

Benefits of Native Plants

- Local plant species are adapted to soils and climates
- Reduction in water use, maintenance, soil amendments, pest control, and fertilizers = savings of time, labor, water, and money
- Provides habitat for local wildlife, attracts native pollinators
- Create beauty and sense of place
- With California's extremely diverse flora, there are plants appropriate for any garden's conditions

Some Myths about Native Plants

- They don't need any additional irrigation (some native plants are water dependent, and all need conventional watering while getting established)
- They require no maintenance (most benefit from some maintenance to look their best, although far less than turf)
- They are too difficult to grow in a garden setting (given the right conditions, many natives will thrive in a garden...it's important to know where they came from and their natural habitat)

A Community Approach to Landscaping with Natives

- Plants from the same plant communities will naturally thrive and look good together (if mixing and matching, select plants with similar water and drainage requirements)
- One garden can have several plant communities within it, depending on micro-climate and watering/ soils/ etc.

Coastal Scrub Community

- Grows along California's flatter, cool coastal areas.
- Low growing, brittle scrub brush.
- Larger, lush leaves in winter. Smaller, duller leaves in summer
- Grow in soils that retain little water
- Coastal plants grown in hotter inland gardens may require more shade or water than on the coast
- Hosts many showy, garden worthy plants

Chaparral Community

- Community most closely associated with our Mediterranean climate
- Grows on steep, hot south or west facing slopes
- Grows in shallow, rocky, well drained soils
- Tall impenetrable vegetation with small leaves, dense branches
- Primary source of garden shrubs

Woodland Community

- There are many woodland communities, usually dominated by one or more species of pine or oak
- Gaps in the canopy create a mix of sun and shade, a diversity of plants
- Plants grown beneath oaks are good selections for gardens with dry shade (summer irrigation can kill oaks)
- Hosts many beautiful garden worthy plants

Forest Community

- Continuous canopy...great plants for shady gardens
- Can be mixed evergreen forests (Madrone, Bay, Big-leaf Maple, Black Oak) or Coniferous (Redwood, Incense Cedar)
- Community exists in sites that are cooler, with deeper soils containing more organic matter and retaining more moisture

Grasslands

- Were once extensive from coastal bluffs to mountain valleys. Now intact native grasslands are rare
- Composed primarily of perennial bunchgrasses and sedges with annual and perennial wildflowers and bulbs
- Must have good weed control plan to establish a native meadow or grassland in your garden

Designing the Garden: Site Analysis

- Observation throughout the seasons is ideal
- Consider natural features, existing plant communities or trees you want to retain, views you want to screen or enhance
- Evaluate your soil...a soil test is a good idea
- Evaluate your water...where does it pool or flow, have your irrigation water tested for mineral or salt content (UC Cooperative Extension Office)

More Site Analysis

- Consider regional climactic information, but local microclimate equally important
 - Topography influences air currents, cold air settling in valleys, fog...
 - Slope and aspect affect temperature and drainage

Designing the Garden: Plant Selection

- Group Plants according to horticultural needs
- Think about plant structure and foliage color and texture as foundation of garden
- Repetition of colors and textures integrates design
- Many perennials make strong impact planted together as a group (mass plantings)
- California native plants can combine well with non-native plants from similar climate & soils
- Place accent plants or plants with special care needs where they are easily viewed and frequently visited

Hydrozoning

- Grouping plants with similar water requirements to reduce unnecessary water
- To irrigate automatically, you must have an irrigation system with multiple program capability
- Simply regrouping your existing plants so that you are not over-watering water thrifty plants will reduce your water use



Habitat Gardens

- Supply flowers, fruit, and seeds throughout the seasons
- Create continuous layers of vegetation
- Supply water for drinking, bathing, etc
- Leave some dead snags in trees, brush or rock piles
- Avoid toxic chemicals
- Restrict access of dogs and cats

Managing soils

- Soil Tests are advised to determine soil type, pH, fertility, salinity, mineral content, etc.
- Best to choose plants that are adapted to your soils and to avoid disturbing the soil as much as possible
- The addition of organic material (compost, fir-bark, etc) and gypsum to heavy clay soils can increase drainage. Organic matter should be added repeatedly. (note: use soil amendments sparingly or not at all for chaparral and desert plants, which are adapted to nutrient poor soils)
- The addition of organic matter to sandy soils will also increase their water retention and nutrient content
- Mix soil amendments generously, deeply, and uniformly over planting area (3" layer mixed 8" deep for gallon plants)...not just in planting holes

Increasing drainage in challenging soils

- For hard-pan (a layer of bedrock beneath the soil surface that is impenetrable by roots and water), break through with shovel when digging planting holes if it is thin enough
- If too thick, create raised beds filled with well percolated soil
- Creating raised beds or berms is best option when planting plants that require good drainage in heavy clay soils. Adding gravel to the berm or placing rocks will improve drainage as well

Benefits of Reducing Lawn

- **reduced water consumption** - according to the EPA, 30 to 60% of urban fresh water is used to water lawns each year-- two to three times the water of a sustainable mixed landscape.
- **saves time and energy** on lawn maintenance
- **less yard waste** to be composted or taken to a landfill - a 2000 sq ft lawn produces 600-800 pounds of clippings per summer on average
- reduction in use of herbicides, pesticides and synthetic fertilizers
- **reduction in air and noise pollution** caused by gas mowers- lawns cover 20 million acres of residential land in the US, and lawnmowers account for 5% of the air pollution.
- **enhanced biodiversity**
- **increased property values** - attractive, low-maintenance landscaping adds value to the home

Lawn Removal- digging

- Water lawn 1-2 days in advance- moist, not soggy
- Use edger or rent sod-cutter to cut 12-18" strips, second person uses spade to cut below the roots, pulls back like carpet
- Haul away to landfill, donate on craigslist or freecycle, or pile in berm & cover with thick layer of soil and mulch....will rot and become raised bed (some hand weeding required, especially with running grasses)

Lawn removal- tilling

- Use Rototiller to chop up sod. Invasive grasses like bermuda-grass will need roots & runners raked out
- Will require 3 passes-- one very deep, followed by shallow. Water area to allow weeds to germinate, then do third shallow pass a week later to remove surface weeds

Solarization

- Scalp turf
- Add compost or manure (optional)
- Moisten soil
- Clear plastic (tack down edges, no air pockets)
- 6-8 weeks
- Sterilizes top 3-4" of soil

Sheet Mulch: a lawn removal recipe

- 1" layer of manure or alfalfa (high nitrogen)
- 5 layers newspaper or cardboard (weed barrier)
- 2" compost
- 3" free arbor mulch
- 1" purchased mulch
- Make planting pockets with planting soil directly into layers of organic matter
- Similar to lasagna gardening

Select Plants that...

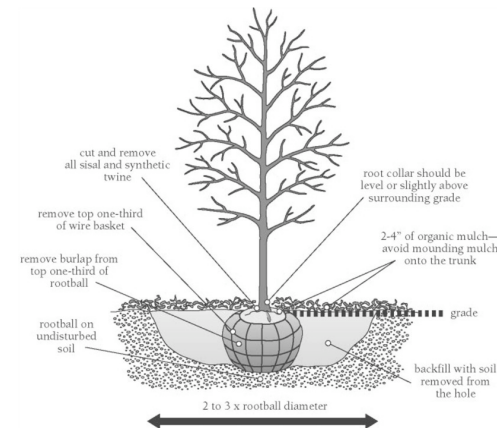
- Have a healthy “root to shoot” ratio (largest plants may be root bound, while smallest may have poorly developed roots)
- Plant’s crown (where stem meets roots) is at or slightly above soil level
- Have no bad odors at drainage hole of pot (indicates rotting root system)
- Smaller plant sizes (1 vs. 5 gallon shrubs and trees) will adapt more readily, require less initial water, and out-grow larger, more mature plants

When to plant

- In the Bay Area, Fall is the best time to plant natives and other water-thrifty plants
- Soils are still warm, so roots have a chance to grow and become established before the lush spring growth occurs
- Winter rains help establish plants
- Even drought tolerant plants need regular irrigation for at least first year...less frequent, deep watering encourages deep root systems

Planting Instructions

- Dig hole 2-3x as wide but no deeper than potted plant
- Do not plant if temperatures are above 90 or if soils are saturated from continuous rains
- Scuff sides of planting hole to encourage root penetration
- Moisten root-ball before removing from pot
- Fill hole with original soil and tamp out any air pockets
- Plant crown should be at or below 1” above soil surface



Planting Density

- When planting small plants, consider the eventual size and space requirements of the mature plant...improves plant health, decreases pruning/ yard waste
- Can plant annuals or short-lived plants between young plants to fill in while the plants mature

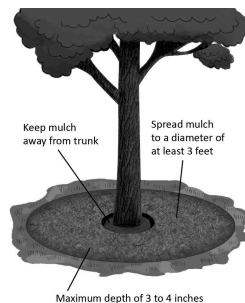
Protection and Care of New Plants

- If watering by hand or on a slope, create irrigations basin to hold water, but be sure to remove before rainy season
- If gophers are a problem, consider using aviary wire cage around rootball when planting
- If deer are a problem, enclose plant with deer netting at the diameter you expect the plant to be in 2-3 years. At that point you can remove it, as the plant will be able to withstand browse. (Deer tend to avoid salvias, ferns, and iris).

Benefits of Mulching

A 2-4" layer of mulch...

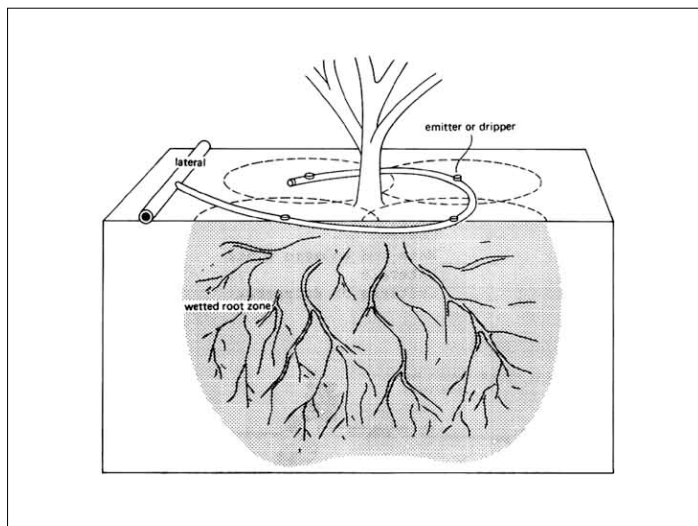
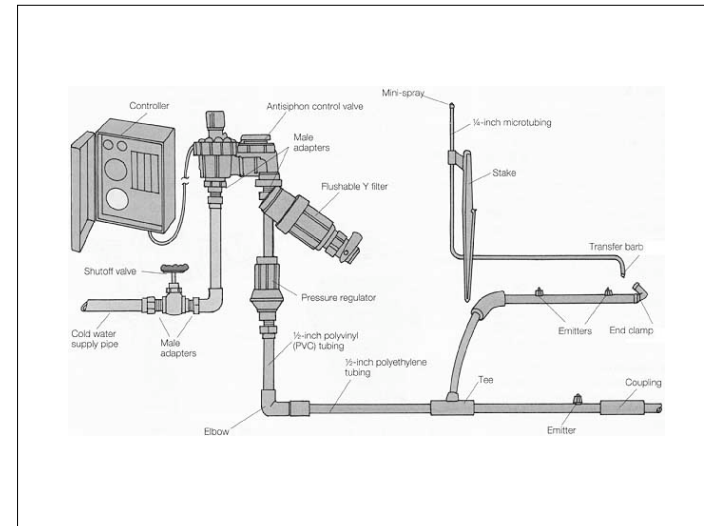
- Decreases evaporation/ holds moisture in soil
- Minimizes compaction and erosion
- Reduces weeds
- Wood bark, wood chips, leaf litter, and other organic mulches add nutrients to soil
- Gravel or stone mulch better for desert or rock gardens



Irrigating the Garden

- Converting your sprinkler system to drip or micro-irrigation is recommended for water conservation
- Even drought tolerant plants will require irrigation during establishment period (1st 2-3 years or when they have doubled or tripled in size)
- Always water during long dry spells in the normal rainy season, when plants depend on water
- Use caution when providing summer irrigation. Choose cooler times such as cloudy days, early morning, and evening to avoid root rot

- Plants that are drought tolerant in their normal range may require additional water planted in hotter environments
- Observe your plants and the soil... water according to need rather than a schedule (varies with season and as plant matures)
- Do not water if soil is moist at root level
- Wilted plants do not necessarily need to be watered. Check root zone first (some of the lush new growth may need to be pruned)



Pruning Basics

- Remove any damaged or broken branches, branches that cross or rub, some insect infested branches (allow caterpillars in order to have butterflies)
- Pruning for aesthetics: thinning or selective pruning can reveal attractive branches or bark.
- Pruning for rejuvenation: coppicing (cutting all the way to the ground) will cause many plants to grow back vigorously. Simulates fire, helps rejuvenate leggy, sparse looking shrubs and subshrubs.

**Plants that Benefit
from Coppicing:**

- Toyon
- Coyote bush
- Mountain mahogany
- Westber redbud
- California sunflower
- California fuchsia
- California Coastal Sage
- Many other subshrubs

**Plants that do not
Tolerate Coppicing:**

- Most manzanitas
- Most ceanothus

When to Prune

- Prune winter deciduous species during their winter dormancy
- Prune semi-evergreen species during their “down” time...usually late summer
- Prune evergreen herbaceous perennials and shrubs right after they flower for shaping, in Fall for rejuvenation
- For long-blooming plants, pruning after the first bloom cycle can stimulate more blooms

Resources

- Yerba Buena Nursery
<http://www.yerbabuena.com/>
- Bay Natives Nursery www.baynatives.com
- Las Pilitas Nursery plant-finder website
<http://www.mynativeplants.com/site>
- California Native Plant Society, local chapters
- www.cnps-scvc.org www.cnps-yerbabuena.org
- Books: *California Native Plants for the Garden*, and *Reclaiming the California Lawn* by Bornstein, Fross, O'Brien

Plant List—Natives Easily Adapted to Bay Area Gardens

Trees

California Buckeye -- *Aesculus californica*
Coast Live Oak -- *Quercis agrifolia*
California Pepper Tree -- *Shinus molle*
Valley Oak -- *Quercus lobata*

Tall Shrubs

Edmunds Manzanita – *Arctostaphylos bacerillius* ‘edmunds’
McMinn Manzanita – *Arctostaphylos densiflora* “Howard McMinn”
Bush Anemone – *Carpenteria californica*
Ceanothus “concha”, ‘frosty blue’, ‘skylark blue blossom’, ‘snow flurry’
Western Redbud – *Cercis occidentalis*
Desert Willow – *Chilopsis linearis*
Santa Cruz Island Buckwheat – *Eriogonum arborescens*
St. Catherine’s Lace -- *Eriogonum giganteum*
Coast Silktassel – *Garrya elliptica*
Toyon – *Heteromeles arbutifolia*
California Grape Holly – *Mahonia pinnata*
Mock Orange – *Philadelphus virginialis*
Holly leaf Cherry – *Prunus ilicifolia*
Coffeeberry – *Rhamnus californica*
Lemonadeberry – *Rhus integrifolia*
Flowering Currant – *Ribes sanguineum gluticosum*
Palo Blanco – *Ornithostaphylos oppositifolia*

Short Shrubs

Saffron buckwheat – *Eryogonum crocatum*
Sulfur buckwheat – *Eryogonum umbellatum*
Compact Oregon Grape – *Mahonia aquifolium* ‘compacta’

Vines

Trumpet Honeysuckle – *Lonicera sempervirens*

Ornamental Grasses

California fescue – *Festuca californica*
Blue Oat Grass – *Helictotrichon sempervirens*
Deer Grass – *Muhlenbergia rigens*
Wire Grass – *Juncus patens*

Ground Covers

Sea Thrift -- *Armeria*
Monterey Manzanita – *Arctostaphylos hookeri*
Dwarf Coyote Bush – *Baccharis pilularis* 'pigeon point'
Pt. Reyes Manzanita – *Arctostaphylos uva-ursi*
Wolly Yarrow – *Achillea tomentosa*
Mt. Vision Ceanothus
Hearst Ceanothus
Ceanothus maritimus
Snowball Ceanothus
Silver Carpet California Aster – *Lessingia lilaginifolia* 'silver carpet'
Seaside daisy – *Erigerons glaucus*
Beach Strawberry – *Fragaria chiloensis*
Spreading Gumplant – *grindelia stricta* var. *platyphylla*

Perennials

Common Yarrow – *Achilleas millefolium*
Artemisia
Monkeyflower – *Diplacus aurantiacus*
Wallflower -- *Erysimum*
Autumn Sage – *Salvia Gregii*
Matilija Poppy – *Romneya coulteri*
Cleveland Sage – *Salvia clevelandii*
California Fuschia – *Zauschneria*
Wolly Blue Curls – *Trichostema lanthanum*
Island Snapdragon – *Galvesia speciosa*
Dudleya
Heuchera coral bells
Coyote Mint – *Monardella villosa*
Purple Sage – *Salvia leucophylla*
Desert Mallow – *Sphaeralcea ambigua*

Ferns

Western Sword Fern – *Polystichum munitum*

Annuals, Biennials, bulbs

Baby Blue Eyes, *Clarkia*, California Poppy, Tansy Leaf *Phacelia*, Cream Puffs,
Glove Gillia, Chinese Houses, Harvest Brodiaea, Mariposa lily wild hyacinth