

## Why Garden with Natives?

CA natives are adapted to their local climate, water availability and soil. Therefore, they generally require less maintenance (water and fertilizer) than traditional landscape plants.

Natives attract 10 to 50 times as many wildlife species as nonnatives! Natives blend the home landscape with the surrounding natural environment and provide a stopping point for wildlife in the urban setting.

California native plants are unique and diverse. California has the greatest number of endemic plants of any state in the U.S.! Approximately one third of native California plants are classified as rare, endangered or threatened. Adopting them in your landscape helps preserve these treasures.

### General Garden Maintenance

Optimal planting time is in the fall and early spring when the soil is cool and rains have begun.

Native plants generally do not require fertilizers. However, depending on the condition of your soil, an organic soil amendment or mycorrhizal inoculants may be recommended to enhance the soil and improve plant health.

Native plants will require water regularly until they have established. Once established, little watering is required.



## Vegetated Water Quality Swales: Grass Swales & Bioswales

Vegetated water quality swales are broad, shallow channels designed to convey, filter, and infiltrate stormwater runoff. Depending upon the geometry of land available, a swale may have a meandering or almost straight channel alignment. A meandering swale geometry maximizes the time water spends in the swale, which aids the trapping of pollutants and silt.

**Grass swales** are vegetated with native perennial grass species along the bottom and sides of the channel. The grass vegetation on the channel sides is designed to grow at a height above the maximum stormwater volume.

**Bioswales** are modified vegetated swales that use bioretention media beneath the swale to improve water quality, reduce runoff volume, and peak runoff rate. The bioretention media is a designed soil composed of 50% sand, 30% loam soil and 20% shredded hardwood mulch. Bioswales perform the same functions as traditional grassed swales, however they have a greater capacity to provide water retention, infiltration, and nutrient and pollutant removal. Infiltration may be further enhanced by adding gravel or other permeable material below the bioretention media. Diverse native plant species are used in the channel as an alternative to grass.

Vegetated water quality swales are appropriate for use in residential, commercial and industrial areas. They can be used in conjunction with other storm water and sediment capturing devices.

Typical **applications** include receiving channels for sediment basin discharge water or buffers to natural areas and streams. However, they should not be located where the site is not stabilized, as large quantities of sediment will rapidly diminish their capacity. Subsurface drains are recommended in areas with low subsoil permeability (e.g. compacted or clay soils) or shallow soil profiles. Drains should tie into an adequate conveyance system.

## Plant Suggestions

### Grass Swale Species

*Danthonia californica* - California Oat Grass  
*Deschampsia caespitosa* - Tufted Hair Grass  
*Festuca rubra* - Red Fescue  
*Hordeum brachyantherum* - Meadow barley  
*Leersia oryzoides* - Rice Cutgrass  
*Leymus triticoides* - Creeping Wildrye

### Bioswale Species

*Aster chilensis* - California Aster  
*Carex nudata* - Torrents Sedge  
*Carex obnupta* - Coast Sedge  
*Equisetum laevigatum* - Horsetail  
*Juncus balticus* - Wire Rush  
*Juncus effusus* - Pacific Rush  
*Juncus phaeocephalus* - Brown-headed Rush  
*Juncus xiphioides* - Iris-leaf Rush  
*Mimulus guttatus* - Yellow Monkeyflower  
*Potentilla anserina* - Pacific Silverweed  
*Sisyrinchium californicum* - Golden-eyed Grass

### Bioswale Maintenance

Vegetated water quality swales should be inspected regularly to assure that there are no blockages in the channel, that there is not excessive sediment buildup, and that there is a dense vegetative cover. Maintenance activities should include periodic mowing (with grass never cut shorter than the design flow depth), clearing of debris and blockages, and sediment removal. Also bare areas should be replanted or seeded as required on an annual basis.

### Potential LEED Credits for Vegetated Water Quality Swales

Sustainable Sites (SS) Credit 5.1: Protect & Restore Habitat - 1 pt  
SS Credit 5.2: Site Development: Maximize Open Space - 1 pt  
SS Credit 6.1: Stormwater Design: Quantity Control - 1 pt  
SS Credit 6.2: Stormwater Design: Quality Control - 1 pt  
Water Efficiency (WE) - Water Efficient Landscaping - 1-2 Pts  
Innovation & Design Process (ID) - 1-4 Pts

