>Distichlis spicata</i> salt grass	salt marsh	perennial	BAY	herbaceous perennial grass 8-12" tall; forms dense mats in brackish marshes and high zone of salt marshes; may use as lawn substitute in appropriate conditions
<i>Dodonaea viscosa</i> var. <i>purpurea</i> purple hopseed bush		shrub	NO	evergreen shrub fast-growing to 10-15'; prefers sun to part shade, little water; tolerates wind, heat and poor soil; good hedge or screen
<i>Dudleya farinosa</i> bluff lettuce	scrub	perennial	BAY	evergreen perennial with fleshy succulent-like, gray-green leaves up to 1' tall; prefers full sun on coast; use as accent; leaves often red-tipped; needs very well-drained soil
<i>Elymus glaucus</i> blue wild rye	grassland	grass	BAY	tufted perennial bunchgrass to 1' tall, flower stalks 2-3' tall; prefers part shade and little water; self sows easily, can be invasive; good for slope stabilization
<i>Elymus trachycaulus</i> slender wheatgrass	grassland	grass	BAY	perennial bunchgrass grow 3' high; good for erosion control
<i>Epilobium californicum</i> California fuchsia	beach/dune	perennial	BAY	18-24" tall shrub with gray-green foliage and tubular scarlet flowers summer-fall; prefers full sun to part shade, little to no water; attractive to hummingbirds, butterflies and bees
<i>Erigeron glaucus</i> seaside daisy	scrub, beach/dune	perennial	CA	12" tall by 18" wide herbaceous, evergreen perennial with blue-green leaves and lavender flowers; prefers full sun, good drainage, little water; attractive to butterflies

Botanical and Common Names	Plant Community*	Plant Type	Native:**	Description: preferences, tolerances, attributes
<i>Eriogonum arborescens</i> Santa Cruz Island buckwheat	scrub	shrub	CA	1-6' tall depending on conditions, 3-5' wide; prefers full sun, good drainage, little water; tolerates heat, wind, drought, salt spray; attracts butterflies and bees; use in masses for erosion control
<i>Eriogonum fasciculatum</i> California buckwheat	scrub	shrub	CA	evergreen shrub to 4' tall with gray-green leaves; creamy white flowers bloom spring-summer; prefers full sun, good drainage, little water; good for erosion control
<i>Eriogonum giganteum</i> Saint Catherine's lace	scrub	shrub	CA	4-8' tall by 6-10' wide; masses of lacy flowers in summer; prefers full sun, good drainage, little water; tolerates heat, wind, drought, salt spray; attracts butterflies and bees; effective as informal screen
<i>Eriogonum grande</i> var. <i>rubescens</i> red-flowered buckwheat	scrub	shrub	CA	evergreen shrub 1-3' tall and wide; gray-green leaves and rosy-red flowers spring-summer; prefers full sun, good drainage, little water; use as filler and plant in drifts
<i>Eriogonum latifolium</i> coastal buckwheat	scrub	shrub	BAY	forms low mounds 1-2' tall; prefers full sun, good drainage, little water; tolerates heat, wind, drought, salt spray; attracts butterflies and bees
<i>Eriogonum nudum</i> naked eriogonum	scrub	perennial	BAY	evergreen perennial 1-3' tall and wide; gray-green leaves; white, pink, yellow flower heads July-August; use in mixed border for airy effect; most common Buckwheat around Bay
<i>Eriophyllum lanatum</i> var. <i>achillaeoides</i> common wooly sunflower	scrub	perennial	CA	shrubby perennial 1-3' tall by 1-3' wide silvery gray leaves and golden yellow flowers; prefers full sun, good drainage, little or no water
<i>Eriophyllum nevinii</i> Catalina silver lace	scrub	perennial	CA	shrubby perennial 3-5' tall with gray-green leaves; prefers full sun, good drainage, little or no water; use as border plant
<i>Eriophyllum staechadifolium</i> seaside wooly sunflower	scrub	perennial	CA	shrubby perennial with gray-green leaves; prefers full sun, good drainage, little or no water
<i>Escallonia rubra</i> escallonia		shrub	NO	evergreen shrub 6-15' tall and wide; glossy dark-green leaves and red flowers; attracts bees; tolerates wind, drought and seacoast conditions

Botanical and Common Names	Plant Community*	Plant Type	Native?***	Description: preferences, tolerances, attributes
<i>Eschscholzia californica</i> California poppy	grassland, beach/dune	annual	BAY	6-12" tall herbaceous perennial; bright orange bloom over long blooming season; minimal care needed; will spread easily; prefers full sun, good drainage, no water; tolerates poor soil; does well from seed
<i>Festuca californica</i> California fescue	grassland	grass	BAY	perennial bunchgrass; leaves 1-3', flowering stems 3-4' tall; full sun OK, best in part shade; good for erosion control; tolerates poor soils
<i>Festuca idahoensis</i> fescue bunchgrass	grassland	grass	BAY	12-18" tall clumping perennial grass; blue-green leaves; prefers full sun to part shade and good drainage
<i>Festuca rubra</i> red fescue	grassland	grass	BAY	3-12" tall tufted drifts; full sun or light shade; spreads by rhizomes; can serve as a native alternative to lawn; be careful to use only native strains such as molate
<i>Fragaria chiloensis</i> sand strawberry	beach/dune	groundcover	BAY	herbaceous, prostrate perennial; spreads by runners; shiny green leaves and white flowers; use as dune cover; may use as lawn substitute in sandy soils
<i>Frankenia salina</i> alkali-heath	salt marsh	perennial	BAY	low, bushy perennial 6-12" tall; forms a dense mat; grows in middle zone of salt marsh; versatile groundcover that spreads by rhizomes; grows in clay or saline soils with or without irrigation
<i>Fremontodendron californicum</i> flannel bush		shrub	CA	fast-growing shrub to 20' tall by 10-15' wide; large bright yellow flowers in spring; needs full sun and good drainage; hairy leaves can irritate skin
<i>Garrya elliptica</i> coast silktassel	scrub	shrub/tree	BAY	dense evergreen shrub/tree; 10-20' tall and wide; long, white flowers; full sun or part shade and little or no water; good for screening
<i>Gaultheria shallon</i> salal	scrub	shrub	CA	evergreen shrub 4-10' tall and slightly wider; glossy bright green leaves and purple-black berries; slow-growing and difficult to establish; tolerates salt spray; prefers shade
<i>Glaux maritima</i> sea-milkwort	salt marsh	perennial	CA	low-growing perennial with fleshy leaves; grows in middle zone of salt marsh



*Eschscholzia californica*  
California poppy

Botanical and Common Names	Plant Community*	Plant Type	Native:**	Description: preferences, tolerances, attributes
<i>Grevillea lavandulacea</i> grevillea		shrub	NO	evergreen shrub 3-6' tall by 4-6' wide; gray-green needle like leaves and red flowers; full sun to part shade, good drainage, little or no water; tolerates drought, heat, poor soil; attractive to hummingbirds
<i>Grindelia hirsutula</i> var. <i>hirsutula</i> gumplant	scrub	perennial	BAY	herbaceous perennial 1-3' tall; 2" wide bright yellow blooms spring-summer
<i>Grindelia stricta</i> var. <i>angustifolia</i> Pacific gumplant	salt marsh, scrub	perennial	BAY	1-5' tall shrubby perennial; showy yellow flowers; grows along upper edges of salt marsh
<i>Hakea suaveolens</i> sweet hakea		shrub	NO	evergreen shrub 10-20' tall; dark green 4" leaves; tolerates wind, poor soils; useful, fast-growing barrier plant or screen
<i>Hardenbergia violacea</i> lilac vine		vine	NO	evergreen vine 10-12'; winter-early spring white or purple blooms; full sun or part shade; moderate water
<i>Helictotrichon sempervirens</i> blue oat grass		grass	NO	clumping perennial grass 2-3' tall and wide; bright blue-gray leaves and straw-colored flower clusters in spring; prefers full and well-drained soil
<i>Heteromeles arbutifolia</i> toyon	scrub, oak woodland	shrub/tree	BAY	evergreen shrub 10-20' tall by 10-15' wide; dark green, leathery leaves; white flowers June-July; red berries Dec; full sun to part shade, good drainage, little or no water; good for erosion control; tolerates poor soil; attracts butterflies and hummingbirds; can grow as espalier
<i>Holodiscus discolor</i> cream bush	mixed evergreen forest	shrub	BAY	deciduous shrub 3' tall in shade, 20' tall in sun; long creamy white flowers spring-summer and red fall color; full sun to part shade; good habitat plant - attracts butterfly larvae, birds and bees; can grow as espalier
<i>Hordeum brachyantherum</i> meadow barley	grassland	grass	BAY	perennial grass to 6" high; grows in clumping form; topped with purple seed heads in spring; does well from seed
<i>Iris douglasiana</i> Douglas iris	grassland	perennial	BAY	herbaceous perennial 12-24" tall; early spring purple flowers Feb-May; spreads easily from rhizomes
<i>Jaumea carnosa</i> fleshy jaumea	salt marsh	perennial	CA	prostrate, herbaceous perennial 4-12" tall; narrow fleshy leaves; common in middle zone of salt marsh

Botanical and Common Names	Plant Community*	Plant Type	Native?***	Description: preferences, tolerances, attributes
<i>Juncus patens</i> wire grass	grassland, riparian	perennial	BAY	2' tall rush with stiff, upright gray-green stems; prefers moist soil
<i>Koeleria macrantha</i> junegrass	grassland	grass	BAY	perennial grass with 6-12" high leaves and 1-2' high spike-like flower stalks; prefers sun and good drainage; tolerates poor soils
<i>Laurus nobilis</i> sweet bay		shrub/tree	NO	evergreen shrub/tree 10-40' tall by 12-40' wide; dark green aromatic leaves; full sun to part shade, good drainage, moderate water; tolerates wind; good as informal screen
<i>Lavatera assurgentiflora</i> tree mallow		shrub	CA	evergreen shrub 6-12' tall and wide; gray-green leaves with pink-purple flowers spring-summer; full sun, good drainage, moderate water; tolerates heat, wind, drought, salt spray; attracts butterfly larvae
<i>Leptospermum laevigatum</i> tea tree		shrub/tree	NO	evergreen shrub/tree 10-30' tall and wide; gray-green fine narrow leaves; white spring blooms; full sun, good drainage, little water; hardy plant - tolerates wind
<i>Leymus condensatus</i> giant wild rye	scrub	grass	CA	perennial bunchgrass 4' tall by 3' wide; blue-green leaves; prefers sun and little water; spreads aggressively by underground runners - good for erosion control
<i>Leymus mollis</i> Pacific dune grass	beach/dune	grass	BAY	perennial bunchgrass; blue-green leaves; spreads by underground runners - good for erosion control; prefers sun and little water; historic Bay beach/dune dominant plant, now limited to San Leandro in the Bay; needs light, sandy soil
<i>Leymus triticoides</i> creeping wild rye	grassland	grass	BAY	grass stems 2-4' tall; good for erosion control; very tolerant; competitive with non-native grasses in seasonally moist clay soils - spreads rapidly; does not do well from seed
<i>Limonium californicum</i> sea-lavender	salt marsh	perennial	BAY	1-2' tall; broad flat leaves and pale violet flowers July-Dec.; grows in upper zone of salt marsh above tide lines
<i>Lithocarpus densiflorus</i> tanoak	mixed evergreen forest	tree	CA	evergreen tree to 60' tall; gray-green foliage, creamy white flowers mid summer; bronze new foliage in spring; needs some shade

Botanical and Common Names	Plant Community*	Plant Type	Native:**	Description: preferences, tolerances, attributes
<i>Lupinus albifrons</i> silver bush lupine	scrub	shrub	BAY	evergreen shrub 5' tall and wide; blue to violet, fragrant blooms April - July; full sun, good drainage, little water; attracts butterflies and bees
<i>Lupinus formosus</i> summer lupine	grassland	perennial	BAY	full sun, good drainage, little water; attracts butterflies and bees
<i>Lupinus variicolor</i> varied lupine	grassland	perennial	BAY	nice as edging; full sun, good drainage, little water; attracts butterflies and bees
<i>Mahonia pinnata</i> California holly grape		shrub	BAY	evergreen shrub 5' tall and wide; glossy green holly-like leaves, yellow spring flowers turn to blue berries; full sun to part shade, moderate water; tolerates drought; attracts birds
<i>Melaleuca quinquenervia</i> cajeput tree		tree	NO	evergreen tree 20-30' tall by 15-20' wide with white peeling bark; likes sun; little water; fast growing; tolerates wind
<i>Melica californica</i> California melic	grassland	grass	BAY	semi-evergreen perennial grass up to 4' tall; semi-erect; provides good forage; tolerates poor soils and shade
<i>Mimulus aurantiacus</i> sticky monkey flower	scrub	perennial	BAY	woody perennial up to 4' tall; orange or yellow tubular flowers spring-summer; full sun to part shade, good drainage, little water; attracts butterfly larvae and hummingbirds
<i>Muhlenbergia rigens</i> deer grass	grassland	grass	CA	perennial bunchgrass 3' tall and wide; bright green leaves, upright flowers stalks; full sun to part shade, good drainage, little water
<i>Myrica californica</i> Pacific wax myrtle		shrub	BAY	evergreen shrub 10-30' tall and wide; shiny dark green leaves; sun or part shade, most soils OK, moderate water; good informal hedge; tolerates wind and salt spray; good habitat plant; bay-like odor; can grow as espalier
<i>Myrtus communis</i> myrtle		shrub	NO	evergreen shrub to 5-6'; small bright green leaves; full sun, good drainage, moderate water; tolerates any soil; good as hedge or screen
<i>Nassella lepida</i> foothill needle grass	grassland	grass	BAY	perennial grass 1' tall and wide; summer dormant; spreads by self-sowing; full sun, good drainage, no water; good for erosion control; tolerates poor soils

Botanical and Common Names	Plant Community*	Plant Type	Native?***	Description: preferences, tolerances, attributes
<i>Nassella pulchra</i> purple needle grass	grassland, scrub	grass	BAY	perennial grass; leaves 1-2' tall, flower stalks 2-3' tall; prefers full sun; tolerates poor soils
<i>Penstemon spectabilis</i> royal penstemon	scrub	perennial	CA	herbaceous perennial 3-6' tall; prefers full sun, good drainage and occasional water; blue, pink, purple or white flowers; attracts butterfly larvae and hummingbirds
<i>Phlomis fruticosa</i> Jerusalem sage		shrub	NO	evergreen shrub 4' tall by 6' wide; woolly gray-green leaves, yellow flowers spring-summer; full sun, good drainage, some water; good along seacoast
<i>Physocarpus capitatus</i> ninebark		shrub	BAY	deciduous shrub 8' tall and wide; medium green leaves, dense clusters of white flowers; needs some shade
<i>Pinus contorta</i> ssp. <i>contorta</i> shore pine	beach/dune	tree	CA	fast growth to 20-35' tall and wide; dark green 1-2" needles; dwarfed and contorted by ocean winds; tolerates salt spray
<i>Pinus muricata</i> Bishop pine		tree	CA	fast growth to 40-80' tall by 20-40' wide; pyramidal when young, rounded with age; tolerates seacoast
<i>Pinus torreyana</i> Torrey pine	scrub	tree	CA	fast growth to 40-60' tall by 30-50' wide; open, irregular form when exposed to ocean winds; useful in open spaces and parks; native to Southern California coast
<i>Pittosporum tobira</i> tobira		shrub/tree	NO	evergreen shrub/tree 6-15' tall and wide; full sun to part shade, moderate water; good as hedge or windbreak; tolerates seacoast conditions
<i>Platanus x acerifolia</i> London plane		tree	NO	deciduous tree 40-80' tall by 30-40' wide; sun to part shade; moderate water; fast growing; tolerates many soils, smog, reflected heat; performs well as street or lawn tree
<i>Poa douglasii</i> sand-dune bluegrass	beach/dune	grass	CA	native, annual bunchgrass; grows along shifting sand dunes; threatened by alien species
<i>Polystichum munitum</i> swordfern	scrub, mixed evergreen forest	fern	BAY	evergreen fern to 4' tall; little water needed; prefers shade; spread quickly by underground runners
<i>Populus fremontii</i> Fremont cottonwood	riparian	tree	BAY	fast-growing deciduous tree 40-60' tall by 25-30' wide; glossy yellow-green triangular leaves with pale gold fall color; use in background for screening; use male trees



*Quercus agrifolia*  
coast live oak

Botanical and Common Names	Plant Community*	Plant Type	Native:**	Description: preferences, tolerances, attributes
<i>Prunus ilicifolia</i> ssp. <i>ilicifolia</i> hollyleaf cherry		shrub	BAY	evergreen shrub 10-25' tall and wide; part shade, good drainage, moderate water; good as hedge, windbreak, screen or espalier
<i>Pteridium aquilinum</i> western bracken fern	grassland, scrub	fern	BAY	fronds 2-7' tall; prefers full sun to part shade and little water; can be invasive; poisonous if fronds ingested
<i>Quercus agrifolia</i> coast live oak	oak woodland	tree	BAY	evergreen tree 30-75' tall by 60-100' wide; full sun or part shade, good drainage; do not water regularly within root zone; tolerates drought, heat, wind; plant in groves preferably; acorns used for propagation should be from salt adapted parents
<i>Ranunculus californicus</i> California buttercup	grassland	perennial	BAY	1-2' tall herbaceous perennial; finely divided leaves, early spring yellow blooms; full sun, good drainage, no summer water
<i>Rhamnus californica</i> coffeeberry	scrub, oak woodland	shrub	BAY	evergreen shrub 3-18' tall; shiny dark green leaves, red berries; hardy grower; prefers sun to part shade with good drainage, little water; tolerates poor soils; attracts butterflies; good habitat plant
<i>Rhus integrifolia</i> lemonade berry	scrub	shrub	CA	evergreen shrub 3-10' tall and wide; leathery dark-green leaves; full sun to part shade, good drainage, little water; good windbreak, screen, habitat plant; can grow as espalier
<i>Rhus ovata</i> sugar bush		shrub	CA	evergreen shrub 8-12' tall by 8-12' wide with round form; dark green leaves, small white flowers; full sun to part shade, good drainage, little water; good windbreak, screen, habitat plant
<i>Rosa californica</i> California rose	riparian	shrub	BAY	3-8' tall; pale pink flowers; prefers moist shade but will grow in sun with water; good shelter and food for wildlife; excellent for bank stabilization
<i>Rubus pentalobus</i> bramble		groundcover	NO	evergreen groundcover 6-12" tall by 6' wide; forms dense, vigorous mat; keeps weeds out; part shade preferred; occasional water, good drainage
<i>Rubus ursinus</i> California blackberry	scrub, riparian, oak woodland	shrub	BAY	trails, climbs and forms mounds; prickles on stems; white flowers produce edible black berries late summer; best in shade

Botanical and Common Names	Plant Community*	Plant Type	Native?***	Description: preferences, tolerances, attributes
<i>Rumex maritimus</i> golden dock	salt marsh	annual	BAY	native to salt marshes around Bay; 6-8" tall leaves
<i>Salix laevigata</i> red willow	riparian, brackish marsh	tree	CA	deciduous tree less than 40' tall; grows along edges of marshes or streams; red or yellow colored twigs in winter
<i>Salix lasiolepis</i> arroyo willow	riparian, brackish marsh	shrub/tree	CA	deciduous shrub or small tree less than 30' tall; grows along edges of marshes or streams; yellow or brown colored twigs in winter; useful as informal screen
<i>Salvia leucophylla</i> purple sage	scrub	shrub	CA	evergreen shrub 3-5' tall and wide with sprawling form; pink-purple flowers in spring; prefers full sun, good drainage, little water; attracts hummingbirds, butterflies, bees
<i>Salvia mellifera</i> black sage	scrub	shrub	CA	3-6' tall; grows quickly; pale purple flowers; prefers full sun, good drainage, little water; attracts hummingbirds, butterflies, bees
<i>Sambucus mexicana</i> blue elderberry		shrub/tree	BAY	deciduous; 10-30' tall by 10-12' wide; full sun to part shade, little water; attracts butterflies and hummingbirds - good habitat plant; good screen, windbreak, edge; some plant parts are poisonous
<i>Sambucus racemosa</i> red elderberry		shrub	CA	deciduous shrub 8-10' tall and wide; 9" long leaves divided into leaflets; small, white flowers late spring turn into non-edible red berries; likes moist soil; attracts butterflies and hummingbirds; some plant parts are poisonous
<i>Sarcocornia pacifica</i> pickleweed	salt marsh	perennial	BAY	1-2' tall low-growing succulent which is very salt tolerant; grows in middle zone of salt marsh; spreads by underground stems; previously know as <i>Salicornia virginica</i>
<i>Satureja douglasii</i> Yerba Buena	scrub	perennial	BAY	low growing mint with trailing habit; shade tolerant but blooms with some sun; called "good herb" by Spanish settlers; may use as lawn substitute
<i>Schoenoplectus californicus</i> California bulrush	brackish marsh	perennial	BAY	perennial sedge to 13' tall with triangular stems; common in brackish marshes
<i>Scrophularia californica</i> bee plant	beach/dune, scrub	perennial	BAY	herbaceous perennial 3-5' tall with triangular leaves; small reddish-brown flowers February to July



*Salix lasiolepis*  
arroyo willow



*Sarcocornia pacifica*  
pickleweed

Peter Baye

Botanical and Common Names	Plant Community*	Plant Type	Native?*	Description: preferences, tolerances, attributes
<i>Sidalcea malviflora</i> checkerbloom		perennial	BAY	perennial 2' tall by 1-2' wide; pink-purple flowers early spring; sun to part shade, good drainage; no summer aiter - summer dormant
<i>Sisyrinchium bellum</i> blue-eyed grass	grassland, scrub	perennial	BAY	grass-like leaves 4-24" tall; purple flowers late spring; thrives with full sun, occasional water; self-sows; tolerates poor soils
<i>Solidago californica</i> California goldenrod	grassland	perennial	BAY	herbaceous perennial up to 3' tall; blooms late summer; grow in a massing
<i>Spartina foliosa</i> California cord grass	salt marsh	grass	BAY	perennial grass 1-4' tall with 1/2" wide leaves; common in low zone of salt marsh; this is the only cordgrass native to the Bay; before planting genetic testing should be performed to ensure native species used; native species should not be planted near any of non-native species as they will hybridize
<i>Suaeda californica</i> California sea-blithe	salt marsh	perennial	BAY	1-3' tall perennial; narrow linear leaves and greenish flowers July-Oct; grows in upper zone of salt marsh in sandy soils; federally endangered, now regionally extinct except for reintroduction; no ornamental value
<i>Symphoricarpis mollis</i> creeping snowberry	oak woodland	vine	CA	deciduous vine 1-2' high; forms thicket over time; prefers some shade; drought tolerant; easy to grow; good choice for dry shade under oaks
<i>Toxicodendron diversilobum</i> poison oak	scrub, oak woodland	shrub	BAY	deciduous shrub; red new growth; oil from leaves causes itchy skin rash; easily distinguished by leaves with 3-lobed pattern
<i>Triglochin maritima</i> seaside arrow-grass	salt marsh	perennial	BAY	herbaceous perennial 1-2' tall with fleshy stem-like leaves; grows in dense clumps
<i>Umbellularia californica</i> California bay	riparian, mixed evergreen forest	tree	BAY	evergreen tree 30-100' tall; shiny aromatic leaves dried and used for seasoning; can be hard to grow and susceptible to fungus
<i>Vaccinium ovatum</i> California huckleberry		shrub	BAY	compact evergreen shrub 2-8' tall; glossy leaves; best in part shade

<b>Botanical and Common Names</b>	<b>Plant Community*</b>	<b>Plant Type</b>	<b>Native?*</b>	<b>Description: preferences, tolerances, attributes</b>
<i>Vitis californica</i> California grape	riparian	vine	CA	deciduous vine; rapid grower to 20-30'; full sun, moderate water; pink new leaves and striking fall color; purple berries
<i>Westringia fruticosa</i> coast rosemary		shrub	NO	evergreen shrub to 3-6' tall by 5-10' wide; gray-green leaves resembling rosemary; white or purple flowers all year; tolerates wind and salt
<i>Wyethia angustifolia</i> mule's ears	beach/dune	perennial	BAY	herbaceous perennial 1-2' tall; broad gray-green leaves, bright yellow flowers; deciduous by late summer

# VI PLANT PALETTES

*List of plants for  
specific landscapes,  
situations and needs*



The following plant palettes have been compiled for particular types of landscapes or situations. Refer to the palettes for plant selection ideas. It is not intended that all the plants from a particular palette would be selected and applied to one landscape. More likely, one or two plants from a palette would be selected for a certain need. It is also important to note that some of the plants on these palettes require specific growing conditions such as alkaline or sandy soils. Please consult the descriptions on the plant list in the previous section as well as referring to other plant references as needed to learn more about specific preferences and tolerances of each plant.

## Steep Banks/Erosion Control

<i>Achillea millefolium</i>	white yarrow
<i>Aesculus californica</i>	California buckeye
<i>Arctostaphylos uva-ursi</i> 'Point Reyes'	manzanita
<i>Artemisia californica</i>	California sagebrush
<i>Aster chilensis</i>	California aster
<i>Atriplex lentiformis</i>	quail bush
<i>Baccharis pilularis</i> ssp. <i>pilularis</i>	dwarf coyote bush
<i>Carex tumulicola</i>	dwarf sedge
<i>Elymus glaucus</i>	blue wild rye
<i>Elymus trachycaulus</i>	slender wheatgrass
<i>Eriogonum fasciculatum</i>	California buckwheat
<i>Eriogonum nudum</i>	buckwheat
<i>Festuca californica</i>	California fescue
<i>Fragaria chiloensis</i>	sand strawberry
<i>Heteromeles arbutifolia</i>	toyon
<i>Iris douglasiana</i>	Douglas iris
<i>Leymus mollis</i> ssp. <i>mollis</i>	Pacific dunegrass
<i>Leymus triticoides</i>	creeping wild rye
<i>Muhlenbergia rigens</i>	deer grass
<i>Nassella lepida</i>	foothill needle grass
<i>Pinus torreyana</i>	Torrey pine
<i>Populus fremontii</i>	Fremont cottonwood
<i>Prunus ilicifolia</i> ssp. <i>ilicifolia</i>	hollyleaf cherry
<i>Quercus agrifolia</i>	coast live oak
<i>Rhamnus californica</i>	coffeeberry
<i>Rhus integrifolia</i>	lemonade berry

<i>Rosa californica</i>	California rose
<i>Rubus ursinus</i>	California blackberry
<i>Salvia leucophylla</i>	purple sage
<i>Vitis californica</i>	California grape

## Poor Soils

<i>Agrostis hallii</i>	Hall's bent grass
<i>Agrostis pallens</i>	Diego bent grass
<i>Arctostaphylos hookeri</i>	Hooker's manzanita
<i>Artemisia californica</i>	California sagebrush
<i>Baccharis pilularis</i> ssp. <i>pilularis</i>	dwarf coyote bush
<i>Baccharis pilularis</i> var. <i>consanguinea</i>	coyote bush
<i>Cotinus coggygria</i>	smoke tree
<i>Dodonea viscosa</i> var. <i>purpurea</i>	purple hopseed bush
<i>Eriogonum fasciculatum</i>	California buckwheat
<i>Eschscholzia californica</i>	California poppy
<i>Heteromeles arbutifolia</i>	toyon
<i>Hordeum brachyantherum</i>	meadow barley
<i>Koeleria macrantha</i>	junegrass
<i>Melica californica</i>	California melic
<i>Myrtus communis</i>	myrtle
<i>Nassella lepida</i>	foothill needle grass
<i>Nassella pulchra</i>	purple needle grass
<i>Rhamnus californica</i>	coffeeberry
<i>Salvia leucophylla</i>	purple sage
<i>Salvia mellifera</i>	black sage
<i>Sisyrinchium bellum</i>	blue-eyed grass

## Windy Areas

<i>Arbutus unedo</i>	strawberry trees
<i>Arctostaphylos uva ursi</i> 'Point Reyes'	manzanita
<i>Artemisia californica</i>	California sagebrush
<i>Atriplex lentiformis</i>	quail bush
<i>Baccharis pilularis</i> ssp. <i>pilularis</i>	dwarf coyote bush
<i>Ceanothus gloriosus</i>	Point Reyes ceanothus
<i>Ceanothus griseus</i> var. <i>horizontalis</i>	Carmel creeper 'Yankee Point'
<i>Cercis occidentalis</i>	western redbud
<i>Dodonea viscosa</i>	purple hopseed bush
<i>Eriogonum giganteum</i>	Saint Catherine's lace
<i>Garrya elliptica</i>	coast silktassel

<i>Heteromeles arbutifolia</i>	toyon
<i>Lavatera assurgentiflora</i>	tree mallow
<i>Leptospermum laevigatum</i>	Australian tea tree
<i>Leymus condensatus</i>	giant wild rye
<i>Melaleuca quinquenervia</i>	cajeput tree
<i>Muhlenbergia rigens</i>	deer grass
<i>Myrica californica</i>	Pacific wax myrtle
<i>Pinus contorta</i> spp. <i>contorta</i>	shore pine
<i>Pinus muricata</i>	Bishop pine
<i>Pinus torreyana</i>	Torrey pine
<i>Pittosporum tobira</i>	tobira
<i>Prunus ilicifolia</i> ssp. <i>ilicifolia</i>	hollyleaf cherry
<i>Quercus agrifolia</i>	coast live oak
<i>Rhamnus californica</i>	coffeeberry
<i>Rhus ovata</i>	sugar bush
<i>Salvia leucophylla</i>	purple sage
<i>Salvia mellifera</i>	black sage
<i>Sambucus mexicana</i>	blue elderberry
<i>Umbellularia californica</i>	California bay
<i>Westringia fruticosa</i>	coast rosemary

### Alkaline Soils

<i>Atriplex californica</i>	California saltbush
<i>Atriplex lentiformis</i>	quail bush
<i>Atriplex leucophylla</i>	beach saltbush
<i>Atriplex patula</i> var. <i>patula</i>	spear oracle
<i>Atriplex triangularis</i>	spearscale
<i>Baccharis douglasii</i>	marsh baccharis
<i>Baccharis pilularis</i> ssp. <i>pilularis</i>	dwarf coyote bush
<i>Baccharis pilularis</i> var. <i>consanguinea</i>	coyote bush
<i>Distichlis spicata</i>	salt grass
<i>Glaux maritima</i>	sea-milkwort
<i>Grindelia hirsutula</i> var. <i>hirsutula</i>	gumplant
<i>Grindelia stricta</i> var. <i>angustifolia</i>	Pacific gumplant
<i>Jaumea carnosa</i>	fleshy jaumea
<i>Limonium californicum</i>	sea-lavender
<i>Sarcocornia perennis</i>	pickleweed
<i>Schoenoplectus californicus</i>	California bulrush
<i>Schoenoplectus maritimus</i>	alkali bulrush

### Screens/Informal Hedges

<i>Baccharis pilularis</i> var. <i>consanguinea</i>	coyote bush
<i>Carpenteria californica</i>	bush anemone
<i>Ceanothus thyrsiflorus</i>	blue blossom
<i>Cercis occidentalis</i>	western redbud
<i>Dodonea viscosa</i>	purple hopseed bush
<i>Escallonia rubra</i>	escallonia
<i>Garrya elliptica</i>	coast silktassel
<i>Gaultheria shallon</i>	salal
<i>Hakea suaveolens</i>	sweet hakea
<i>Heteromeles arbutifolia</i>	toyon
<i>Laurus nobilis</i>	sweet bay
<i>Myrica californica</i>	Pacific wax myrtle
<i>Pittosporum tobira</i>	tobira
<i>Prunus ilicifolia</i> ssp. <i>ilicifolia</i>	lemonade berry
<i>Rhamnus californica</i>	coffeeberry
<i>Rhus integrifolia</i>	lemonade berry
<i>Rhus ovata</i>	sugar bush
<i>Rosa californica</i>	California rose
<i>Salix lasiolepis</i>	arroyo willow
<i>Sambucus mexicana</i>	blue elderberry

### Vegetative Buffers to Discourage Access

<i>Baccharis pilularis</i> var. <i>consanguinea</i>	coyote bush
<i>Rhamnus californica</i>	coffeeberry
<i>Rosa californica</i>	California rose
<i>Rubus ursinus</i>	California blackberry
<i>Toxicodendron diversilobum</i>	poison oak

### Lawn Substitutes

<i>Achillea millefolium</i>	white yarrow
<i>Agrostis hallii</i>	Hall's bent grass
<i>Agrostis pallens</i>	Diego bent grass
<i>Armeria maritima</i> ssp. <i>californica</i>	sea-thrift
<i>Carex praegracilis</i>	dune sedge
<i>Carex tumulicola</i>	dwarf sedge
<i>Distichlis spicata</i>	salt grass
<i>Festuca rubra</i>	red fescue
<i>Fragaria chiloensis</i>	sand strawberry
<i>Satureja douglasii</i>	Yerba Buena

# VII

## ADDITIONAL INFORMATION AND RESOURCES

*Some further guidance, discussion of specific issues and list of resources*

### *Do Not Plant List*

Just as important, if not more important, as knowing the appropriate plants to use, is knowing what plants not to use. There are a number of non-native invasive plant species that have been extremely destructive to native habitat around the Bay. One well-known example is the introduction of Smooth Cord Grass (*Spartina alterniflora x foliosa*) in the 1970's as an experiment for stabilizing levees. Currently, massive efforts to eradicate the Smooth Cord Grass are underway (see [www.spartina.org](http://www.spartina.org)). Another common exotic plant that has been widely used around the Bay is iceplant. Various non-native species of iceplant have been used for erosion and weed control purposes, at the expense of destroying or preventing native plant communities from flourishing.

Since this list is continually being updated, it is also important to check resources that may be more current than this guide. Two particularly useful websites include:

[www.cal-ipc.org](http://www.cal-ipc.org) California Invasive Plant Council look for the "California Invasive Plant Inventory" and "The Weed Worker's Handbook: A Guide to Techniques for Removing Bay Area Invasive Plants"

[www.sfei.org](http://www.sfei.org) San Francisco Estuary Institute look for "Practical Guidebook to the Control of Invasive Aquatic and Wetland Plants of the San Francisco Bay-Delta Region"

### DO NOT PLANT LIST (Short list of very invasive non-native plants)

Botanical Name	Common Name
<i>Arundo donax</i>	giant reed
<i>Carpobrotus</i> spp.	iceplant
<i>Cortaderia jubata</i> , <i>C. selloana</i>	pampas grass
<i>Cytisus scoparius</i>	scotch broom
<i>Delairea odorata</i>	Cape ivy
<i>Drosanthemum</i> spp.	iceplant
<i>Echium candicans</i>	pride of Madeira
<i>Foeniculum vulgare</i>	sweet fennel
<i>Genista monspessulana</i>	french broom
<i>Hypericum calycinum</i>	creeping St. Johnswort
<i>Lampranthus</i> spp.	iceplant
<i>Lepidium latifolium</i>	perennial pepperweed
<i>Lythrum salicaria</i>	purple loosestrife
<i>Maytenus boaria</i>	mayten
<i>Rubus discolor</i>	himalayan blackberry
<i>Spartina alterniflora x foliosa</i>	smooth cord grass
<i>Spartina anglica</i>	common cord grass
<i>Spartina densiflora</i>	dense-flowered cord grass
<i>Spartina patens</i>	salt meadow cord grass
<i>Spartium junceum</i>	spanish broom
<i>Tamarix</i> spp.	salt cedar
<i>Vinca major</i>	periwinkle
<i>Vinca minor</i>	vinca

## *Plant Sources*

The number of native plant nurseries has grown over the last two decades in response to the increased demand for native plants. Be aware that the status of the nurseries on this list may have changed. The California Native Plant Link Exchange ([www.cnplx.info](http://www.cnplx.info)) is also a helpful resource for locating native plant material.

### **Nursery List**

Albright Seed Company	Carpinteria 805-684-0436 <a href="http://www.albrightseed.com">www.albrightseed.com</a>	Magic Gardens	Berkeley 510-644-2351
Bay Natives	San Francisco 415-722-6037 <a href="http://www.baynatives.com">www.baynatives.com</a>	Mostly Natives Nursery	Tomales 707-878-2009 <a href="http://www.mostlynatives.com">www.mostlynatives.com</a>
Berkeley Horticultural Nursery	Berkeley 510-526-4704 <a href="http://www.berkeleyhort.com">www.berkeleyhort.com</a>	Native Here Nursery	Berkeley 510-549-0211 <a href="http://www.ebcnps.org/nativeherehome.htm">www.ebcnps.org/nativeherehome.htm</a>
California Flora Nursery	Fulton 707-528-8813 <a href="http://www.calfloranursery.com">www.calfloranursery.com</a>	Native Revival Nursery	Aptos 831-684-1811 <a href="http://www.nativerivival.com">www.nativerivival.com</a>
Central Coast Wilds	Santa Cruz 831-459-0655 <a href="http://www.centralcoastwilds.com">www.centralcoastwilds.com</a>	Native Sons Wholesale Nursery	Arroyo Grande 805-481-5996 <a href="http://www.nativeson.com">www.nativeson.com</a>
Cornflower Farms	Elk Grove 916-689-1015 <a href="http://www.cornflowerfarms.com">www.cornflowerfarms.com</a>	North Coast Native Nursery	Petaluma 707-769-1213 <a href="http://www.northcoastnativenursery.com">www.northcoastnativenursery.com</a>
Elkhorn Native Plant Nursery	Moss Landing 831-763-1207 <a href="http://www.elkhornnursery.com">www.elkhornnursery.com</a>	Oaktown Native Plant Nursery	Oakland 510-387-9744 <a href="http://www.oaktownnativenursery.info">www.oaktownnativenursery.info</a>
Joaquin Miller Park Nursery	Oakland 510-501-3672	Pacific Coast Seed	Livermore 925-373-4417
Larner Seeds	Bolinas 415-868-9407 <a href="http://www.larnerseeds.com">www.larnerseeds.com</a>	Seedhunt	Freedom 650-763-1523 <a href="http://www.seedhunt.com">www.seedhunt.com</a>
		Suncrest Wholesale Nurseries	<a href="http://www.suncrestnurseries.com">www.suncrestnurseries.com</a>
		The Watershed Nursery	Berkeley 510-548-4714 <a href="http://www.thewatershednursery.com">www.thewatershednursery.com</a>
		Yerba Buena Native Plant Nursery	Woodside 650-851-1668 <a href="http://www.yerbabuena-nursery.com">www.yerbabuena-nursery.com</a>

### *Use Local Genetic Plant Stock*

One extremely important issue to consider, particularly for restoration projects, is the use of local plants. This means using plants that have been propagated from seeds or cuttings of plants that already exist in the vicinity of your project. Rather than using a variety of Coyote Bush found in Point Reyes for a project in Albany, you would select a variety that is indigenous to Albany. By using more of the same native plants already growing in a particular area, the local gene pool is preserved rather than diluted with plants from other locales. Many nurseries will grow local plants upon request, but requesting project-specific propagation does require some lead time. Contact the local California Native Plant Society chapter to talk with local experts and find sources for indigenous seeds. Plant materials should not be collected from public or private lands without first obtaining permission.

### *Proper Landscape Design, Installation and Maintenance*

Landscapes that are properly installed and maintained will have a better chance of fulfilling the original objectives for the site. Simple steps such as amending the soil, planting and staking correctly, providing the proper amount of irrigation and mulching are key to long-term success of a landscape. Here is a list of important points to follow:

- *Assess site soil and amend when needed.*  
Much of today's Bay shoreline was constructed during previous eras. As a result, soils along the shoreline often have poor nutrient quality and are quite compacted, leading to poor growing conditions. As with every landscape project, it is essential to have the soil tested in order to determine appropriate soil amend-

ments. In some cases, it may be better not to amend the soil when planting to avoid restricting the root growth to the amended backfill.



*Landscape installation near High Street, Oakland*

- *Plants can play an important role in stormwater management.*  
Non-point source pollution from stormwater runoff threatens the health of the Bay. A shoreline landscape can help filter sediment and pollution from stormwater runoff by helping to remove harmful chemicals and nutrients from runoff before it reaches the Bay. Landscape designs should minimize the amount of impervious surface area (solid paving such as concrete and asphalt) to reduce the amount of runoff generated. Retention ponds and bioswales can help to keep stormwater runoff on-site. Refer to “Start at the Source: Residential Site Planning & Design Guidance Manual for Stormwater Quality Protection” from the Bay Area Stormwater Management Agencies Association for more guidance (available at [www.basmaa.org](http://www.basmaa.org)).



*Stormwater runoff from the parking lot goes into this bioswale before draining into Elmhurst Slough*

- *Hire the appropriate professionals to design, install and care for the landscape.*  
Depending on the project, the services of several professionals may be needed, including: botanists, horticulturists, landscape architects, geotechnical engineers, hydrologists, biologists and restoration ecologists. Botanists can inventory existing plant materials and provide guidance on appropriate plant selection. Horticulturists can also assist with proper plant selection and care. Landscape architects can address environmental, technical, aesthetic and cultural issues. Geotechnical engineers can assess existing soil conditions and erosion issues. Hydrologists, biologists and restoration ecologists can design and monitor restoration projects.
- *Look for planting clues near your project.*  
When designing a new landscape, look at nearby landscapes to see which plants are successful and which are not. Depending on the setting and type of project, it may be appropriate to either repeat adjacent plantings to provide continuity along the shoreline or, conversely, to enhance the uniqueness

of a particular site with distinct plantings. When appropriate, seek to emulate natural landscapes that exist nearby.

- *Minimize the amount of irrigation needed.*  
Select plants that will require little or no water once established and minimize the amount of lawn. Although irrigation may not be needed long-term for many shoreline landscapes, most all drought-tolerant plantings require irrigation to become established. When irrigation is no longer needed, disconnect irrigation systems from the water supply and remove the tubing and other irrigation parts that may be unsightly.
- *Follow Best Management Practices (BMPs).*  
Best Management Practices are methods used to prevent or reduce water pollution from non-point sources. BMPs include steps such as providing silt fencing, fiber rolls and temporary drainage filtration systems during landscape installation to protect water quality.
- *Install plants correctly.*  
Do not install plants too high or too low in relation to the surrounding soil elevation. Planting too high will allow the root ball to dry out too quickly, and planting too low will cause the base of the trunk, stem or roots to rot. Amend the soil, if necessary, as determined through soil testing.
- *Place tree stakes correctly and remember to remove them.*  
Improperly staked trees may suffer trunk damage or limb breakage. It is important to use at least two stakes and set these perpendicular to the direction of the prevailing winds. Allow for some movement around the tree straps so the trunk may develop its



*This tree was improperly staked.*

own strength and caliper. Also, it is important to remove tree stakes when they are no longer needed and before the tree outgrows the straps.

- *Mulch is important.*  
Mulch plays a number of beneficial roles, such as helping to retain soil moisture which minimizes the amount of irrigation needed, preventing weed growth and adding organic material to the soil which nourishes the plants. Two to three inches of mulch is usually adequate. Use tree trimmings from on-site to produce mulch in order to minimize green waste. On sites with a lot of weeds, a process called “sheet mulching” can be very helpful. This involves laying down sheets of cardboard, cutting holes out for new plantings and then placing a layer of mulch on top.
- *Avoid the use of pesticides, herbicides and fertilizers.*  
Pesticides, herbicides and fertilizers should not be used in shoreline landscapes unless absolutely necessary. After these chemicals have been applied to the plants or soil, they begin to wash off by rain or irrigation water and eventually find their way into the Bay, causing harm to the plants and animals there. Seepages of fertilizer nutrients downslope from irrigated areas, can also cause over-dominance by invasive species in marshes and upland habitats. If fertilizer is absolutely necessary, use one that does not contain phosphorus as it is harmful to water quality.
- *Plan for periodic removal of invasive non-native plant species.*  
Almost all projects will require periodic invasive plant removal. This routine maintenance is very important for getting plants established, conserving water, preserving habitat value as well as maintaining a pleasing visual appearance.

- *Keep green waste to a minimum.*  
To begin with, select plants that will not require lots of pruning and cutting. Select plants whose size at maturity is desired. Attempt to dispose of all landscape waste on-site through composting or converting tree prunings into mulch. Refer to the “Bay-Friendly Landscape Guidelines: Sustainable Practices for the Landscape Professional” produced by the Alameda County Waste Management Authority for additional guidance (see [www.stopwaste.org](http://www.stopwaste.org)).
- *Protect plants during establishment and from vandalism.*  
Young plants should be protected as they become established so that they are not harmed by public access users. Low fencing can be an effective means of keeping people out of newly planted areas. If more appropriate, provide wire or plastic mesh around individual plants. Trees around parking lots are particularly susceptible to damage from car bumpers and doors and should be well protected during the establishment period. If trees or shrubs do become damaged, branches should be pruned as soon as possible.



*Plants protected during establishment.  
Eastshore State Park*

## Places to Visit

Following is a list of inspiring places to visit. Some of the larger landscapes, such as Point Reyes, China Camp and Monterey Bay, are useful to visit in order to gain a better understanding of the physical structure and composition of plant communities. Visits to botanical gardens can be beneficial for up-close viewing of individual plant species that are often clearly labeled.

Big Sur	Monterey <i>coastal scrub</i>
China Camp State Park	San Rafael <i>coastal salt and brackish marshes, scrub, grassland and mixed-evergreen forest</i>
Crissy Field	San Francisco <i>coastal beach and dune</i>
Don Edwards S.F. Bay National Wildlife Refuge	Newark <i>coastal salt marshes</i>
Eastshore State Park	Albany, Berkeley, Emeryville <i>coastal beach and dune, salt marsh, scrub, riparian woodland (includes willow grove)</i>
Martin Luther King Jr. Regional Shoreline	Oakland <i>coastal salt marsh</i>
Martinez Regional Shoreline	Martinez <i>brackish marsh</i>
Monterey Bay Dunes	Monterey <i>coastal beach and dune</i>

Point Reyes National Seashore	Point Reyes <i>coastal beach and dune, grassland, scrub and mixed-evergreen forest</i>
Regional Parks Botanic Garden	Tilden Park, Berkeley Hills <i>various natives</i>
San Francisco Botanical Garden at Strybing Arboretum	San Francisco <i>various natives</i>
U.C. Berkeley Botanical Garden	Berkeley <i>various natives</i>



Crissy Field

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