

1

Please consider joining the California Native Plant Society
www.CNPS.org

The Mission of the California Native Plant Society (CNPS) is...

To conserve California native plants and their natural habitats.

To increase understanding, appreciation, and horticultural use of native plants.

2

Today's Agenda

- Introduction
 - What is a California native plant
 - What is a local California native plant
- Our California Climate
- Myths about using California native plants in the garden
- Benefits from using California native plants in the garden
- How to Begin in Your Yard
- FAQ
- California Native Plants for Your Landscape
- Lawns, Meadows and Bioswales

3

What exactly is a California native plant?

Plants that occur naturally within the state of California, i.e. without direct or indirect human intervention.

4

What is a local California native plant? (And why is that helpful)

Also see www.calflora.org and www.calscape.org for answers to what's local to your city or county.

California Floristic Province
 The Jepson Manual, 2012
<http://ucjeps.berkeley.edu/eflora/>

5

Our Climate in a Nutshell

- Most of California, including the Bay Area, has a Mediterranean climate characterized by cool, wet winters and warm, dry summers.
- The average annual rainfall:
 - Half Moon Bay 29.6"
 - Redwood City 20.4"
 - San Jose 15.9"

(rainfall totals from usclimatedata.com)

6

Seasons of California

The Rainy Season, November – February
 The beginning of our spring!
 - begins with the first big rain
 - plants begin to spring forth

The Wildflower Season, March - June
 - days become longer, winter storms are warmer
 - wildflowers take advantage of this time to grow and bloom

The Dry Season, July - October
 - soil becomes dry
 - this is the season when many plants are dormant

7

Innate Survival Strategies



Hummingbird Sage
(Hairy, resinous leaves)



Giant Chalk Dudleya
(White, succulent leaves)



California Buckeye
(Summer deciduous)



White Sage
(Small leaves in summer, big ones in winter)




Coast Live Oak
(Leathery leaves, the edges of the leaves curl under when stressed)

Photos on this slide by N McCleery

8

Myth: Native plants are unattractive.



- Early settlers wrote glowing accounts of California flora.
- Plant hunters, started visiting California in the 18th century, documenting its flora and taking seeds back to Europe.
- Appreciation of our native flora was lost due to:
 - Our insistence that our gardens look like those in northern Europe, areas with summer rain.
 - The ability to irrigate (abundant and inexpensive water)
 - Corporate Nurseries wanting to grow and sell the same plants throughout California and the US.
 - California native plants can be sensitive to wet roots during warm summer months
 - Many California native plants don't like being in pots and are relatively unattractive at the nursery.

9

Myth: Native plants are hard to grow.



Any plant does poorly if its needs aren't met.
 Select appropriate plants!

10

Myth: Native plants are hard to find...and expensive.

CA native nurseries:

- Yerba Buena Nursery, 12511 San Mateo Rd. (Hwy 92)
- Linda Vista Native Plants lindavistanatives.com
- Other nurseries can be found at calscape.cnps.org/plant_nursery.php

General nurseries with some CA natives:

- SummerWinds Nursery 725 San Antonio Rd, Palo Alto
- Half Moon Bay Nursery, 11691 San Mateo Rd. (Hwy 92)

Other sources:


- Annual CNPS-SCV plant sales at Hidden Villa, Los Altos
- San Bruno Mountain Mission Blue Nursery plant sales, Brisbane

• For a complete list of nurseries, sales, events, helpful info, go to: cnps.org/gardening#bay

11

THE CALIFORNIA NATIVE PLANT SOCIETY
 SANTA CLARA VALLEY CHAPTER AND
 GRASSROOTS' ECOLOGY

NATIVE PLANT SALE



ERIOGONUM UMBELLATUM

SATURDAY, OCTOBER 19, 2019 10AM-3PM
HIDDEN VILLA
 2879 MOODY ROAD, LOS ALTOS HILLS, CA
 2 MILES WEST OF FOOTHILL COLLEGE
 TAKE THE EL MONTE / MOODY EXIT FROM 289

CASH, CHECK OR CHARGE. BRING A BOX FOR PLANTS
 CONTACT: 650-286-2450 or info@cnps-scw.org
 MORE INFORMATION: cnps-scw.org

12

Myth: If a plant is a California native, it must be drought-tolerant. Right?

- All newly planted native plants require water until established in the garden.

Provide deep watering at planting time, during the first one or two summers and thereafter based on the plant species.

- Once established, native plants have evolved to survive in their **native range**.

Their native range might be a moist environment: fog-belt, riparian, seep, wetland

13

What Does Drought-Tolerant Mean?

- A plant that tolerates our six-month summer dry season once established except when we have a winter drought
- Plants that survive in average or less-than average rainfall in your region.

A plant that is drought-tolerant in Half Moon Bay (29.6"rain/year) will likely NOT be drought-tolerant in San Jose (15.9" rain/year).

Your Local California Native Plants are drought tolerant where you live.

14

Benefits of Native California Plants In the Garden

- **Create a diverse, beneficial, and beautiful ecosystem**
- **Reduced water use**
- **Get rebates**
The Bay Area Water Supply and Conservation Agency (BAWSCA)
bawasca.org/conserves/rebates
- **A healthier ecosystem**
 - **Habitat for native birds and insects**
 - **Reduced pesticide and fertilizer use.**
- **No introductions of non-native invasive plants**

15

Habitat and Pesticide Use

- Our native plants host native insects.
- The effects of the absence of insects moves rapidly up the food-chain, especially influencing bird populations.
- To maintain native wildlife, a landscape should include a minimum of 70% native plants

Bringing Nature Home: How Plants Sustain Wildlife in our Gardens, Douglas Tallary, Department of Entomology and Wildlife Ecology, University of Delaware

Gardening for Biodiversity in a Climate Crisis, cnps-scw.org/symposium, Saturday, Sept. 21, 2019

16

Health & Science

Outdoor cats kill between 1.4 billion and 3.7 billion birds a year, study says



Researchers estimate one pet cat kills between one and 34 birds a year, while a feral cat kills between 23 and 46 birds a year. Washington Post January 31, 2013

17

Natural Systems and Fertilizer Use

- Natural systems are inherently beautiful
- Nothing goes to waste
- Inputs are limited

18

Don't Plant an Invasive!

Invasive Non-Natives

- Calla Lily: Zantedeschia aethiopica*
- Iceplant: Carpobrotus edulis and Carpobrotus chilensis*
- Mexican Feather Grass: Stipa tenuissima*
- Montbretia: Crocosmia x crocosmiflora*
- Pampas grass: Cortaderia selloana*
- Periwinkle: Vinca major*
- Pride-of-Madeira: Echium candicans*
- Scotch Broom: (Cytisus scoparius)*
- Spruce: Euphorbia (several species)*

For a complete list go to the California Invasive Plant Inventory
www.cal-ipc.org

19

How to Begin in Your Yard

- Basic Principles of Garden Design
- Identify the microclimates found in your yard
- Use local, natural plant communities as models
 Go on field trips!
- Choose plants from those native plant communities associated with the microclimates in your yard
- The more diverse your garden is the more stable it will be

20

Basic Principles of Garden Design

- Balance
- Contrast
- Focal Points
- Repetition

Native plants are best suited for informal landscapes

21

General Microclimates found in the Average Yard and the Associated Plant Community

Forest: Forests have a continuous canopy

In your yard: shady areas such as North facing planting areas and areas shaded by neighboring houses and fences, and under trees.

Woodland: Woodlands have discontinuous breaks in the canopy cause patterns of sunlight and shade.

In your yard: East facing planting areas (morning sun, afternoon shade) and West facing planting areas (morning shade, afternoon sun)

Coastal scrub and Chaparral: Both generally areas of full sun.
 In your yard: South facing planting areas

Meadows: Can occur within all the communities.

Riparian: Can occur within all the communities.

22

A fun way to study natives:

Hikes:

Photos by Sally Goverdell



23

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24



Our Mission

POST protects open space on the Peninsula and in the South Bay for the benefit of all.

openspacetrust.org

25

**Going Native Garden Tour
2020**

Organized by the
California Native Plant Society
(Santa Clara Valley Chapter)
in association with
UCCE Master Gardeners of Santa Clara County.

South: Sat, May 02, 2020, 10:00am to 4:00pm
North: Sun, May 03, 2020, 10:00am to 4:00pm

A free tour of native gardens in Santa Clara Valley & Peninsula, San Francisco Bay Area

GNGT.ORG

26

Selecting the Plants

- Start big, work to small
 - Build your garden's foundation and focal points
 - Decorate with the small stuff
- Select appropriate plants, think about:
 - Can the plant that can grow to its natural shape and size in the space allotted
 - Will the plant grow into powerlines
 - Is the plant summer dormant
 - Is the plant deciduous
 - Does the plant spread by underground stems or rhizomes
 - Does the plant have thorns
 - Can the plant tolerate summer water
 - Should the plant be planted on a slope
 - Should the plant be cut back yearly
 - Are you identifying hydrozones
 - Are you grouping plants with the same mulch preference
 - Are you thinking about fire-wise landscaping

www.firesafesantateo.org/.../fire-safe-landscaping
www.laspillitas.com Leaf burn times of California native plants

27

Interesting Plants



Photo by Sally Coverdell

28

Interesting Garden



Photo by Sally Coverdell

29

Soil Drainage Test

- Dig hole 18-24" deep (width is not important)
 - Use shovel or posthole digger
- Fill hole with water to the top
- Let drain overnight (pre-wet)
- Re-fill hole to within a couple inches of the top
- Measure drop in water level after 30 minutes and after 1 hour
 - Less than 1/2 inch per hour - Poorly drained soil
 - 1/2 inch to 1 inch per hour - Moderately well drained soil
 - More than 1 inch per hour - Well drained soil

30

How to Plant

Soak: Water your plants in their pots thoroughly the day before planting. This encourages vigorous growth and reduces the shock of transplant.

Hole: Dig a hole that is at least twice as wide as the container and 1/2" less in depth than the soil level in the container.

Do not add any soil amendments or fertilizers. Natives prefer "nutrient-poor" soils. Fertilizers often harm these plants.

If you have poorly drained soil, select appropriate plants.

For landscape soils requiring amendment, use approximately 1/3 composted or nitrified forest humus to 2/3 native soil, blending them in a pile outside the hole. This is your backfill mix.

Water hole: Fill the hole with water and let it drain to ensure sufficient moisture for the new plant. Repeat 2-3 times if soil is very dry.

Note: take special care when handling *Carpenteria*, *Dendromecon*, *Romneya*, and *Fremontodendron*. These plants have sensitive roots and do not respond well to having their roots disturbed.

31

How to Plant



- Remove plant from container, disturbing the roots as little as possible. (If root bound, it is okay to gently separate the roots.)
- Set plant into the ground so the stem is slightly higher than the surrounding soil level.
- Position the plant and return native soil to the hole.
- Create a berm around the plant—for watering.

Diagram from *Sunset Western Garden Book*
 Planting steps from *Theodore Payne Foundation* website

32

When to Plant

- Summer is the most difficult season to install native plants. Wait until fall through early spring (February).
- If you insist on planting in the summer:
- Easier Plants: Plants that are accustomed to summer moisture.
 - Grasses
 - Water-loving riparian plants
 - Shade-loving plants
 - Desert plants
 - Difficult Plants:
 - Ceanothus*
 - Arctostaphylos*
 - Penstemon*
 - Fremontodendron*

33

A Suggested Watering Schedule

- **Immediately after planting:**
 - Hand water the area well
 - Fill the berm area around the plant and let drain 2-3 times
- **1st season:** Water once a week, More often during heat waves
 - Less often or not at all during the rainy season
 - Twice a week check the root area of new plants 2-3" below the surface, if dry, water
- **2nd season:** Water once every 2 weeks
- **3rd season and beyond:** Water as needed, based on the location, size, and species of plant.

34

Mulch

Moderates soil temperature and helps retain moisture

- Use weed and disease-free mulch
- Spread 2-4" around landscaped area
- Leave 2-3" clear around the crown of each plant

Different California native plants prefer different types of mulch. Know what mulch plants prefer by visiting Calscape.org. (Mulch is listed in the landscape information of each plant)

35

Hydrozones

Important if you have or are installing an irrigation system

A zoning plan is created

- Each valve controlling irrigation applies water to:
- Areas of similar microclimate, with
 - Plants with similar water requirements

36

WUCOLS

How do I know the water use classification of my plants: WUCOLS
(*Water Use Classification Of Landscape Species*)

- Classifies plants as Very Low, Low, Medium, or High water use
- Developed by the California Center for Urban Horticulture, University of California, Davis.
- Find the list at ucanr.edu/sites/WUCOLS
(We are region 1, North Central Coast)

37

MWEL

Model Water Efficient Landscape Ordinance

In 2015 the state of California adopted the Model Water Efficient Landscape Ordinance to be implemented and enforced by either county or city ordinances.

- Plant selection: average WUCOLS plant factor of 0.3 for 75% of the plant area
- Turf area not to exceed 25% of the landscape area
- Mulch: A minimum 3-inch layer should be applied in planting areas

Plant factors are based on WUCOLS

High = .8
Med = .5
Low = .2
Very Low = .1

38

What to Expect

“The first year they sleep, the second year they creep,
the third year they leap.”

Remember:

Summertime is our dormant season.

Many of our native plants are not looking their best!

Remember:

Gardening is part knowledge and a lot trial and error.

Observe and learn from failures.

39

The Big and Little Four

The Big Four

- *Arctostaphylos*
- *Ceanothus*
- *Ribes*
- *Berberis*

The Little Four

- *Salvia*
- *Eriogonum*
- *Diplacus (Mimulus)*
- *Penstemon*

Bloom late fall – late spring Bloom late spring – dry season

Found in most plant communities in California

Provide bloom all year round

Attract hummingbirds, native bees, and butterflies

40

References

California Native Plants for the Garden; Carol Bornstein, David Fross, Bart O'Brien
Ceanothus; David Fross and Dieter Wilken

Sunset Western Garden Book

Bay-Friendly Landscape Guidelines; www.stopwaste.org

California Invasive Plant Inventory; www.cal-ipc.org

California Native Plant Society; www.cnps.org

Usefull Websites

- Calflora
- Calscape
- Las Pilitas Nursery
- Theodore Payne Foundation
- www.firesafesanteo.org

41

Easy-to-Grow, Drought-Tolerant-Once-Established Native Plants for the Bay Area (WUCOLS VL/L)

42

I'm not going to go over all the specifics of each plant, you can look that information up on-line. I suggest the Calscap website, and for a second opinion, the Las Pilitas site.

The sites indicates the size of the plant, whether a plant likes sun, part sun, or shade, and lots of other information.
 Sun means the plant should be in sun at least 6 hours per day.
 Sometimes a plant is listed as sun or part shade.
 Check if this means sun on the coast, part shade inland; read the whole description.

California Natives generally do not like to be in pots.
 Buy healthy plants but don't reject one if it don't look perfect.

It really does take a couple years for the plants to establish and take off; be patient.

Look around you, notice how much of the native landscape is on a slope!
 Try to incorporate mounds in your landscape.
 I've experienced that native plants that do not like summer water do better planted on a slope.

All the plants I will introduce are native to California but some are not local native plants and some are horticultural selections.
 The first group of plants we talk about are all WUCOLS VL/L, second are plants that are WUCOLS M

Note that my plant list is organized from tree to perennial, (big to small)

43

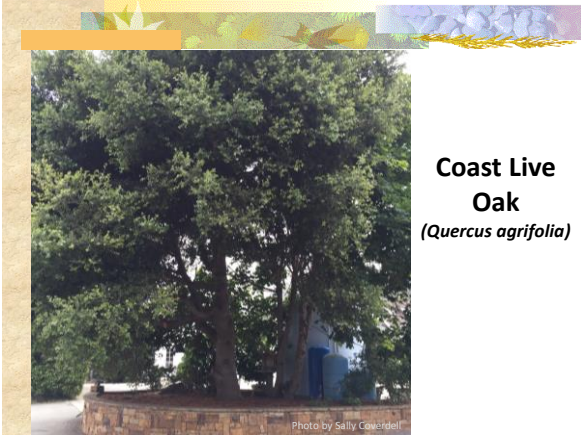
TREES

VALLEY OAK (*Quercus lobata*)
COAST LIVE OAK (*Quercus agrifolia*)
ISLAND OAK (*Quercus tomentella*)
CALIFORNIA BUCKEYE (*Aesculus californica*)
CATALINA IRONWOOD (*Lyonothamnus floribundus* ssp *aspleniifolius*)*
BLUE ELDERBERRY (*Sambucus nigra* ssp. *caerulea*)
DESERT WILLOW (*Chilopsis linearis*)

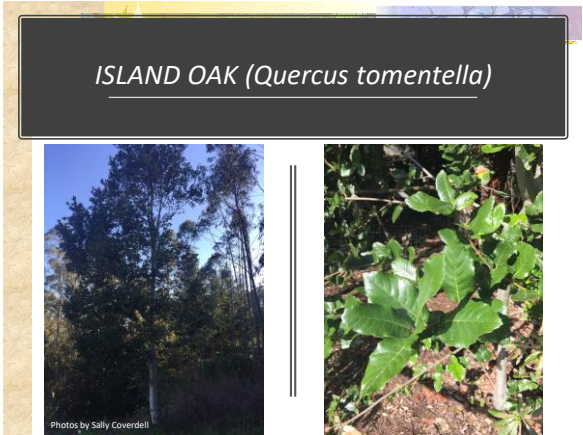
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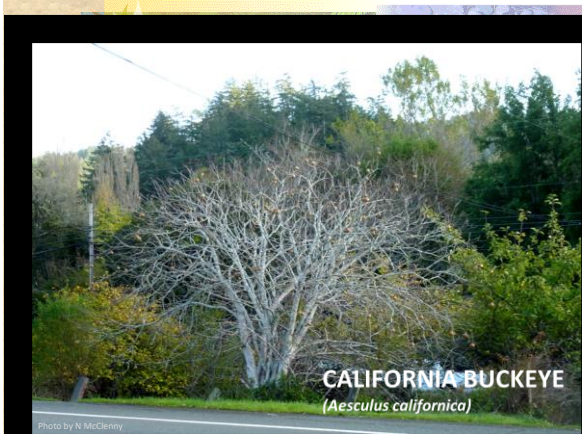
46



47



48



CALIFORNIA BUCKEYE
(Aesculus californica)

Photo by N. McClellan

49

Catalina Ironwood
Lyonothamnus floribundus ssp asplenifolius



Photo by Sally Coverdell



50



BLUE ELDERBERRY
(Sambucus nigra ssp caerulea, formerly S. mexicana)

Photo by Arvind Kumar

Photo by N. McClellan

51



DESERT WILLOW
(Chilopsis linearis)

© LasPilitas.com

52

Large Shrubs
 (May be shaped into trees)

- SCRUB OAK** (*Quercus berberidifolia*)
- CATALINA CHERRY** (*Prunus ilicifolia ssp. lyonii*)
- HOLLY-LEAVED CHERRY** (*Prunus ilicifolia*)
- RAY HARTMAN WILD LILIC** (*Ceanothus 'Ray Hartman'*)
- SILK TASSEL BUSH** (*Garrya elliptica 'James Roof' or 'Evie'*)
- TOYON** (*Heteromeles arbutifolia*)
- DR. HURD MANZANITA** (*Arctostaphylos 'Dr. Hurd'*)

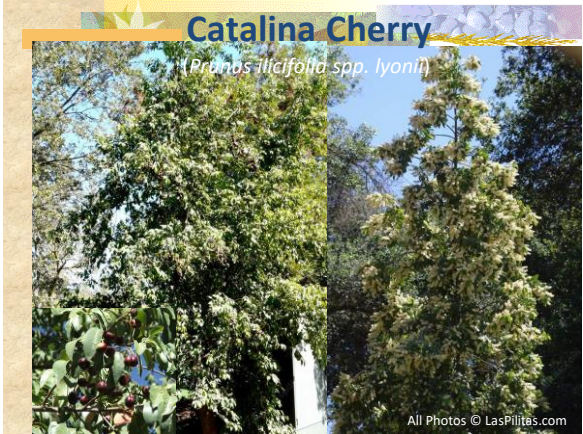
53



Photo © 2010 Michael O'Brien

SCRUB OAK
(Quercus berberidifolia)

54



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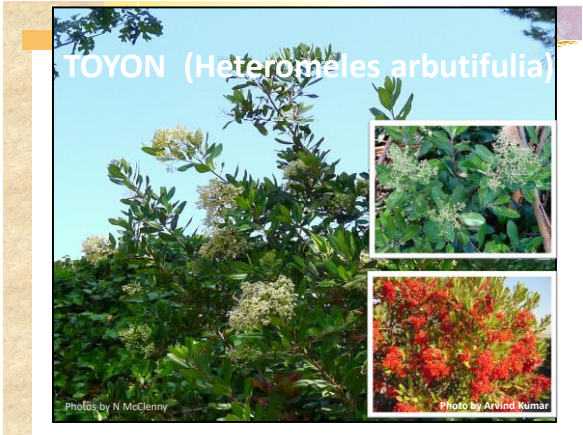
56



57



58



59



60

SHRUBS

- **MANZANITA (ARCTOSTAPHYLOS)**
- **WILD LILAC (CEANOOTHUS)**
- **FLOWERING CURRANT (RIBES)**
 - Ribes sanguineum var glutinosum*
 - Ribes sanguineum 'White Icicle'*
 - Ribes viburnifolium*
- **OREGON GRAPE (BERBERIS)**
 - Berberis aquifolium var. repens*
- **COFFEEBERRY (*Frangula californica*)**
- **COYOTE BUSH (*Baccharis pilularis*)**
- **RHUS INTEGRIFOLIA (*Lemonade Berry*)**
- **FLANNEL BUSH (*Fremontodendron*)**
- **BUSH POPPY (*Dendromecon*)**
- **A VINE: CALIFORNIA GRAPE (*Vitis californica*)**

61



62



63



64

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65



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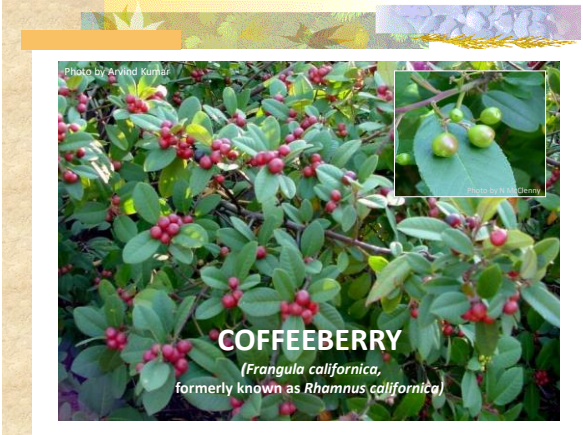
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68



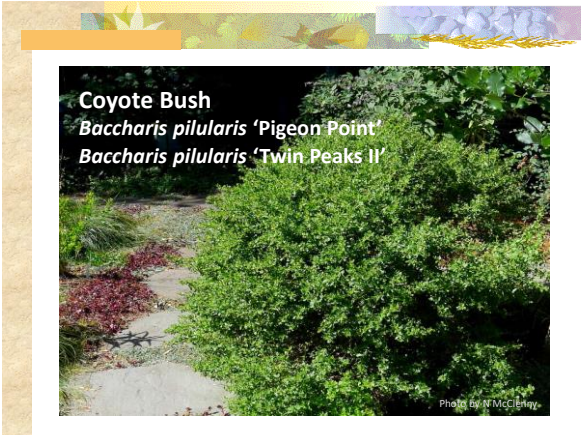
69



70



71



72

Rhus integrifolia (Lemonade Berry)

73

Fremontodendron 'Ken Taylor' (Flannel Bush)

74

Dendromecon harfordii (Channel Island Bush Poppy)

Photo by Sally Cover

75

Dendromecon rigida (Bush Poppy)

Photo by Sally Ebenzell

76

Vine:
Vitis californica
 California Grape

'Walker Ridge'

77

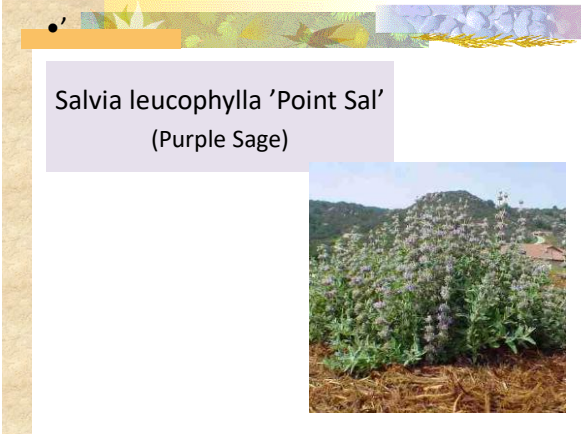
SHRUBBY PERENNIALS

- **SAGE - SALVIA**
Salvia millifera 'Terra Seca'
Salvia clevelandii x *leucophylla* 'Poza Blue'
Salvia spathacea
- **BUCKWHEAT - ERIOGONUM**
Eriogonum fasciculatum
Eriogonum fasciculatum 'Theodore Payne' or 'Warriner Lytle'
Eriogonum giganteum
- **MONKEYFLOWER - DIPLICUS (MIMULUS)**
Diplacus aurantiacus
Diplacus 'White'
- **BEARDOUGUE - PENSTEMON**
Penstemon heterophyllus 'Margarita BOP'

78



79



80



81



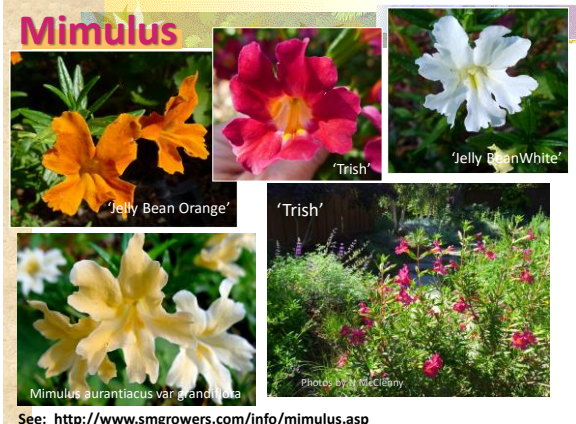
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83



84



85

Why should we be concerned about exotic *Phytophthora* spp. in nursery stock used for habitat restoration?

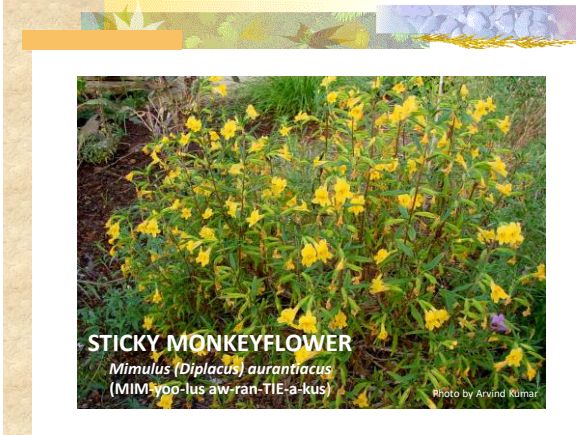
- introduced *Phytophthora* species have already been shown to affect a wide range of plant communities in varying climates and soils
- Both rare and common native plant species affected
- Increasingly wide variety of *Phytophthora* species in nurseries
- Contaminated soil moved via vehicles, bikes, and foot traffic -*Phytophthora* moves quickly downhill with flowing water
- Very persistent in soil, not possible to eradicate over large areas
- Contaminated nursery stock is probably the most direct and efficient means of introduction

Phytophthora tentaculata on *Mimulus (Diplacus) aurantiacus* - CA

First Report
Rooney Latham and Blomquist (2014)

Photo by Phytophthora Research

86



87



88



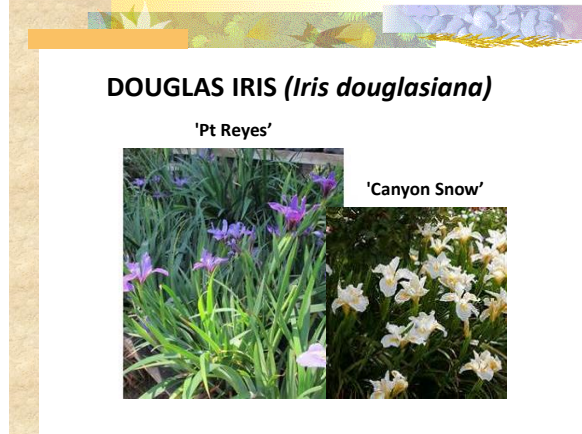
89

- Perennials, Fern, and Grasses**
- DOUGLAS IRIS (*Iris douglasiana*)
 - COYOTE MINT (*Monardella villosa*)
 - YARROW (*Achillea millefolium*)
 - BLUE FLAX (*Linum lewesii*)
 - CEDROS ISLAND VERBENA (*Verbena lilacina 'De La Mina'*)
 - CALIFORNIA FUCHSIA
 - Epilobium canum*
 - Epilobium septentrionale*
 - CALIFORNIA POLYPODY (*Polypodium californicum*)
 - CALIFORNIA FESCUE (*Festuca californica*)
 - DEER GRASS (*Muhlenbergia rigens*)

90



91



92



93



94



95



96

CALIFORNIA FUCHSIA
Epilobium canum



97



98

CALIFORNIA POLYPODY
(Polypodium californicum)



99

California Fescue
(Festuca californica)



100

DEER GRASS (*Muhlenbergia rigens*)



101

**Easy-to-Grow,
Native Plants for the Bay Area
(WUCOLS M)**

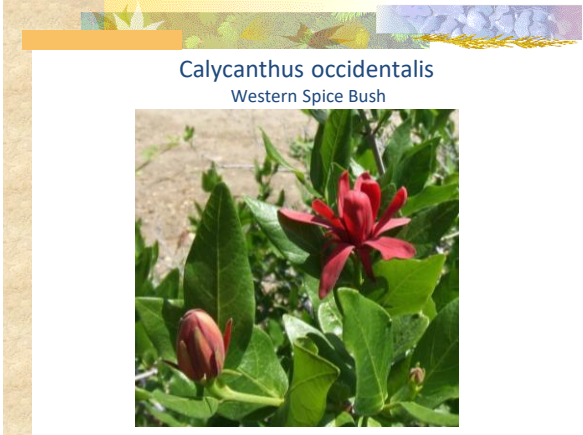
102

- TREES:**
Acer macrophyllum – *Big Leaf Maple*
- SHRUBS:**
Calycanthus occidentalis – *Western Spice Bush*
Carpenteria californica – *Bush Anemone*
Philadelphus lewisii – *Wild Mock Orange*
- SHRUBS (Ground Covers):**
Ceanothus 'Joyce Coulter'
Ceanothus thyrsiflorus var. *griseus* 'Diamond Heights'
- FERNS:**
Blechnum spicant – *Deer Fern*
Polystichum munitum – *Western Sword Fern*
Woodwardia fimbriata – *Giant Chain Fern*
- PERENNIALS:**
Asarum caudatum – *Wild Ginger*
Heuchera maxima – *Island Alum Root*
Heuchera 'Canyon Series' – *Coral Bells*
Fragaria vesca - *Woodland Strawberry*

103



104



105



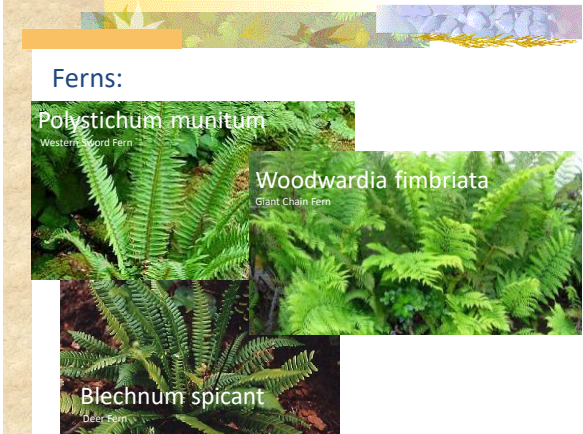
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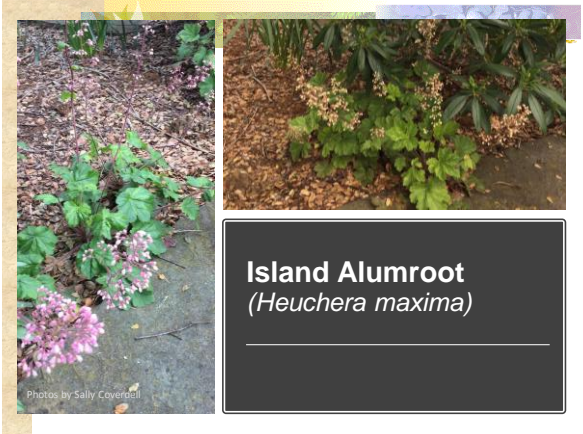
107



108



109



110

Coral Bells 'Canyon Series'
(Heuchera 'Canyon Series')



111



Asarum caudatum
(Wild Ginger)

112

Woodland Strawberry
(Fragaria vesca)



113

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114

Lawns Meadows And Bioswales

115

Lawn : Delta Blue Grass Sod

Native Mow Free

- Molate Blue Fescue
- Idaho Fescue
- Western Mokelumne Fescue

Native Bent Grass

- Agrostis Pallen

116



117



118



Native California bent grass (*Agrostis pallens*) is a bright green cool-season grass that withstands foot traffic and requires half the water of traditional turf. (Sika Solutions)

Native California bent grass (*Agrostis pallens*): "This is our No. 1 selling native grass," Spopist says. It's a bright green cool-season grass that withstands foot traffic and requires half the water and mowing maintenance of traditional turf. Left unmowed to flop, it creates the look of

119



120





121



122

Meadow
 (Delta Blue Grass Sod)

123



Meadow
 (*Carex pansa*
 with
Achillea millifolium
 'Island Pink')

124

Fitzgerald Special Edition
 PROTECTING THE MARINE RESERVE TOGETHER

Partnering to Protect a Special Area

Pollution Prevention Tips

Bioswales

ASRE stands for Areas of Special Biological Significance. There are 10 areas in the state. The California State Parks and Recreation Department manages the areas and is responsible for their protection and maintenance for water quality in the State Water Resources Control Board. ASRE cover much of the length of California's coastal range. They represent an essential source of species life and other natural resources.

MRA stands for Marine Resource Area. California maintains three kinds of marine areas: marine reserves, state marine parks and marine conservation areas. They are designed specifically to protect species life and other natural resources. ASRE, MRA are designed by the California Department of Parks and Recreation.

For the state's...
 ...of marine species
 used to the
 ...and other
 species of all
 their sites, visit
www.mwrh.ca.gov

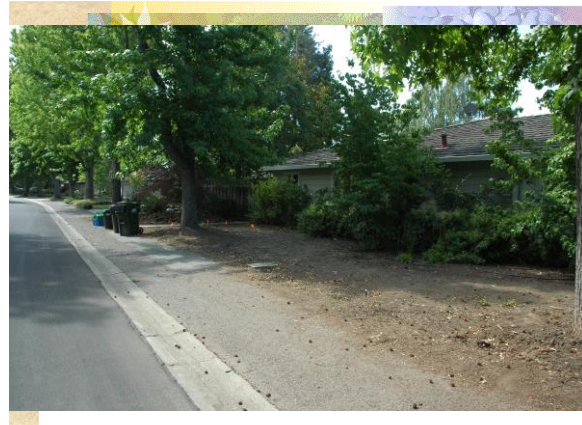
Vegetated Swales - Beauty in Action

Problems arise when water runs off of streets, parking lots and sidewalks quickly in a matter of days. In fact, it can take only a few minutes to reach the ocean. **Vegetated Swales** are a simple, effective way to slow down runoff and filter out pollutants before they reach the ocean.

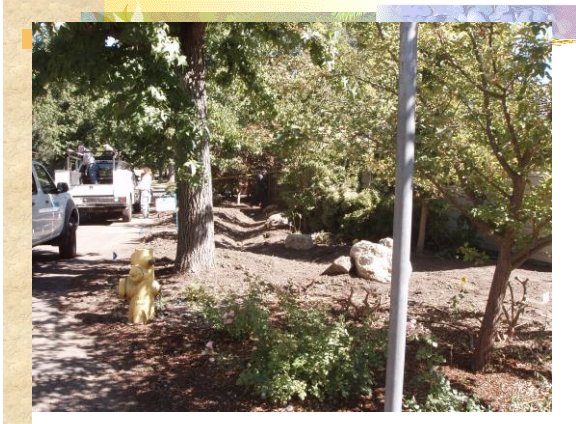
Benefits: Vegetated swales can reduce runoff, filter out pollutants, and provide habitat for wildlife.

Installation: Vegetated swales can be installed in a variety of locations, including parking lots, streets, and other areas.

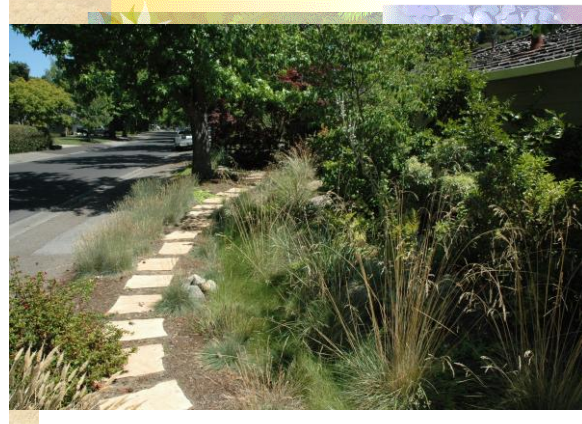
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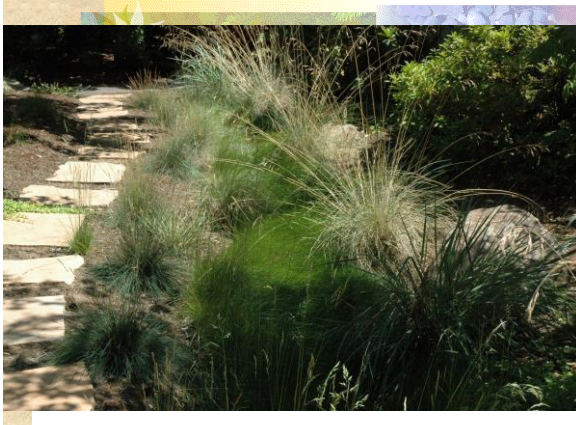
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148