



July 26, 2023-Las Flores Learning Garden's California Native Plants-'Going Native' presentation



Outline of Today's Workshop

- I. Why choose California Natives
- II. Right Plant, Right Place
- III. How and when to plant California Natives
- IV. Pest and disease prevention and control
- V. How and when to prune
- VI. How California Native Plants were used by indigenous peoples



From the CA Native Plant Society

The State of California is moving towards REQUIRING the use of Native Plants in certain situations

“CNPS is thrilled to report that on May 31, 2023 the CA State Assembly passed Assemblymember Laura Friedman’s (D-Burbank) transformative landscaping bill, AB 1573. The bill aims to replace non-functional turf with water-conserving California native plants for commercial and public landscaping projects. AB 1573 would be the first bill of its kind to create a requirement for the use of California native plants.”

AB 1573 requires all nonresidential projects to use low-water plants beginning with at least 25% local native plants by Jan. 1, 2026, then 50% by Jan. 1, 2030 and 75% by Jan. 1, 2035.

‘ The bill aims to replace non-functional turf with water-conserving California native plants for commercial and public landscaping projects. AB 1573 would be the first bill of its kind to create a requirement for the use of California native plants.’ Excerpt from the California Native Plant Society’s June 1, 2023 ‘News & stories’ post on their website [link to story](#)
[State of Calif. legislative info webpage-AB-1573 Water conservation: landscape design: model ordinance.](#)



Definition

Natives are generally defined as plants that have evolved in a particular region or ecosystem and have not been introduced by human intervention.

Natives are those that grew here prior to European contact. California's native plants evolved over a very long period, and are the plants which the first Californians knew and depended on for their livelihood.





Why Choose Natives

- The Bay Area and parts of the north coast have one of the highest levels of **biodiversity** in the nation. This is good news, you have many more choices of plants for your garden. The not so good news is California
- Has serious water concerns .
 - A large portion is considered arid, lacking in water, tending to periods of time with little winter rainfall. (Drought)
- And ever increasing summer temperatures.

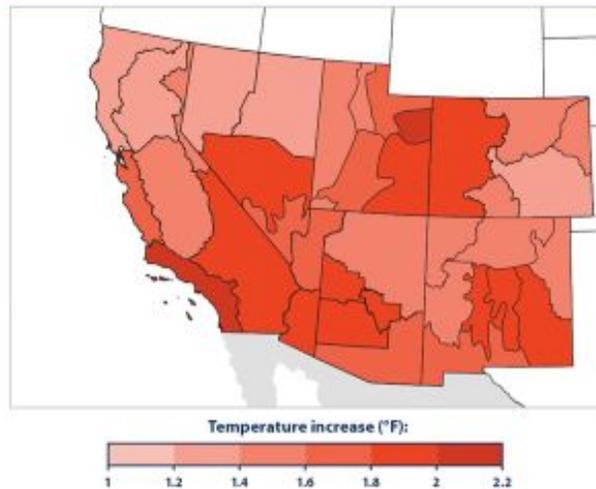
What to consider when planning and planting a garden in California-**Drought** is always present in California **WATER** is always scarce and **Temperatures** are on the rise.



Why Choose Natives?

The average temperatures from 2000 to 2020 have increased from the long-term average (1895–2020).

Data source: NOAA, 2021²
Web update: April 2021

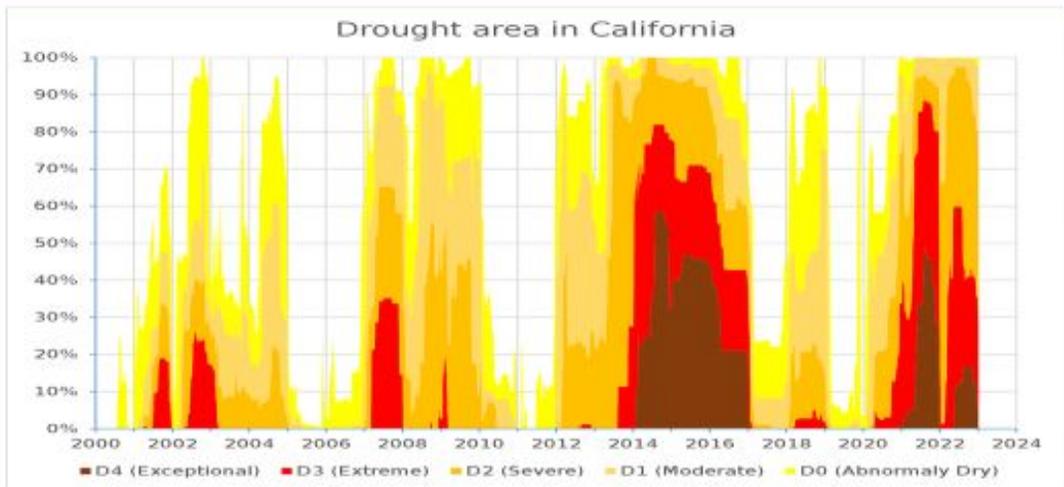


<https://www.epa.gov/climate-indicator/southwest>

This map shows how rapidly the average temperatures are increasing. Temperatures in California has risen 2.2°F since 1895, 1.4 °F of that since 2000, more than half of the increase in one 5th of the time recorded in northern California.



Why Choose Natives



<https://www.drought.gov/states/california>

This graph shows since the year 2000 until the end of 2022 California at the very least has had an abnormally dry or greater rating over some portion of the state throughout most of the years. 2005-6 not too bad, 2010-2011 also not bad and 2019 not bad but getting worse. Most of the months show an ever increasing incidence of moderate to extreme or even exceptional drought conditions over a larger portion on the state.



Why Choose Natives

What will be addressed in this section

- The conservation of water and native plants
 - How natives adjust to climate change, (to a degree)???
 - Natives support local ecology by supporting native wildlife
 - Planting natives will ensure a healthy place for people and pets
 - Less maintenance by planting natives
 - That natives speak to the seasons while creating a bridge to surrounding environments
- 



Natives and the Environment



Smaller leaves to slow evaporation gray fuzzy surfaces to help reflect the sun's rays.

Because native plants are adapted to local environmental condition, once established they require far less maintenance and little to no watering, saving time, money and perhaps the most valuable natural resource, water.



Habitat and Forage



By choosing native plants for your landscaping you are helping wildlife by provide habitat and forage. There are a number of native plants that are the only forage for certain wildlife, without them we would lessen the diversity of wildlife in our surroundings.



A warming climate



Native plants are constantly evolving, they try to balance the natural challenges of drought and a warming climate as they support wildlife. Yet while animals have the ability to move when conditions become unfavorable, plants are immobile and thus cannot as easily adapt to a quickly changing environment. Climate change may alter plant life stages such as leaf emergence or flowering period.

[State of Calif. dept of fish and wildlife-Native Plants and Climate Change](#)

That being said, still concentrate on planting native as they are your best hope to support wildlife and conserve resources.



No herbicides.....No pesticides.....No Fertilizers Needed!





In a native garden no pesticides are needed



A garden of native plants need no pesticides since the native plants have developed their own defenses against many pests and diseases. Most pesticides kill indiscriminately, they kill the beneficial insects that are part of the plant's natural defenses. Not using pesticides lets the beneficial insects do their job and keeps toxins out of our gardens, creeks and watersheds.

[UC IPM-pesticide safety](#)



No fertilizers when growing natives



Generally, natives get their nutrients from the native soils so no fertilizers needed. A mulch can be added if needed to replicate what nature would do, no leaf blowers or rakes exist in nature. Mulches will help with evaporation and will provide much needed habitat. Not only are fertilizers not need, their runoff can cause algae blooms clogging our waterways and have negative effect on aquatic life. Another downside is the finding of Pesticides and fertilizers in our drinking water and aquifers.



Natures best plan



A native garden will lends itself to a more casual form. In many cases there is no need of gas or electric powered garden equipment. Therefore, you will not be producing greenhouse gasses as well as creating a more peaceful garden for you andyour neighbor



Native Landscape requires little maintenance.



Low maintenance methods of landscaping are a natural fit with native plants. The leaves left on the ground provides nutrients, mulch, habitat and forage for wildlife. No need for weekly mowing, a light pruning and a general tidying is all that is needed to provide a low maintenance native garden, a beautiful garden that celebrates the seasons and provide interest year-round, as well as habitat for local wildlife.



Why Choose Natives

My Dream (that everyone adopt HNP mission)

- Homegrown National Park,
<https://www.homegrownnationalpark.org>
- Spokesperson, Doug Tallamy is the T. A. Baker Professor of Agriculture in the Department of Entomology and Wildlife Ecology at the University of Delaware.

OUR MISSION

- TO REGENERATE BIODIVERSITY AND ECOSYSTEM FUNCTION because every human being on this planet needs diverse highly productive ecosystems to **survive**.
- *If all mankind were to disappear, the world would regenerate back to the rich state of equilibrium that existed ten thousand years ago. If insects were to vanish, the environment would collapse into chaos.*
- -E.O. Wilson

TO REGENERATE BIODIVERSITY AND ECOSYSTEM FUNCTION because every human being on this planet needs diverse highly productive ecosystems to **survive**.



By Choosing Natives



And how to achieve the mission HNP (Homegrown National Park) is asking the home and business owner to plant as many natives as possible to create forage and habitat for the local fauna. Insects are the pollinators of about 75% of our flowering plants and 35% our food crops. Insects are the sustainers of most bird life and many mammals. If home and business owners would plant in this manner it could equal the existing acreage as our National Parks. Creating a bridge from ecosystems to our local fauna allowing for a more diverse and healthy surroundings for all.



Right Plant...Right Place

**How to find habitats of origin &
use that information to choose &
plant natives for success!**

You were here at this workshop because you are open to the idea of using CA native plants in your landscape.

Of course you want to be successful!

And we want to help!!

You've just seen some great pictures of CA Natives

But will they flourish in YOUR garden?

We often talk about Right Plant - Right Place

So how do you match them up?



California's Climate Diversity = A Multitude of Choices



- Thousands of micro-climates
- 7900 native plant species
- It can look truly overwhelming

All these micro-climates are created by the north-south orientation of most of CA's mountain ranges. They catch the cool moist marine air flowing from the Pacific, creating weather breaks and rain shadows, broken by occasional gaps that let that cooling marine air flow inland (like our bay area).

Our amazing state has elevations that range from 275 ft below sea level in Death Valley to 14,494 ft. on Mt.

Whitney just 12 miles away.

Rainfall can range across the state from nearly 0 to 120 inches.

BUT ... Just because it is a California Native plant doesn't mean it's right for you or your yard.



Let's Narrow our Focus a Bit

- CA Native Plant Society lists 836 plants native to Napa County
- But even in Napa County there are many distinct habitats



CA Native Plant Society lists 836 plants native to Napa County, but even in Napa County there are many distinct habitats.

Average rainfall for our County is 27 inches BUT..That's 35-40 " on the Western side but only 20-25" on the East.. Calistoga averages 38" while Napa State Hospital gets 25" as does American Canyon. Rainfall can be much higher on Mt. Veeder or Mt St. Helena and much lower on the valley floor

Sun / shade are also very different on our eastern vs western mountain slopes

And as you know when driving to Calistoga from Carneros or American Canyon temps can vary a lot



Time to do some homework



- What microclimates are in your garden?
- Where did the plants originate?

You may have heard LOCATION, LOCATION, LOCATION when speaking of businesses. But it's also true when choosing the Right Plant.

It may be easier to figure out what microclimates you have, then look for plants that match the habitat.

Keep in mind you are not limited to Napa County Natives ...there are plants from other CA habitats that are like ours that can fit into your garden.



Find Your Own Microclimate

How to figure out your own microclimates



1. Make a map
2. Note the physical factors
 - a. Slope and facing direction
 - b. Elevation
 - c. Where does the sun shine
 - d. Wind – degree & direction
 - e. Proximity to water
 - f. Structures

The best place to start is to make a map of your property simply make a sketch or download your lot from Google maps 'Terrain View' and trace your yard, On separate copies Note the physical [geographical?] factors:

- ✓ Sun/shade at different times of day and seasons
- ✓ The slope and direction it is facing
- ✓ Your elevation
- ✓ Where is north
- ✓ How much wind is there and prevailing direction
- ✓ Think about water: is there an irrigation source or a pond
- ✓ Where do structures and existing landscape shade planting area



Example map of my property



Trace your Hard Features and make copies.
Then add the Physical Factors.

Here's an example of a property

This shows a house & shed, permanent fixtures [patio and raised beds]

And two trees one is a deciduous Fuyu Persimmon and the other is an evergreen Mandarin Orange

You can play with computer drawing tools, but a ruler and a pencil work just fine!



Major Plant Zones and Habitats

- Zone 14 & 17
- Zone 7 & 15
- Coastal Sage Scrub
- Oak Woodland
- Riparian

Sunset Western Garden Book: Climate Zones



Ask gardeners in the Napa Valley what climate zone they live in and most will likely say that they are in Sunset Zone 14. They would be correct if they lived on the valley floor. Zone 14 is the smallest of four zones in Napa County, The other three are Zone 7, 15 and 17. Other plant community definitions that may include these 4 zones and also overlap them are:

Coastal Sage Scrub, Northern Oak Woodland and Riparian.

The margins of all climate zones are inexact. Each zone contains microclimates created by elevation, slope and exposure.



Sunset Zones 14 & Zone 17

- **Zone 14, the so-called Coastal Warm area, includes the major valley floors in the county.**
- **Zone 17, the Marine area, is the coolest and most southern zone in Napa County.**

The coastal influence keeps Zone 14 from being as hot as the Central Valley. However it is protected from lingering summer fog by its distance from the ocean and the mountain ranges; thus, summers in this zone are very dry. The southern milder-winter, marine-influenced areas and the cold-winter inland valley differ in humidity.

Zone 17 includes the Carneros District, American Canyon and up toward the Soscol Ridge in Skyline Park. It also encircles the San Francisco Bay. The climate in this zone features mild, wet, almost frostless winters and cool summers with frequent fog or wind. The heavy marine fog brings cooler temperatures and less intense sunlight



Zones 7, 15 & Coastal Scrub

- **Sunset Zone 7** owes its **Foothills Pine** name to the abundance of the **California foothill pine**
- **Zone 15** is nicknamed **Coastal Cool** and is the largest of the 4 zones
- **Coastal Sage Scrub: Much of the Napa Valley lives in this plant community which includes Sunset Zones 7 & 15**



Photo: Las Pilitas Nursery

Sunset Zone 7 covers the eastern hilltops beyond the valley floor. It comprises the eastern part of the county and includes Pope Valley, Howell Mountain and Lake Berryessa and also most of Lake County. These areas have a later spring and earlier frosts than the rest of the county, creating a growing season that may be as much as a month shorter. Summers are hotter and drier.

The hills of Zone 15 surround the valley floor and are affected by marine air 85 percent of the time. It includes Mount Veeder, Spring Mountain, and the southern part of the county east of Napa. Much of this zone gets afternoon wind in summer. Many of the plants recommended for Zone 15 will not prosper in Zone 14 because they need moisture air, cooler summers, or both.

In the Coastal Sage Scrub habitat Summer fog/overcast is common. Summer temperatures can creep into the 100's but are usually in the 80's and 90's. Winter temperatures drop to a chilly 27-30 degrees F. Many of the plants within the Coastal Sage Scrub plant community need to dry out in summer through fall so they can go 'dormant'. During this period, these California natives love to have a hose-down every week or two, which will moisten the mulch but allow the soil to stay mostly dry.



Oak Woodland & Riparian



- **Oak Woodland ranges north from San Francisco with patches of various species of Oak**
- **The specialized Riparian habitat edges rivers & streams**



Photos: Las Pilitas Nursery

A couple of unique Communities are found in patches of the Valley.

The Northern Oak Woodland is found in the northern coastal mountains and the north coast ranges. This habitat changes from trees spaced apart so the plant community appears open, to trees growing close together in dense clumps. The understory of the northern oak woodland can be fairly sparse or more dense with a diversity of shrubs and some woodland understory plants.

The Riparian zone is what you see when you look at creeks, streams, rivers, ponds, etc. This habitat is the first few feet away from the water. In the shallow shoals along rivers this habitat may extend for a mile or more. The riparian trees generally help move water up into the plants on the banks. Interestingly, the edges of riparian areas are where most the wonderful plants in cultivation worldwide came from.



Now comes the fun part ...

Finding the plants YOU want!



- Calscape.org
- WUCOLS



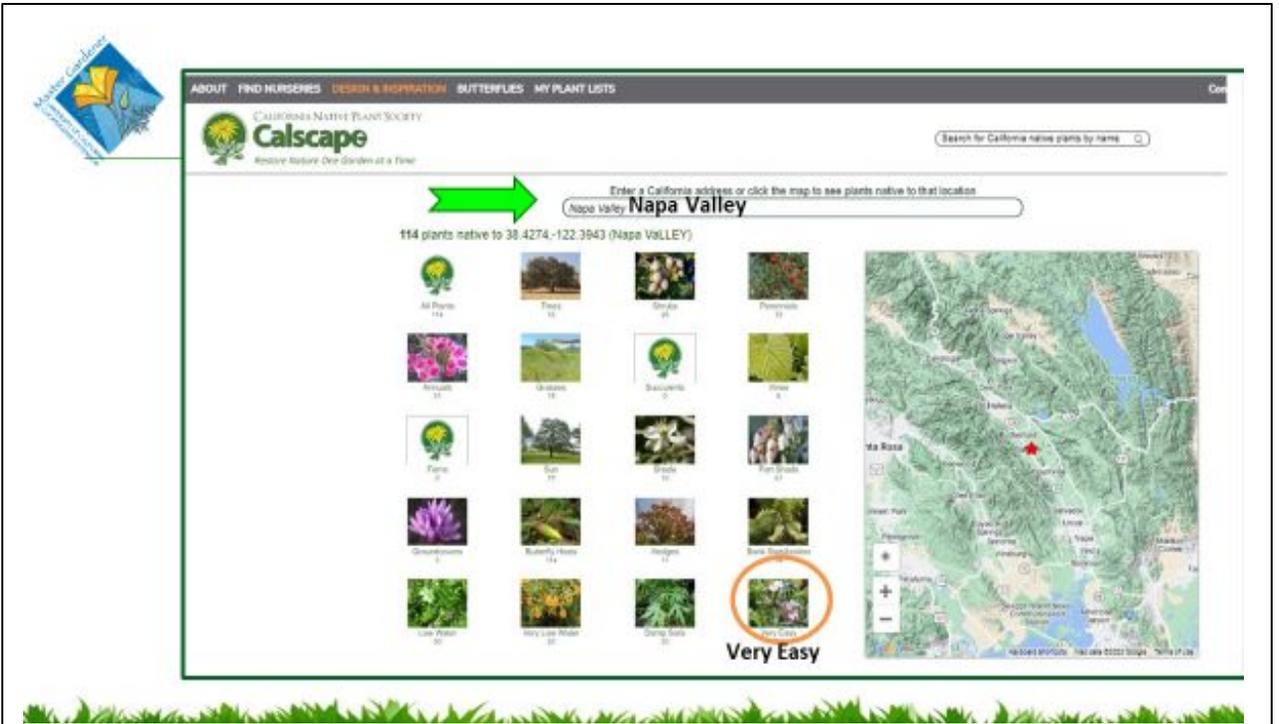
<https://ccuh.ucdavis.edu/wucols-db>

- Las Pilitas Nursery www.laspilitas.com
- www.CalFlora.org from Berkeley
- CA Native Plant Soc. www.cnps.org
- Martha Walker Garden in Skyline Park



So how do you find out what they are and if they are right for your garden??

We commonly use Calscape and WUCOLS



Remember the 836 Natives found in Napa County?
With CA Native Plant Society's site Calscape.org you can enter your city or your own address ... You will see all the plants by category such as Grasses, Vines, Sun or Butterfly hosts ... our example here, comes up "Very Easy"



Choose a plant that catches your interest and ... and click!

Enter a California address to see very easy plants native to that location

Napa Valley

24 very easy plants native to Napa Valley

Options



1 Coast Live Oak
Quercus agrifolia



2 California Fuchsia
Epilobium canum



3 Common Manzanita
Arctostaphylos manzanita



4 Blue Oak
Quercus douglasii



5 Red Willow
Salix laevigata



6 California Wildrose
Rosa californica



7 Arroyo Willow
Salix lasiolepis



8 Sheep Monkey Flower
Erythraea galata



9 Blue Wildrye
Elymus glaucus



10 Red Flowering Currant
Ribes sanguineum



11 California Meadowgrass
Molinis californicus



12 California Buttercup
Ranunculus californicus

Maybe you liked the look of the California Wildrose

Details about California Wildrose

Find a Nursery Add to Your Plant List

California Wildrose
Rosa californica

Plant Description

Wildlife Supported

Landscaping Information

Garden Planner

CALIFORNIA NATIVE PLANT SOCIETY
Calscape
Restore Nature. One Garden at a Time.

Search for California native plants

This will show you several photos, a written description, landscape Information and more

... including nurseries where the plant is sold.

As you make your choices you can save to a personal plant list.

Also try their “Garden Planner” tool under Design & Inspiration . Answer a couple simple question and it will help get you started.



WUCOLS

<https://ccuh.ucdavis.edu/wucols>

Water Use Classification of Landscape Species (WUCOLS)

California Center for Urban Horticulture - Resources - Projects - Water Use Classification of Landscape Species (WUCOLS)

WUCOLS Update: August 2022

We are pleased to announce that the WUCOLS update process has now been completed! Funding for these upgrades was provided by the California Department of Water Resources. Here are some highlights of the changes to the WUCOLS database:

- New search page design
- Improved search process that is faster and updates any search parameter changes instantaneously
- Interactive Google map to find city of interest
- Interactive map feature to find city of interest
- Hi-resolution photos and cultural information for approximately 1,200 low- and very low-water use taxa. Hi-resolution photos are downloadable for your use
- Interactive database allowing for the creation of your "Favorites" plant list and ability to download, export and save to Excel
- Create WUCOLS information (bench) cards of your "Favorites" plants downloadable in two size formats
- QR codes can be generated and printed for your "favorites" plants

Please let us know your opinion about the recent changes to the WUCOLS database in this [Feedback Survey](#). For any database technical issues, please contact Dave Fujino (dfujino@ucdavis.edu).

Water conservation is an essential consideration in the design and management of California landscapes. Effective strategies that increase water use efficiency must

Acknowledgements

Download WUCOLS IV Plant List

Download WUCOLS IV User Manual

Partners

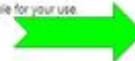
Plant Factors For Turfgrasses

Plant Search Database

Plant Search Instructions

Project Background

WUCOLS IV FAQs



WUCOLS stands for “Water Use Classification Of Landscape Species” and was developed by UC Davis. The easiest way to find it is just type “**WUCOLS**” into your search engine. Then select their Plant Database from the main menu

Let's look at *Bouteloua gracilis* ...
Blue grama or Eyelash grass

Region 1: Napa

Water Use: Low

Match plants with ALL

CA Native
Ornamental Grass

Photo	Name	Water Use	Type(s)	Favorites
	<i>Bouteloua gracilis</i> Blue grama	Low	Ornamental Grass	★
	<i>Bouteloua gracilis</i> Blue grama	Low	Ornamental Grass	★
	<i>Bouteloua gracilis</i> Blue grama	Low	Ornamental Grass	★
	<i>Bouteloua gracilis</i> Blue grama	Low	Ornamental Grass	★
	<i>Bouteloua gracilis</i> Blue grama	Low	Ornamental Grass	★
	<i>Bouteloua gracilis</i> Blue grama	Low	Ornamental Grass	★
	<i>Bouteloua gracilis</i> Blue grama	Low	Ornamental Grass	★
	<i>Bouteloua gracilis</i> Blue grama	Low	Ornamental Grass	★
	<i>Bouteloua gracilis</i> Blue grama	Low	Ornamental Grass	★
	<i>Bouteloua gracilis</i> Blue grama	Low	Ornamental Grass	★

For our purposes we selected Region 1: Napa

And selected Water Use: “LOW”

Plant Type: CA Native and Grasses

If you want **only** CA Natives be sure select “Match plants with ALL”

The database has much more than CA Natives, but today we are selecting just Natives.

You can also make a downloadable list of your favorites by clicking the blue star.

So let's learn a little about *Bouteloua gracilis* ... **Blue grama or Eyelash grass**

You can see by the picture it got its common name by the shape of its seed heads



Additional Resources

Las Pilitas Native Plant Nursery.

100% California native plants shipped to your front door

From the 2017 Las Pilitas Nursery you have growing, monitoring and planting California native plants. To do the work, you get to play with the plants and enjoy the resulting web pages.

You can dig for native plants for your yard by clicking on the [Browse plants](#) link.

You can query native plants for [your yard](#).

If you have the plant you are looking for, see the links below to preview the catalog.

Native plants by seasonal color:
A-B-C-D-E-F-G-H-I-J-K-L-M-N-O-P-Q-R-S-T-U-V-W-X-Y-Z

Native plants by common name:
A-B-C-D-E-F-G-H-I-J-K-L-M-N-O-P-Q-R-S-T-U-V-W-X-Y-Z

Native plants by scientific name:
A-B-C-D-E-F-G-H-I-J-K-L-M-N-O-P-Q-R-S-T-U-V-W-X-Y-Z

Buy Native Plants online!

It's made the plants available online when the root balls are in enough to hold together in shipment.

The plant is in its container. Fertilizer and Mulch are included and some other items from Santa Margherita. CDFG does the plants come from in Las Pilitas, Oakland, San Francisco and other California locations.

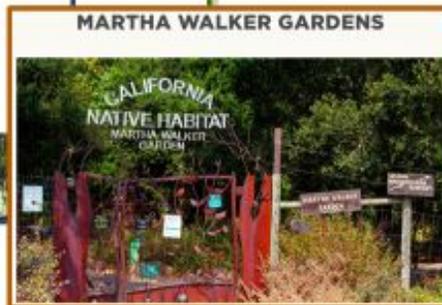
CALIFORNIA FLORA NURSERY

Find the Right Plant

Plant Type	Water Needs	Blown Trees	Apples	Flower Color	Other Characteristics
<input type="checkbox"/> Annuals	<input type="checkbox"/> Drought	<input type="checkbox"/> Spring	<input type="checkbox"/> Deer	<input type="checkbox"/> Blue	<input type="checkbox"/> Drought Tolerant
<input type="checkbox"/> Biennials	<input type="checkbox"/> Moderate	<input type="checkbox"/> Summer	<input type="checkbox"/> Open Wood	<input type="checkbox"/> Orange	<input type="checkbox"/> Drought Tolerant
<input type="checkbox"/> Trees	<input type="checkbox"/> Drought	<input type="checkbox"/> Fall	<input type="checkbox"/> Shade	<input type="checkbox"/> Yellow	<input type="checkbox"/> Biennial
<input type="checkbox"/> Shrub	<input type="checkbox"/> Drought	<input type="checkbox"/> Spring	<input type="checkbox"/> Shade	<input type="checkbox"/> Blue	<input type="checkbox"/> Drought Tolerant
<input type="checkbox"/> Grasses	<input type="checkbox"/> Drought	<input type="checkbox"/> Spring	<input type="checkbox"/> Shade	<input type="checkbox"/> Blue	<input type="checkbox"/> Drought Tolerant
<input type="checkbox"/> Ferns	<input type="checkbox"/> Drought	<input type="checkbox"/> Spring	<input type="checkbox"/> Shade	<input type="checkbox"/> Blue	<input type="checkbox"/> Drought Tolerant
<input type="checkbox"/> Succulents	<input type="checkbox"/> Drought	<input type="checkbox"/> Spring	<input type="checkbox"/> Shade	<input type="checkbox"/> Blue	<input type="checkbox"/> Drought Tolerant
<input type="checkbox"/> Perennials	<input type="checkbox"/> Drought	<input type="checkbox"/> Spring	<input type="checkbox"/> Shade	<input type="checkbox"/> Blue	<input type="checkbox"/> Drought Tolerant

Notes About Water Requirements

Plants are listed by their water requirements. The numbers in the table indicate the amount of water the plant needs. The numbers are based on the amount of water the plant needs to grow in a garden. The numbers are based on the amount of water the plant needs to grow in a garden. The numbers are based on the amount of water the plant needs to grow in a garden.



While Master Gardeners don't ordinarily recommend commercial sites, native plants can be hard to source.

While our local nurseries do carry some CA Natives, if you are looking for something less common...try Las Pilitas which ships from Southern CA.

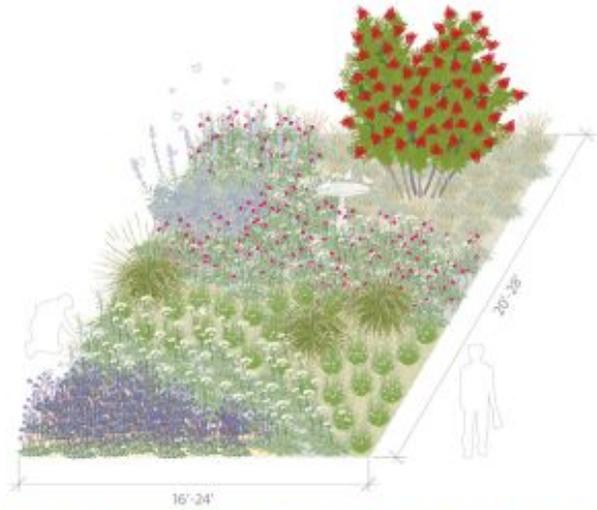
They have been in business for 40 years and their website has a wealth of information about where and how to grow Native plants. CA Flora is more local (North of Santa Rosa) if you want to browse. Also watch for the Napa Valley Native Plant Society's Bi Annual Plant Sale – it is staffed by very knowledgeable folks who are more than ready to answer your questions.

AND if you want to see Napa Valley & other CA Natives in their own habitat, visit Napa's own 2.5 acre Martha Walker Garden in Skyline Park off Imola Ave.

It was named to honor Martha who helped found the Napa Valley Chapter of the California Native Plant Society.



How and When to Plant California Natives





Planting California Natives

Ideally plant natives in Fall, Winter or early Spring

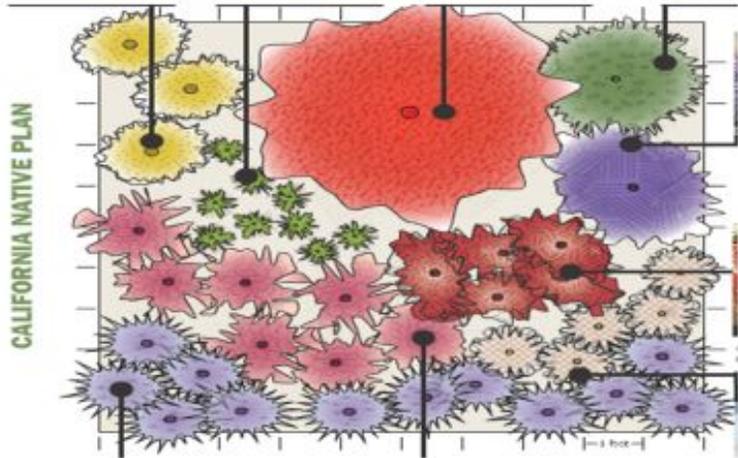
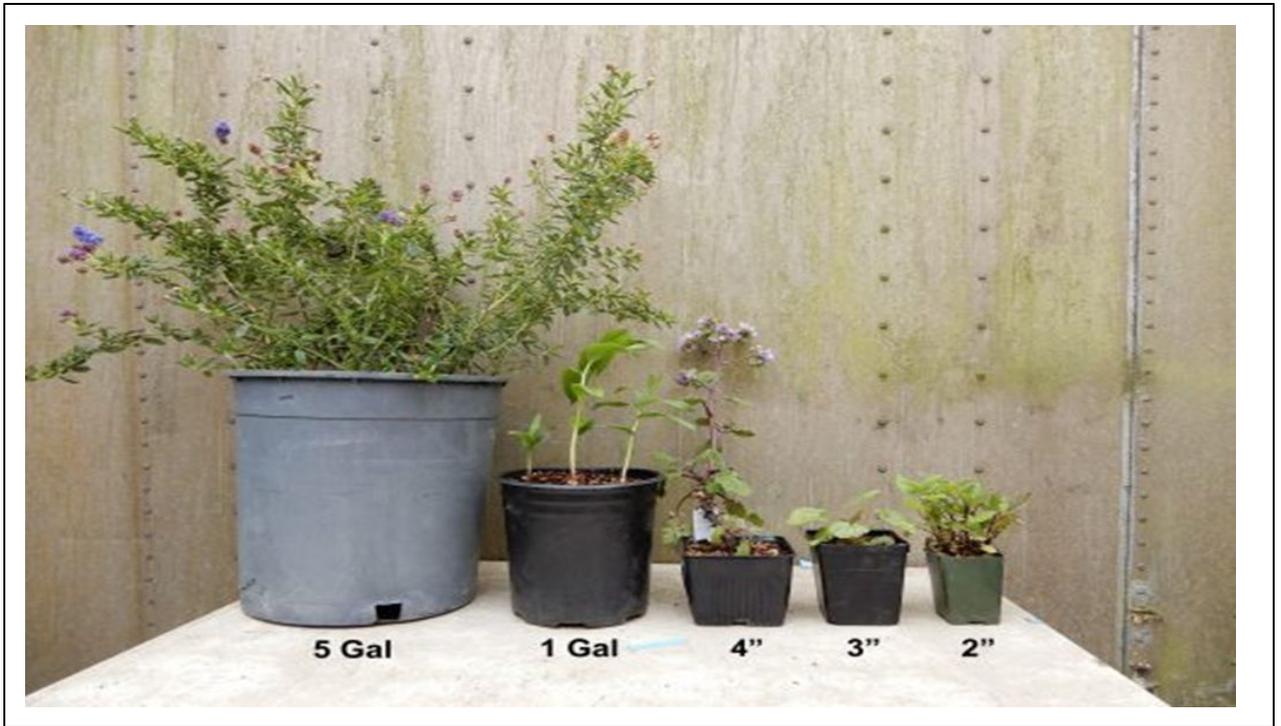


Photo: UC Davis Arboretum



In a few years a plant in a 1-gallon container will grow to the same size as one in a 5 gallon.



Remove any Weeds



Photo: gardeningknowhow.com



No
chemicals

**Hand tools and good
old hard labor works
best.**

No chemicals. Hand tools and good old hard labor works best.
Requires repeated attention.



Remove any Weeds



Photo: Curly's Ag

The Spruce – works best on annual weeds. Perennial weeds require several burnings before the roots die.

Note: If you live in a fire prone area this is NOT the suggested option. Just bend over and pull out the offending weed

OR

Here is an information link to to find the option that would work best for your area:

[UC IPM-weed management in landscape](#)



**Dig a hole twice the size of the root ball
and half again the depth of the plant**



Photo: Ojai Valley Land Conservancy



Fill hole with water and wait until it drains





Water plant before removing from container

*Put a wet plant in a wet hole....
Henni Cohen
Napa CNPS*



Photo: The Times

Plant a wet plant in a wet hole - Henni Cohen, Napa County CNPS



Leave roots undisturbed

Run a finger along the edge of the pot before you plant the plant.



Photo: Las Pilitas Nursery



Set plant in the hole with top slightly higher than surrounding soil



Photo: Credit Valley Conservation



And finally.....

- Backfill the hole
- Tamp down the soil
- Water plant and ground around it heavily



Photo: Ojai Valley Land Conservancy



Place a rock next to the plant on the west or south

Acts like
mulch.....keeps
soil cool while
retaining
moisture



Photo: David Layland

Calscape-put rocks and/or organic mulch around the plant to shade its roots and help the new plant get started



Consider protecting new plantings

If necessary,
temporarily
place a tomato
cage over the
plant to protect
it and
encourage
upward growth



Photo: Ojai Valley Land Conservancy



Mulch, mulch, mulch

Place 2" to 3" of mulch on soil surface except directly under the plant



Photo: CNPS

CNPS – use organic mulches such as tree bark, leaves, and pine needles. Mulch with a 2" to 3" layer to suppress weeds, retain moisture and protect against extreme temperatures.



Using Drip Irrigation for California Natives

Use no
closer than
the
dripline of
a plant



Photo: DIG Corporation

As plants mature move emitters further away.

[UC Master Gardeners of San Luis Obispo County-DRIP IRRIGATION FOR HOME GARDENS AND LANDSCAPES](#)



Use microspray emitters or low volume sprinklers.

Goal is to imitate natural rain.



Photos: DIG Corporation



Pest & Disease Prevention & Control

Start with the basics

- Right plant, right place
- Proper watering
- Correct pruning
- Appropriate mulching



Photos: Laidback Gardener



Integrated Pest Management

- Monitor - is it from a pest or disease
- Find source
- Choose best corrective method
- Evaluate effectiveness



Photos: Futura Germany

[UC IPM website](#)



Weed Control

- Know your weeds, know your soil
- Remove all weeds before planting
- Don't till the soil before planting
- Mulch, mulch, mulch
- Weed removal – mechanical, biological and chemical



Photos: AIPMF

[UC IPM-weed management in landscape](#)



Maintaining California Native Plants

- California native plants require maintenance just like any other plant in the garden
- Think of their native environment
 - What factors in California might maintain native plants?

We need to highlight the maintenance of California native plants because they sometimes have a poor reputation regarding their appearance. There are people that may claim they look ugly or unkempt. Most likely the specimens they based this opinion on were just not properly maintained. California native plants, just like any plant in a garden, will need some regular maintenance to maintain or enhance the plant's beauty and/or performance. You may think that, because they are native to the environment and region, they need no maintenance. However, California was not a wilderness when non-indigenous peoples arrived. It was more like a very large tended garden maintained by indigenous peoples. Their stewardship and maintenance included not only periodic fire, but also collecting and sowing seeds, and various forms of pruning. What other factors in California may have also contributed to maintaining plants in the environment? Other things in the environment that maintain native plants: natural fires, herbivores, and climate, such as limited water.



Why Prune?

Control shape
and/or size



Studio 1515

Why is it beneficial to prune California native plants? For many of the same reasons you would prune any garden plant.

Will a plant survive without pruning? Yes. One farm advisor whose research includes pruning likes to say, "plants don't need pruning, people need to prune".

However, plants can often benefit from pruning, especially nursery grown plants.

Let's go through a few of the main reasons for pruning by starting with controlling the shape and or size.

-Although you can control size with pruning, for a landscape plant we suggest finding one with a mature size that is close to the size you want in the space, otherwise you must be committed to maintaining the size through regular pruning.



Why Prune?

Enhance natural
beauty

Correct the shape
or damage



California Native Plant Society

You can also enhance or emphasize a plant's natural beauty by revealing the plant's inner structure or a striking feature and making it a focal planting in your garden. This manzanita has been pruned to reveal the twisted and gnarled branches and beautiful bark.

Pruning can also help correct the shape or for damage that may have occurred. Unfortunately plants aren't always shaped properly at the nursery, as branches may break during transport, from windstorms, or other natural events. Pruning can help correct these problems or aid in healing.



Why Prune?

Renew or encourage
blooming or re-
blooming



Dave's Garden

If you want your California native plants to really put on a show, you can prune or pinch to renew or encourage blooming or re-blooming. Of course, you first need to know if the plant blooms on new or old growth, if it blooms on new growth, regular rejuvenation of growth is required for better blooming. Just like deadheading encourages reblooming in your roses and many other ornamental flowering plants, this can also be the case with many California native plants too such as this Ceanothus species or California Lilac



Why Prune?

Eliminate crowding

- Increase airflow and light penetration
- Remove dead, damaged, and diseased branches
- Remove rubbing branches

Mitigate pests and disease



www.plantwisdomgardencenter.com

Prune to eliminate crowding which mitigates pests and diseases.

Eliminate crowding with strategic reduction of branches or growth to promote airflow and light penetration within the canopy by removing dead, damaged, or diseased branches as this improves overall health, and by removing rubbing branches preventing continuous re-wounding.

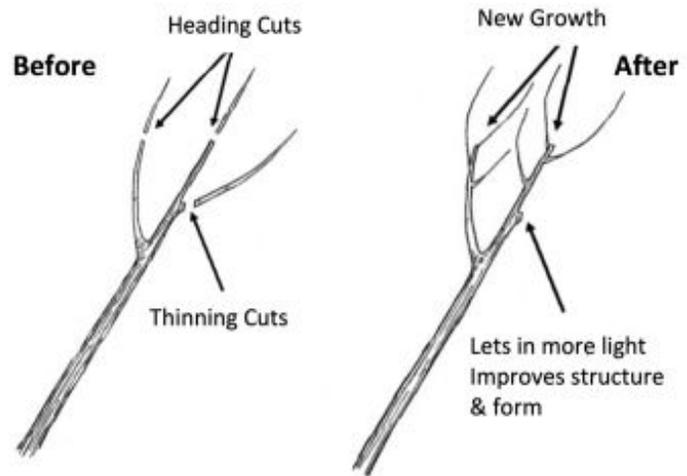
Opening up the canopy can aid in mitigating pests and disease through improved airflow and light penetration will help reduce the occurrence of pests and disease.

Removing dead, damaged, or diseased branches can help prevent or reduce the spread of disease to the rest of the plant or other plants in your garden (remember to put diseased prunings in your city yard waste bin).



Pruning Branches

- Heading cuts
- Thinning cuts



A few key points about pruning techniques.

You want start with clean, sharp tools: snips for small diameter or tender growth up to ¼", hand pruners for firm or woody growth up to 1", loppers for firm or woody growth under 2", and a pruning saw for woody growth over 2".

Keep your tools clean with alcohol (70% recommended), mild household cleaner, or a few seconds of flame, however do not use the flame together with the alcohol. Do not use bleach as it will corrode the metal in your tools.

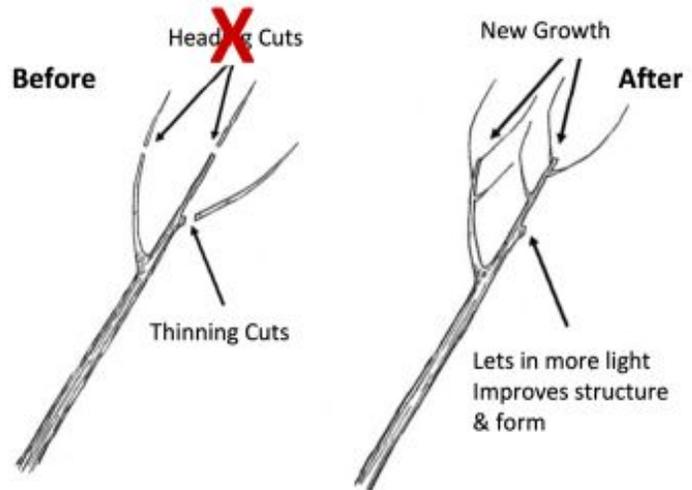
Heading cuts - removes part of a branch, preferably back to a growth node

Thinning cuts - removes an entire branch to the stem



Pruning Branches

- Heading cuts
- Thinning cuts



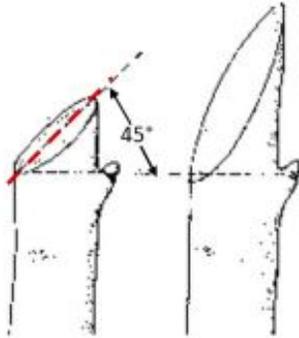
Research discourages the use of heading cuts as a general pruning practice, particularly when there is no growing point left on a side branch. These types of cuts encourage water sprouts or many new branches that all grow quickly from dormant buds from the area around where the cut was made. Watersprouts tend to grow fast and weak.

However, if watersprouts are the desired outcome, heading is a legitimate practice.

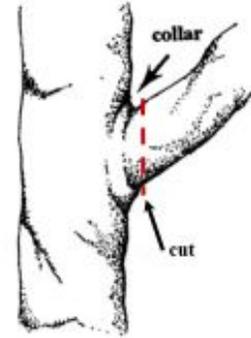
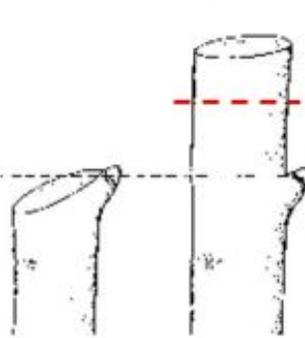


Pruning Tips

Previously
Recommended



Research
Approved



Key points to keep in mind while pruning.

First, the angle of the pruning cut. If you ever learned about pruning, whether you were taught by somebody or read it in a book, you were likely taught to

prune at a 45-degree angle. However research has shown the best angle to cut is perpendicular to the branch, or a flat cut. Remember a pruning cut is a wound and a flat cut has less surface area than an angled cut. Plants are able to heal a smaller wound faster and thus these wounds are less susceptible to diseases and pests.

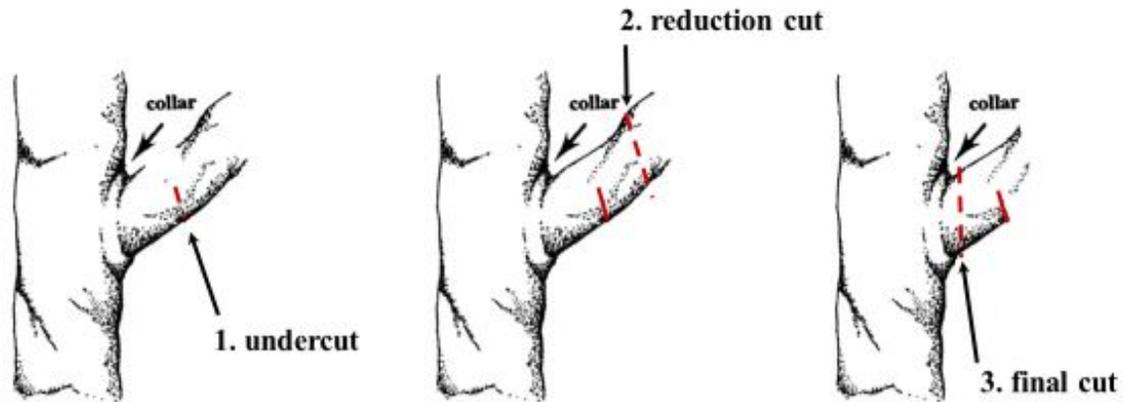
Second, mind the branch collar. This feature is most noticeable on larger branches. It is essentially a ring of stem cells that will facilitate healing a pruning cut.

be mindful of the branch collar when you prune and do not cut into it. In the next slide will show how to properly prune larger branches.

No matter the size of the branch or pruning wound, do not apply any sealants. Studies have found this actually increases the incidence of disease. The best preventatives are to prune at the right time with sharp, clean tools and let the plant seal the wound and heal on its own.



Pruning a Large Branch



This a three-step process.

First, make an undercut a few inches away from the branch collar. This cut does not go all the way through the branch.

Second, make the reduction cut from the top a few more inches further out from the undercut. This cut may not go all the way through and tear at the very end. This is the purpose of the undercut, preventing the tear from going past the undercut.

Third, cut the remainder of the branch off with a final just beyond the branch collar.



Other Maintenance Methods

Pinching

- Remove the tender young tip growth
- Creates a more full plant
- Can pinch or use snips



Weeding Wild Suburbia

This method can be used with the California native plants. Pinching is like browsing by herbivores, it removes tender young growth and stimulates growth in side nodes for more fullness. The growth can be tender enough to literally prune by pinching or may be aided by using snips.



Other Maintenance Methods

Deadheading

- Encourages new blooms by removing spent blooms
- Repeat blooming plants only
- Avoid if you want seedheads for wildlife



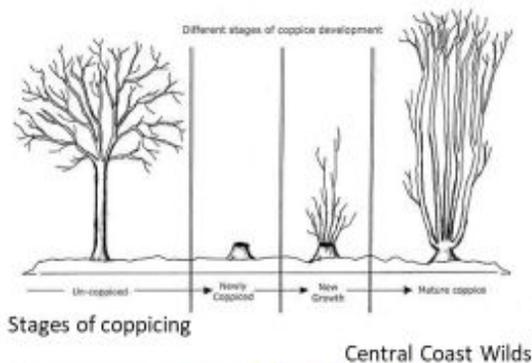
Colwynn Garden Design

Deadheading encourages more blooms in repeat blooming plants by removing spent blooms. This is not as effective in trees or strongly seasonal perennials because they often respond only to very specific environmental cues and flower once per year. Repeat blooming plants will respond to deadheading.



Other Maintenance Methods

Mowing / Coppicing



California Fuchsia in the Bee Haven Garden at UC Davis mowed (above left) and in bloom (above right)

The Bee Gardener (UC ANR)

Both mowing and coppicing are extreme types of pruning, both result in a plant cut down to the ground. However, keep in mind that many California native plants are adapted to fire. Fires can burn these plants to the ground. You can think of mowing and coppicing as a smokeless fire simulation. Only use these on established plants.

Mowing is used for smaller stemmed plants, like California fuchsia, whereas coppicing is typically performed on woody plants, such as western redbud. Again, coppicing simulates fire and stimulates a lot of new vigorous growth. Coppicing is typically done to renew plant vigor or for the resulting long, straight watersprouts.

We will touch on how indigenous peoples used coppicing to generate raw materials for specific purposes.



Other Maintenance Methods

Certified
Arborist

- Your health and safety are important!



Arborcraft Tree Service

For larger trees use a certified arborist for your own safety.



When to Prune

Depends in part on the type of plant

- Is it deciduous or evergreen?
- When does it produce new growth?
- When is it dormant or quiescent?

How often to prune also depends on the plant

- Does it grow fast or slow?
- Does it bloom once or more per year?

When does this pruning happen? It really depends on the plant.

A few things to consider for helping determine when to prune are:

- Is the plant deciduous or evergreen, when is its active growth period, and when is it dormant or quiescent?
- How often to prune also depends on the plant.

Slow growing manzanitas may only need to be lightly pruned every few years, while established California fuchsia can be cut to the ground annually. Pruning and pinching growth on repeat blooming plants can be done multiple times throughout the growing season, while other single blooming plants may only need an annual pruning.



What to Prune & When



Will Elder / Parks Conservancy



Arvind Kumar



Brent McGhie



CSU Chico

Mimulus (top left)
Penstemon (bottom left)
Sage (above)
Coyote mint (top right)

These smaller shrubs and perennials all benefit from deadheading spent blooms. However, you may want to leave some to develop seeds for wildlife and reseeding.

A few small shrub and perennials that all benefit from deadheading spent blooms..

Monkeyflower - *Mimulus* spp. - rejuvenate by cutting back Oct, light trimming to maintain form Nov, deadhead (avoid old wood) June/July.

Penstemon - *Penstemon* spp. - rejuvenate by cutting back October, deadhead May-July.

Sage - *Salvia* spp. - cut back before buds set Nov, clean up Feb, remove deadwood April, freely dead head/light shear (not old wood) July.

Coyote mint - *Monardella villosa* - light trimming to maintain form Nov, deadhead June/July, cut back $\frac{1}{3}$ - $\frac{1}{2}$ every 2-3 years August.



What to Prune & When



Ceanothus (left) is a repeat blooming evergreen shrub. Susceptible to disease, wait until summer (~August) to prune.

Bush anemone (right) is a seasonal blooming evergreen shrub needs little more than pinching or deadheading to maintain.



Two evergreen shrubs, Ceanothus or California Lilac and Bush Anemone. Ceanothus is repeat blooming shrub whereas bush anemone has one flush of blooms.

Ceanothus - Ceanothus spp. - do not prune during rainy season ~Jan/Feb (susceptible to fungal diseases), pinch back after bloom March/April/May, pinch back to encourage fullness July, prune to avoid disease in August.

Tree/Bush Anemone - *Carpenteria californica* - pinch after flowering for denser growth May, deadhead, pinch to keep full June.



What to Prune & When



Deergrass (left) is warm season bunch grass that can be cut back January to March, while red fescue (above) is a cool season creeping bunch grass that can be cut back in late summer.

Grasses

Deer grass (warm season) - *Muhlenbergia rigens* - mow or cut back Jan-Mar, clear dead material prune if not done prior May, trim, rake, or cut back Sept.

Red fescue (cool season) - *Festuca rubra* - mow high or string trim to renew August. In this photo it is being used as a lawn and irrigated so it can be mowed periodically like standard turf. Without irrigation and as a specimen stick to renewing in late summer.



What to Prune & When



Matilija poppy (left) and California fuchsia (above) can both benefit from being cut back hard.

Hard cut back or mowing/coppicing

California fuchsia - *Epilobium canum* - mow or cut back to ground every 1-2 years between Nov and January.

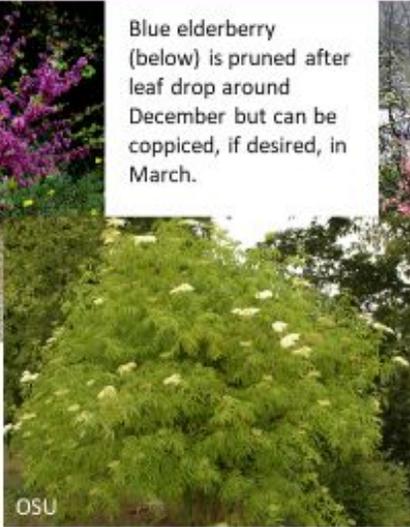
Matilija poppy - *Romneya coulteri* - cut back to 6-12" annually between November and February.



What to Prune & When



Western redbud (above) can be selectively thinned in October, or coppice in fall for renewal, pruning is done in March.



Blue elderberry (below) is pruned after leaf drop around December but can be coppiced, if desired, in March.



Red flowering currant (above) can be selectively thinned in October.

Shrubby trees

Western redbud - *Cercis occidentalis* - selectively thin Oct or coppice to renew fall, prune March.

Elderberry - *Sambucus nigra* spp. *cerulea* - prune after leaf drop December, coppice any time in March.

Currant - *Ribes* spp. - selectively thin in October.



What to Prune & When



Yath CC BY-SA 3.00

Blue oak (above) is pruned after leaf drop, around December.



OSU

Coast live oak (above) is safe to prune in summer (July/August) to allow healing before the rains come.

Oaks - deciduous/evergreen

Deciduous - prune after leaf drop, December.

Blue Oak - *Quercus douglasii*

Evergreen - safe to prune in summer, July/Aug gives time to begin healing/sealing wounds.

Coast Live Oak - *Quercus agrifolia*



Historical and Contemporary uses of Native Plants and Historical Management

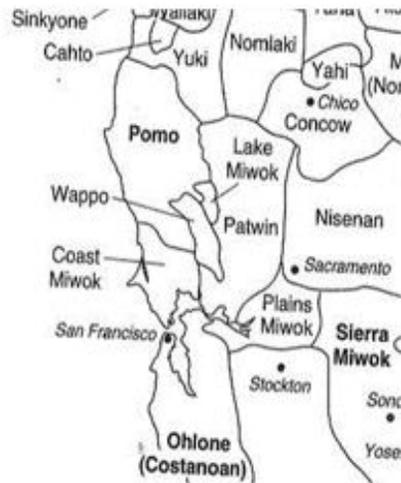


California language groups



Wappo/**Onastis** = people who speak plainly, or outspoken people.

Southern Napa Valley called **Mayakmah** = water going out place.



Ancient peoples around the world were considered hunters and gatherers, but according to the latest anthropological studies, they are now considered hunters and proto-agriculturists. In other words, they were active managers of the land, cultivation and improving it. For thousand of years the flora and fauna found in California supported over 200 native groups. People of the Napa Valley are called wappo, a name given by europeans, the name for themselves is Onassis. Indigenous knowledge of native cultural use and management were gathered by some, but much was probably lost.

Trees, shrubs, bulbs, grasses and herbaceous plants



Trees, shrubs, bulbs, grasses and herbaceous plants were used for food, medicine and material goods from everyday uses to the ceremonial. Management of plant resources were essential to increasing yields and to make harvesting more efficient.

This included: **burning, coppicing, pruning, digging, sowing and transplanting.**

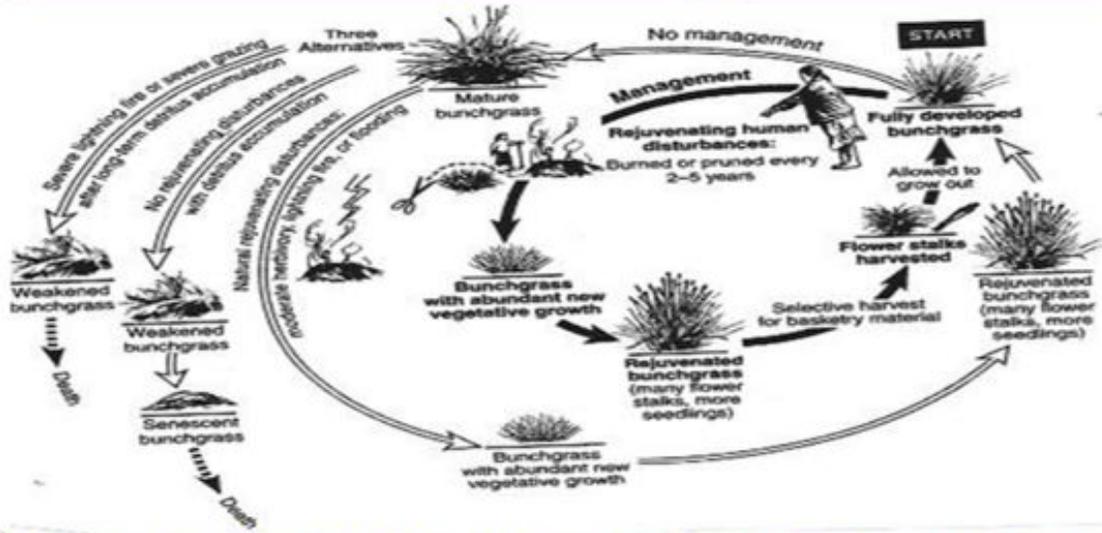


Management practices

- Burning
- Coppicing
- Pruning
- Digging
- Sowing
- Transplanting

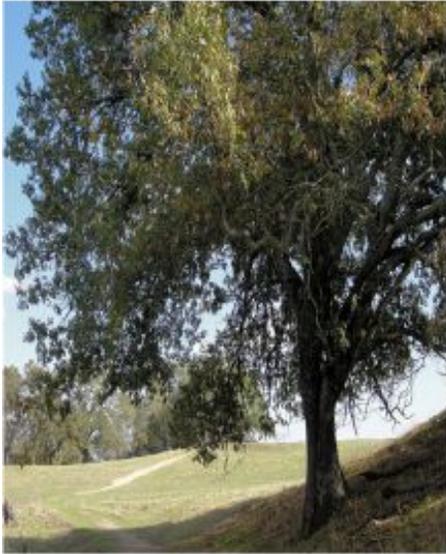


Burning to Regenerate



Plants that have evolved to adapt, thrive or survive fires.

oaks (*Quercus*) Acorns are the most important food crop for many California tribes.



Black oak, *Q. kelloggii*

Interior live oak, *Q. wislizenii*

Coast live oak, *Q. agrifolia*

Valley oak, *Q. lobata*



Burning under oak trees was also used to decrease the amount of acorn eating insects. A mainstay crop of many California tribes, **acorns** are a very important food source, high in Carbohydrates, essential fatty acids and vitamins A and C.. Acorns were used daily for food and considered to be “the staff of life” for the Wappo. The most desired acorns in Napa Valley are from black oak (*Q. Kelloggii*). To produce flour from an acorn they must be collected ,sorted, dried, cracked, pounded into a powder and then leached in fresh water many times to remove the tannins. The flour was made into an acorn mush, soups and bread. Dried acorns were stored in granaries for later use.

Oaks were used for:

Food: Acorns - High in Vitamins A and C, Essential Fatty Acids, Fats

Medicine: Tannins found in bark, acorns and galls

Fuel

Tools: Looped stirring spoon, digging stick, warp and waft of baskets



Nuts from



California Bay



Hazelnuts



Gray Pine



Berries

Blue Elderberry

Sambucus nigra ssp.
cerulea





Fruits

Toyon



Coffeeberry



Manzanita

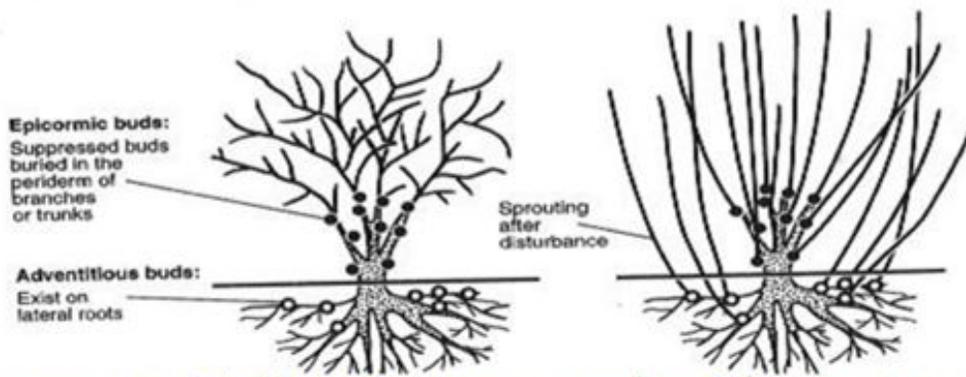




Coppicing

Fig 27. Epicormic branches develop from suppressed axillary buds. The buds are activated if the stem is injured, cut or burned.

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Basketry

Trees/ shrubs commonly used to make baskets:

Redbud, willow, big leaf maple, oaks, hazelnuts, dogwood among others were gathered for basket making.



Basketry

Example of baskets sold as art or in a museum





Bulbs, corms, rhizomes, taproots & tubers

Collectively called

Geophytes:

Plants with underground
storage organs used to hold
energy and water.

Brodiaea, calochortus, fritillaries, and wild onions



Wild onions, lilies, fritillary, mariposa lilies, brodiaea, yampahs, lomatiums, camus, cattail roots, and bitterroots to name a few, are identified by their flowers, these are many of the native spring flowers you may find in your springtime flower hikes. Some examples include wild onions, which were used as flavoring as they are now, Brodiaea also called cluster lilies, mariposa lilies or Diogenes lantern, fritillaries, such as mission bells, yampahs (a nut flavored bulb), one species is commonly called Sierra queen annes lace, Lomatiums, related to the carrot and celery family, and cattail roots. They can be eaten raw, boiled, roasted or baked.

Soaproot:

Dig the root, leave a root crown and also
Plant seeds for repeated harvests.

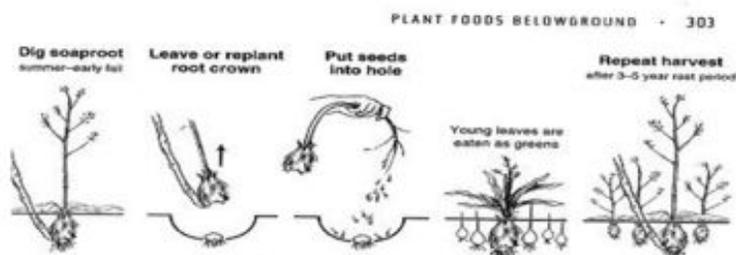


Figure 37. Steps in the cultivation of soaproot (*Chlorogalum pomeridianum*).



When harvesting soap root, the roots were left in the ground to regenerate. The soap root as named, is full of saponins, a plant glucoside still used today for its soapy lather. Used for soap, it was also used to stun fish, for the glucoside is toxic. This required leaching of the fish before eating to clear the toxins. If cooked for many hours, the bulb can also be eaten. Fibers surrounding the root are very rough and are used as a brush. Basically an all in one practical bulb; One can fish, have a side dish and clean up your dish afterwards. Wild onions were also available and used for flavoring.

Grass seeds or grains



California oat grass
Danthonia californica



Wild blue rye
Elymus glaucus

Maygrass
Phalaris californica

There are many species of wild native grasses in California, some of these are wild ryes and oats. Seeds from grasses and many perennials, such as clovers and salvias were eaten raw or pound into flour or meal.

SEEDS:



Farewell to spring (*C. purpurea*)
seeds were dispersed while they were harvested.



Chia, (*Salvia columbariae*)



Owl clover (*Castilleja exserta*)

The meal made from seeds could be made into seed balls, gruel, bread, mush or soup. Greens of clover and violets, among many other leaves, stems and young shoots were eaten raw or cooked with other foods.

Native

Herbaceous flowers



Herbaceous plants: Vascular plants without persistent woody stems. Many perennials and nearly all annuals and biennials.

Herbaceous plants, such as what we have a small sampling of in the native garden, were also used for food, medicine and material goods. Salvias were used for their seeds, and white sage and Angelica root is used for ceremonial smudging. Douglas iris is used to make string and the seeds were used as food. Yarrow, poison oak and Oregon grape produced dyes. Milkweed sap was made into a gum, roots used as medicinal tea (rash and coughs) and the fiber made into string. Yerba buena is made into a tasty and medicinal tea (stomach). Fuchsia, California buckwheat, California poppy, heuchera /coral bells, coyote mint, sagebrush among most of the trees and bushes had some medicinal use.

The land that the first non-natives saw was one shaped for a millennial by the indigenous cultivator and guardians of what became known as California. Many of the ancestral plants we still have are in use today by contemporary native people. Obviously we do not have the abundance that once was but that changes with every native garden we start.



Fire Safety

Napa County's recent Fire Hazard Abatement Ordinance.

Amendments were based on lessons learned during wildfire events, including a high number of structure losses from embers igniting combustible materials near structures, such as decks, patio furniture or ornamental plants.

During this presentation, we have discussed the use of burning for management of plants and landscapes. Now, we should revisit the challenges we must face in most areas in California, and that is fires. Napa County has a long and active wildfire history. The County is characterized by narrow valleys surrounded by steep, hilly terrain. With its long, dry summers and rugged topography, Napa County has a high wildland fire potential. The interface in the County between wildland areas and development exposes residents, businesses, and community facilities to wildland fire risks. In the last several decades, the combination of firefighting technology, fire suppression policy, environmental regulations, and development trends has led to increasing fuel loads, greater occupancy of remote wildlands, and greater potential for catastrophic wildfire. Climate and landscape characteristics are among the most important factors influencing hazard levels. Weather characteristics such as wind, temperature, humidity and fuel moisture content affect the potential for fire. This results in wildfire risk and hazards of major proportions. Such wildfire risk and hazards expose residential and other development within the County to an increased danger of conflagration, threatening life and property protection. Thus, new fire ordinances and regulations have emerged.

[County of Napa municipal fire code](#)

[Napa county wildland fire background report](#)



Napa County Code of Ordinance



- 8.24.020 - Permit—Required when.
- A. It is unlawful for any person to set fire or cause fire to be set out of doors at any time between April 1st and December 1st of any year without first obtaining a written fire permit from the constituted fire control authority within the area wherein the fire is to be set

[City of Napa-Fire Prevention Division](#)

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UNIVERSITY OF CALIFORNIA
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UC Master Gardener Program

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Make sure to stop by our garden regularly to observe,
learn and enjoy all aspects of gardening.

Thanks for attending!

UC Master Gardeners of Napa County

Find this presentation & other resources
on our website:



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for direct
access

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[UC Master Gardeners of Napa County website](#)

[Direct link to the Las Flores Learning Garden webpage](#)