Homegrown Habitat:

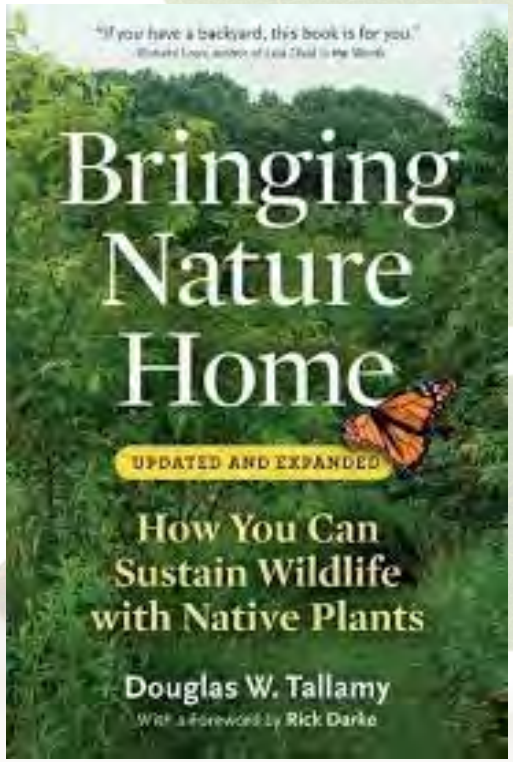
Preserving and Restoring Habitat One Yard at a Time

UNIVERSITY OF CALIFORNIA
Agriculture and Natural Resources

UC Master Gardener Program
El Dorado County

A Source of Inspiration

Thank you to Doug Tallamy



Overview

- **European settlement has changed the face of California**
  - Very little habitat remains unaltered in California
  - Land conversion at a rate of one football field every 2-1/2 minutes is impacting native species
- **Native plants are a cornerstone of biological diversity**
- **Ever increasing habitat destruction and fragmentation is resulting in an ecological Armageddon**
- **Reversible if we foster a new relationship with nature**

Overview (cont.)

- Efforts as individuals will determine whether we will succeed or not
- By restoring nature to our own gardens, corporate landscapes and municipal spaces, we provide connectivity through which animals can move, be sustained and reproduce
- Select the right natives for your new or existing garden to bring about needed change one garden at a time

The Uniqueness of California

- **The California floristic province is one of 36 biodiversity hotspots in the world**
- **It is one of only 5 areas in the world with a Mediterranean-type climate**
  - hot, dry summers
  - cool, wet winters

- **10 Bioregions**
  - Wildlife species
    - 30,000 insects
    - 63 fresh-water fish
    - 46 amphibians
    - 96 reptiles
    - 563 birds
    - 190 mammals
    - 8,000 plants

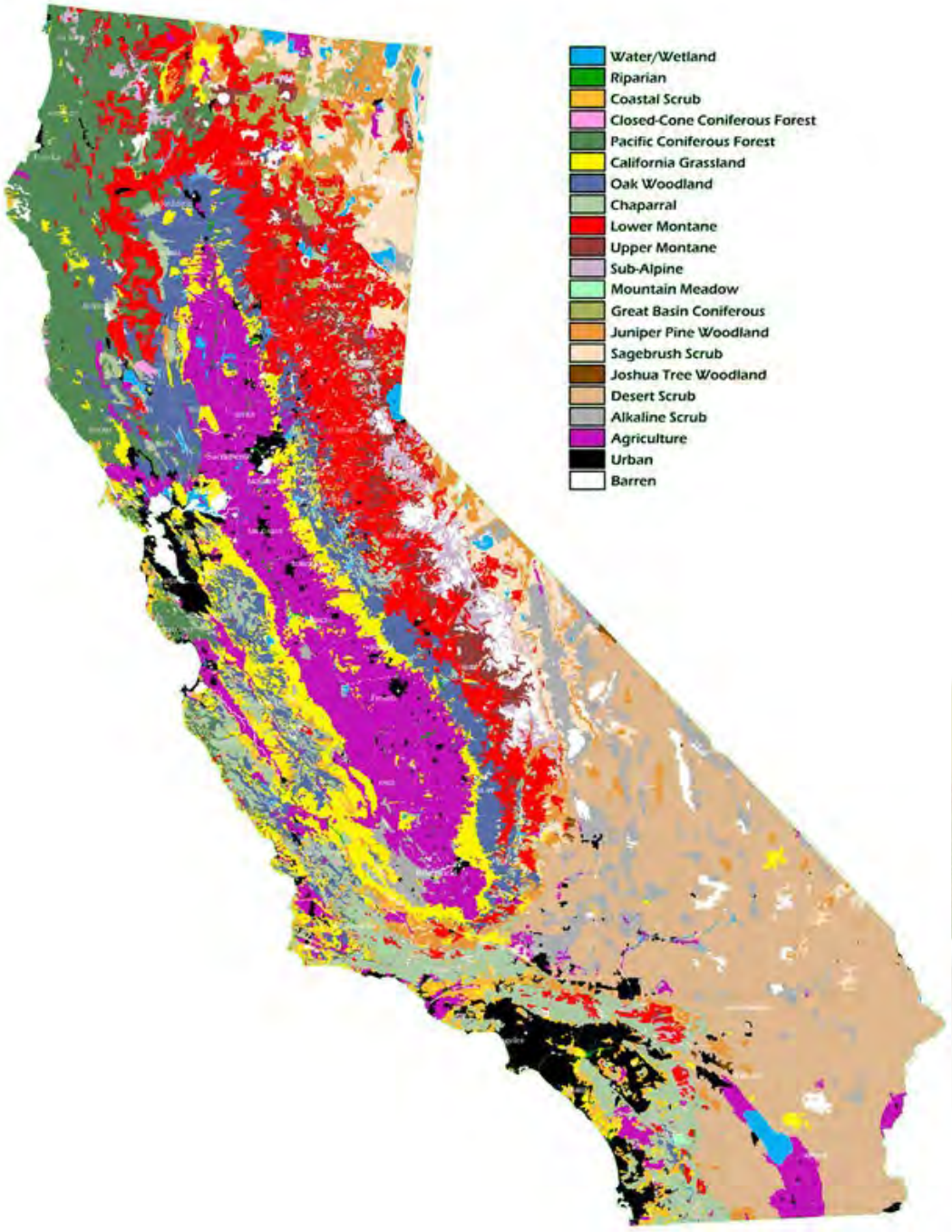
The Uniqueness of California

- 61% of 3500 species of vascular plants are found nowhere else in the world.
- Approximately 52 plant genera are also endemic.
- Over 2,100 species of plants evolved here.
- >24% of all endangered plants and animals in the US are in California.

California Habitat Loss

- **In an article written by Chris Clark in 2016 noted:**
  - 2001-2011: lost a football-fields worth of habitat every 2 1/2 minutes
  - 11 western states studied - California lost 784 mi^2 of natural landscape to human industry in that decade
    - an area just a hair smaller than Los Angeles and San Diego combined, almost 1/5 of the total land lost across the West (KCET.org)
  - Not enough nature remains to generate the natural capital on which our wildlife lives depend

***April 2016, *California Leads Western States in Habitat Loss*, KCET.org.**

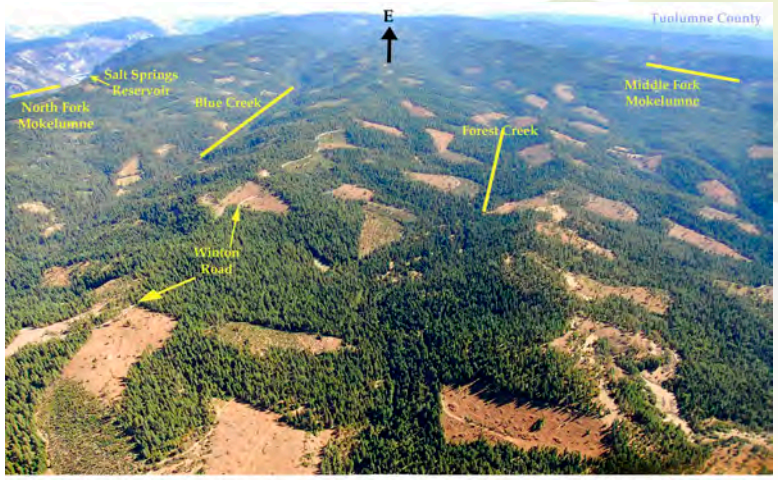


California Habitat Loss

- **California Floristic Provinces**
  - Once covered over 113,000 square miles
  - 25% of vegetation remains (~28,000 square miles)

California Habitat Loss

- **Harvesting natural resources for**
  - agricultural purposes
  - industrial production (wood, oil, minerals, etc.)



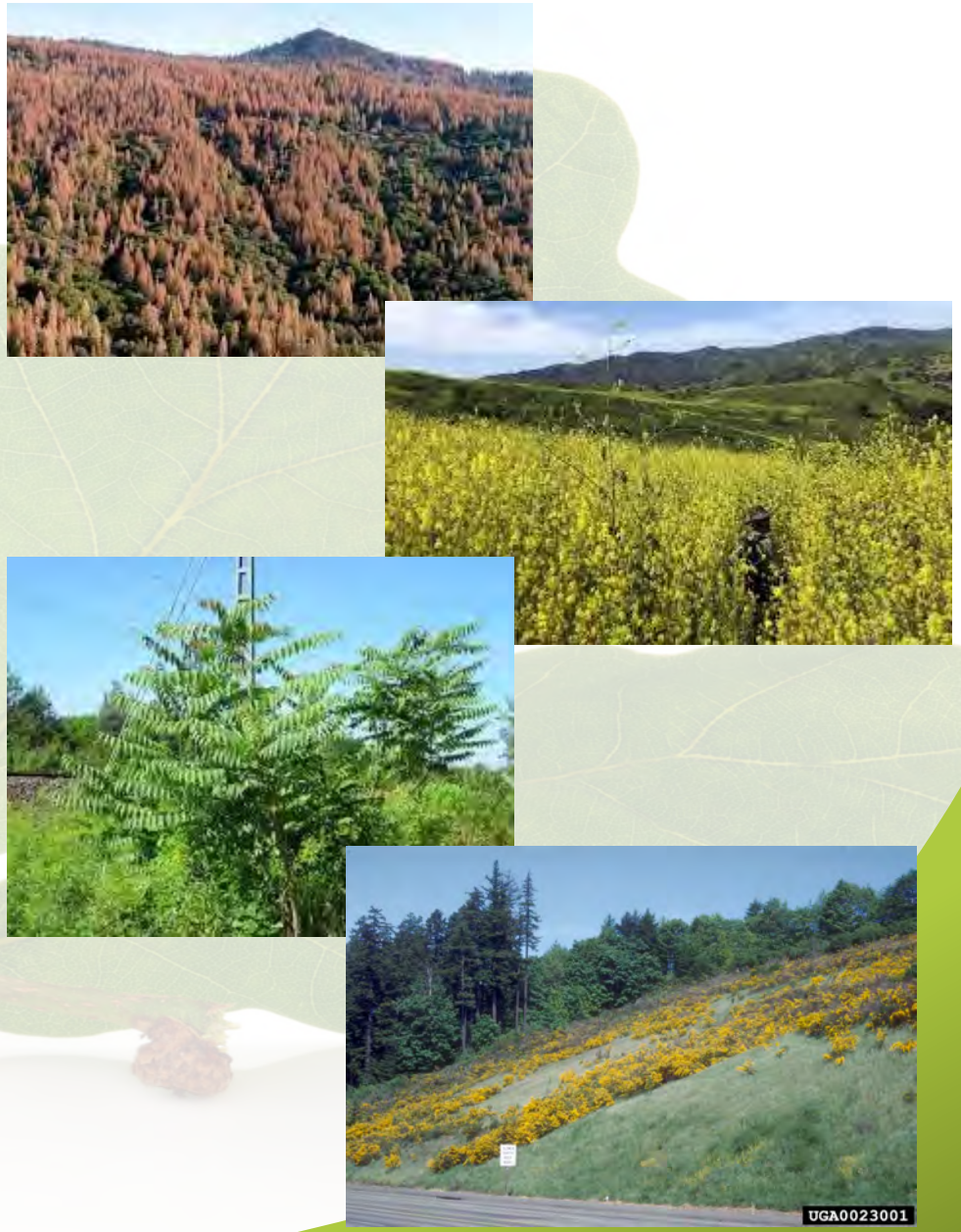
Clearcuts across Calaveras County looking eastward, with Tuolumne County in the distance

California Habitat Loss

- **Urbanization**

California Habitat Loss

- Fires,
- Insect infestations,
- Pollution, and
- Invasive species
- Only 25 % of natural habitat in the Sierra Nevada remains



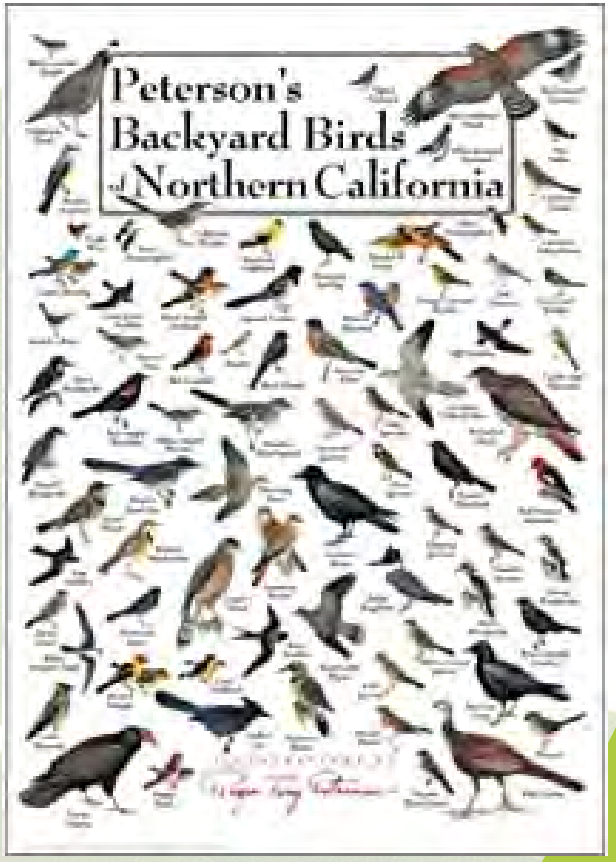
California Habitat Loss

- **California is the most hydrologically altered landmass on the planet**
  - Riparian woodlands: only 1% still intact,
  - Freshwater marshlands: less than 6% remain,
  - California native grasslands: only 2 to 3% remain.
  - Vernal pools: 66% have been destroyed,
  - Wetlands: more than 50% have disappeared

CNPS.org

California Habitat Loss

- **More species of birds breed in this region than anywhere else in the United States**
  - 600 bird species spotted make up two-thirds of all birds species in North America
  - 450 species commonly seen
- **190+ native mammal species, about 20 are endemic**
- **Nearly 70 species of reptiles are endemic**



California Habitat Loss

- **Conversion of natural habitat into land-dominated human uses have caused numerous species extinctions**
- **Habitat conversion rates accelerating despite conservation efforts**
- **The rate of habitat conversion is faster in coastal and low-lying lands with adequate supplies of water areas than in less suitable areas.**

(Extinction Rates Under Non-random Patterns of Habitat Loss, 2002, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC123238/)

The Insect Apocalypse

- **2016 German study found that, measured by weight, the abundance of flying insects in German nature reserves had decreased by 75% over just 27 years**
- **Midsummer population peaks dropped 82%**
- **Globally, more than 40% of insect species are declining and a third are endangered**
- **Studies done in nature reserves found little indication of losses of insects**

“Pesticides, loss of habitat, diseases, climate change, and human encroachment--and more--are some of the reasons why our global population of insects is dwindling.” ~Dr. Art Shapiro, UC Davis

https://theconversation.com/insect-apocalypse-not-so-fast-at-least-in-north-america-141107

Brooke Jarvis’s New York Times piece on "The Insect Apocalypse Is Here," Nov 27, 2018

Kathy Keatley Garvey, UC ANR Bug Squad Blog, Insect Apocolypse: Where Have All the Insects Gone?, Nov 28, 2018

California's Insect Apocolypse

- **Losing up to 40% of insects, including 10% of terrestrial insects per decade.**
- **Studies continue to document the human-driven downward losses in insects, from butterflies to bees to beetles.**
  - 67% of monitored populations show 45% mean abundance decline
- **These declines in insects are resulting in declines in insect-eating birds and shifts in plant abundances and flowering times.**
  - Western monarch butterfly numbers have plunged even further

(Commentary: California is having an 'insect apocalypse.' The San Diego Union Tribune. Dec 2020)

Why Should We Care?

- **Insects create the biological foundation for all terrestrial ecosystems**
  - cycle nutrients, maintain soil structure and fertility
  - pollinate plants
  - disperse seeds
  - control populations of other organisms
  - a major food source for most birds, reptiles, amphibians and fish

Reality: Our actions impact not just ourselves but our entire ecosystem

- **This ecological Armageddon is largely reversible**
- **We must:**
  - go beyond the idea that nature should be saved where nature remains
  - include those places where we live, learn, work, play and farm
  - learn to coexist with nature
- **Individual efforts will determine whether we succeed or fail**

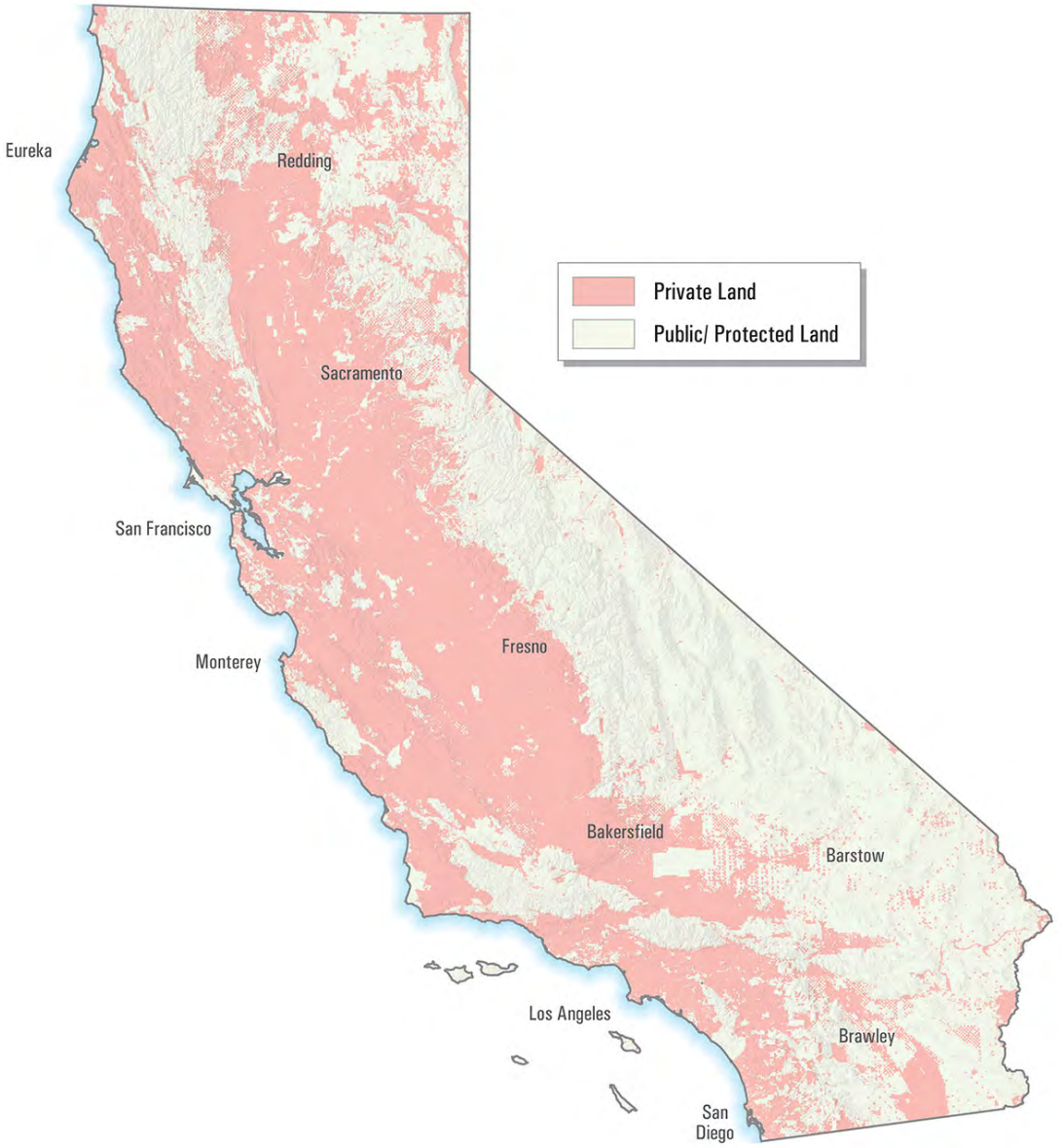
Giving Up is Not an Option

- **Destroying the biosphere to expand the human footprint is unsustainable**
- **Public preserves are not enough to sustain biodiversity into the future**
  - National Park system, state parks and preserves, national forests and wilderness areas
  - legislation in the form of the endangered species act
- **We must abandon our age-old notion nature is somewhere else**
- **Need a new conservation model**
  - one that sustains the living systems we depend on everywhere

Public Lands

- **Public preserves are not enough to sustain biodiversity into the future**
- **45% of the total land area of the state is owned and managed by the federal government.**
  - 15 million acres of Bureau of Land Management land, much of which is held in vast swathes of the eastern deserts and inner coast range,
  - 7.6 million acres of National Park Service land, and
  - 20.8 million acres of US Forest Service land.
  - Rarely ever sold
  - Can be mined, drilled, grazed, and logged or developed for solar energy
- **California State Parks manages 1.4 million acres**

(http://biodiversity.ca.gov/who-we-are/)



Environmental Protections

- **1970 National Environmental Policy Act (or NEPA),**
  - improved the quality of air and water,
  - reduced the public's exposure to harmful chemicals,
  - gave the public a greater voice in government decisions, and
  - conserved fish, wildlife and other natural resources.

Environmental Protections

- **Foundational Environmental and Conservation Laws:**
  - Antiquities Act
  - Endangered Species Act
  - Clean Air Act
  - Clean Water Act
  - Land and Water Conservation Fund
  - National Environmental Policy Act

A New Conservation Model

- **Old assumptions of biological conservation**
  - People and biodiversity cannot coexist
  - Leave conservation to the conservationists
- **We ALL depend on the quality of the earth's ecosystem for our continued existence**
- **Each one of us carries a responsibility for good stewardship**
- **Conservation of earths resources must become part of the every-day culture of us all**

A New Conservation Model

- **Little habitat remains undisturbed on this planet**
- **What remains is exceptionally fragmented**
- **Habitat fragmentation reduces population sizes and isolates them from one another**
  - vulnerable to local extinction
  - species requiring large home ranges disappear from small patches
- **Fragments are very isolated from one another are losing species at an alarming rate**
- **Our parks and preserves are not large enough to do the job alone**

A New Conservation Model

- **Restoration must happen largely on private property**
  - farms and ranches
  - the smallest city lot to the largest corporate landscape
  - municipal parks
  - *our homes*
- **Provide connections between tiny isolated natural areas by building biological corridors between them**
  - enable species that live there to intermingle and reproduce
  - reduces vulnerability to local extinction due to inevitable environmental fluctuations

A New Conservation Model

- **Restoring viable habitat and ecological integrity creates effective biological corridors within the human-dominated landscapes**
  - The single most effective thing we can do: stop the steady decline of species from our local ecosystems
    - will reverse the loss of species
    - provide stronger, more stable, and more productive ecosystems
    - may encourage the return of species not seen for a long time
  - will require the addition of millions of plants to our neighborhoods, corporate landscapes and the lands border and infrastructure across the country

A New Conservation Model

- **Several things point us towards a new approach to conservation:**
  - Parks and preserves are too small and two separated from one another
  - Cannot ignore the ecological value of land outside and between the preserves
  - Biological corridors enlarge the populations of plant and animals
    - connect preserved habitat fragments with one another
    - enables them to weather normal population fluctuations
  - Restoring habitat in patches
    - expands habitat

Robin Wall Kimmer, **Braiding Sweetgrass**

“We need acts of restoration, not only for polluted waters and degraded lands, but also for our relationship to the world. We need to restore honor to the way we live, so that when we walk through the world, we don’t have to avert our eyes with shame, so that we can hold our heads up high and receive the respectful acknowledgment of the rest of the earth’s beings.“

California Biodiversity Collaborative
30x30 Initiative

- **Mission to conserve 30% of its land and coastal waters by 2030.**
  - Will bring together state government agencies plus tribal groups, agricultural groups, and “business and community leaders” to inventory of California biodiversity.
    - The inventory also offers an opportunity for community involvement.
    - The California Native Plant Society is leveraging its network of amateur botanists to find and identify plant species statewide.
    - The California Academy of Sciences will coordinate citizen science projects (iNaturalist)that help map biodiversity.

(http://biodiversity.ca.gov/who-we-are/)

California Essential Habitat Connectivity Project

- **“A Strategy for Conserving a Connected California”**
  - CalTrans
  - Department of Fish & Game
  - Department of Parks & Recreation
  - Department of Water Resources
  - U. S. Fish & Wildlife Service

Homegrown Habitat

- **WE can participate at home**
  - provide connectivity
  - expand habitat area
  - provide the opportunity to interact on a personal level with nature
  - ability to observe and enjoy it all times of the day 365 days a year

Types of Wildlife Corridors

Crossings

Overpasses or underpasses that help animals move across barriers such as freeways.

Connective Habitat

Uninterrupted areas of natural land that connect two or more large habitat hubs.

Stepping Stone

A series of unconnected habitat areas that provide shelter or food between larger habitat hubs.

Homegrown Habitat

- **Where will we find space to do this?**
  - Of all of the elements of constructed landscapes, the lawn is the worst at delivering the essential ecosystem services that nature depends on
  - Lawns are a great place to start restoring habitat
  - Turfgrass is a monolithic crop that does not generally support wildlife and yet it is the default plant in the landscape.

Lawn

- **Turf, non-native trees and shrubs dominate most of the landscape areas around homes**
- **A new NASA study finds that there are 63,248 square miles of lawn in America**
- **Another study found that turfgrass covers 1.9% of the US, including 700,000 athletic fields and 14,500 golf courses**
- **Many sources state that turfgrass is our largest agricultural crop**
  - "there may be more acres of lawn than of the combined eight largest irrigated crops."
- **California households irrigated a total of just under 633,000 acres in 2000**
  - this amounts to an average irrigated area in the range of 2,000 to 3,600 square feet per home

Lawn

- **Lawns are costly**
  - Maintenance practices
  - Mowing
  - Watering
  - Fertilizer and pesticide use

The Carbon Footprint of Lawn

- **Scientists have coined the terms ‘carbon sink’ and ‘carbon source’**
- **A carbon sink is a system that stores more carbon than it produces**
  - Aka Carbon sequestration
- **A carbon source is a system that produces more carbon than it stores (example: automobile)**
- **For the benefit of the environment, we need more sinks and less sources**

Lawn vs. Native Plants

- Filtrates and cleanses far less water than of that of the original plant community.
- Sequesters far less atmospheric carbon.
- Less moisture transpired than by plants into the air as a part of the water cycle.
- Does not provide food or shelter for wildlife.

Carbon Footprint of Turfgrass

- **Maintaining turfgrass produces carbon (or CO2)**
  - running the mower, watering the lawn, and fertilizing produces CO2
  - mowers burns gasoline and converts it directly to CO2
  - watering requires a municipality pump it, filter it, treat it, and pump some more
  - fertilizer involves mining, processing/manufacturing and delivering
  - A lot of fuel is consumed to make this happen

Lawns and Water Usage

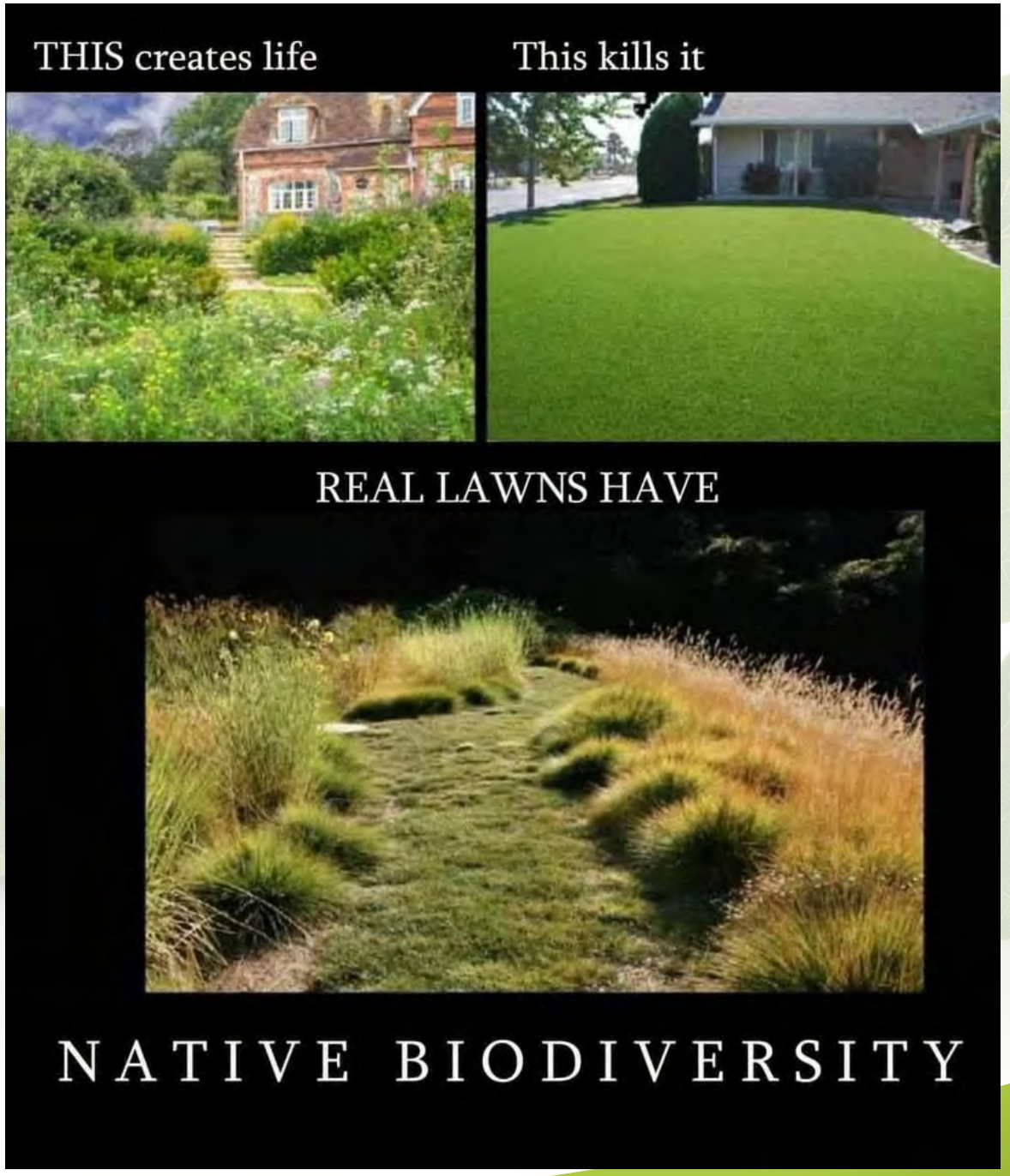
- **In urban areas, traditional landscaping consumes approximately 70% of all household water**
- **Turf consumes approximately 70% of water used outdoors**
- **Lawns require more water than is supplied by rainfall**
  - This is unsustainable

Lawns and Chemicals

- **Traditional suburban lawn has 10x more chemical pesticides used per acre than farmland**
- **Fertilizers and pesticides contaminate runoff and groundwater**
- **60 to 80% of fertilizer applied winds up in surface and groundwater**
  - it kills aquatic organisms and contaminates drinking water
- **Link between lawn pesticides and cancer (lymphoma),**
  - pets and children being most susceptible

The Solution

- **The solution is fairly simple:**
  - Don’t make your lawn any bigger than you need, if needed at all
  - Have just enough to let the kids/dogs play a bit
  - Select native species
    - Reduces water requirements
  - Mow higher with an electric, mulching mower or reel mower
  - Do NOT use pesticides or herbicides


THIS creates life
This kills it
REAL LAWNS HAVE
NATIVE BIODIVERSITY

What? No lawn?!!

- **Heresy??**
  - Cultural norms make us consider it to be a necessary requirement

A Natural State of Being

- **Prior to European settlement – rich, productive ecosystems supporting birds, pollinators and other wildlife:**
  - grasslands
  - oak savannahs
  - chaparral
  - riparian woodland
  - oak and mixed woodlands
  - Conifer forests
  - meadows
  - freshwater marshes
  - wetlands

What is a Native Plant?

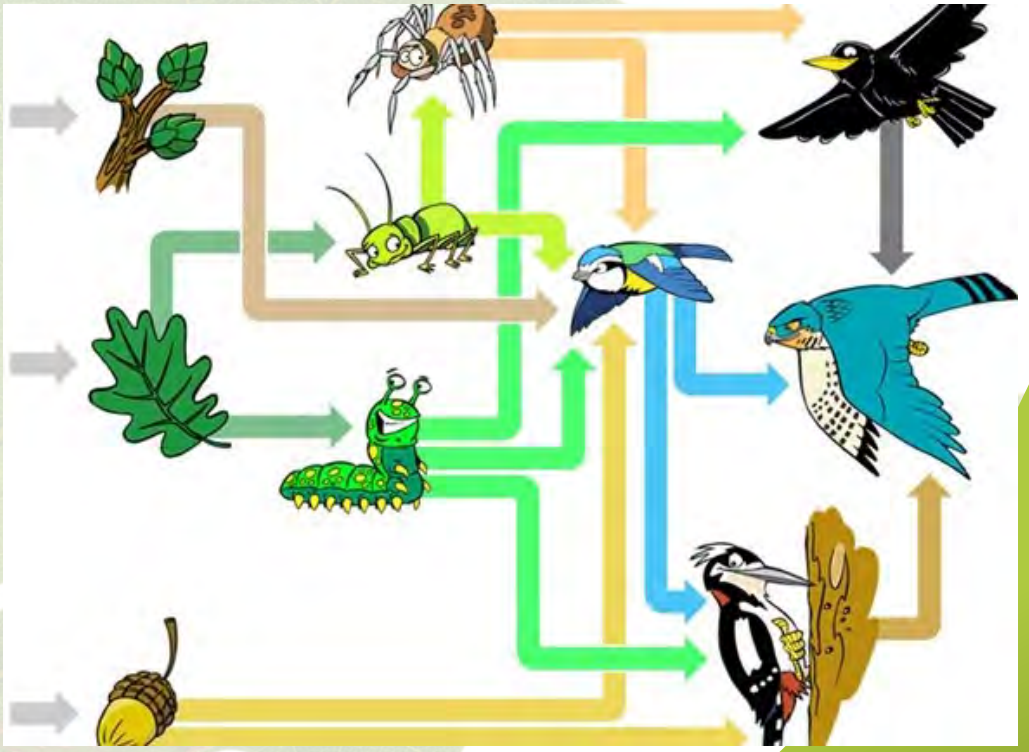
- **Native plants co-evolved with fungi, microorganisms, and animals to form a complex network of relationships**
  - foundation of biological diversity
  - do the best job of providing food and shelter for native animals, particularly insects

Native vs. Introduced Plants

- **“Green” is not good enough!**
- **Plants determine the carrying capacity for wildlife**
- **Introduced plants**
  - do not support native animals through their life cycle like natives do
  - decrease and sometimes decimate local species diversity
- **Native plants**
  - far better at performing ecological roles with those organisms they evolved with
  - think microbiomes

Native Food Web

- **Plants transform suns energy into carbohydrates**
- **Carbohydrates are either stored or fed on by animals**
- **Insects convert plant sugars and carbohydrates into the vital proteins and fats transferring energy from plants to other animals**
  - most insects are very fussy about which plants they eat
- **Specialized relationships among plants and animals are the rule rather than the exception**
  - far more common than generalized relationships
- **The transfer of energy should be looked at as not a food chain, but a food web**



Native Food Web

- **90% of insect herbivores are diet specialists**
  - host-plant specialists restricted to eating one or just a few plant species
- **By becoming post-plant specialists, insect herbivores circumvent the defenses of a few plant species well enough to make a meal**
- **This specialization takes eons for an insect to adapt to a new plant**
- **It's an evolutionary process**
  - Monarch butterflies dependent on milkweed

Native Food Web

- **The homogenous pallet of introduced ornamental plants has resulted in a decline in the insects that depend on local native species**
  - and so go the animals that depend on the insects
  - Birds, amphibians, fish and arachnids are dependent on insects

Native Food Web

- **Introduced plants do a poor job of supporting native insects and, thereby, insectivores**
  - Bad at supporting:
    - specialist pollinators
    - complex food webs
    - stable food webs
    - local biodiversity
    - interaction diversity
    - supporting ecosystem function
  - Introduced plants ***ARE NOT*** the ecological equivalents of the native plants they replace!

Native Food Web

- **Many consequences of the reduction in native plants**
  - Reduction in caterpillar biomass
    - Primary food source for the nestlings of nearly every bird species
  - Reduction in native pollinators
    - Native insects pollinate 87.5% of all plants, and 90% of all flowering plants

How Do We Convince The World That "B" Is Better?

A **B**

PLANT NATIVE HOST PLANTS

FEED THE CATERPILLARS

SEE MORE BUTTERFLIES

pollinator friendly yards on facebook

FIVE TYPES OF POLLINATORS

BATS

BUTTERFLIES

BEES

BIRDS

BEETLES

USDA

- **Doug Tallamy likens ecosystems to a “well-oiled machine that operate best with all of their parts which perform different functions.”**
  - Introduced plants = throwing a monkey wrench into the system
    - a new part added to the machine that doesn’t belong
    - not only is it a part that does not interact in a positive way with the other parts of the machine, it prevents the other parts from interacting effectively

Native Food Web

- **Birds with less food sources**
  - lay fewer eggs
  - chicks take longer to mature
  - fewer chicks survive to adulthood
- **2007 - report steep population declines of many bird species in CA**
  - as much as 96% due in large part to diminished habitat
  - according to a study that for the first time combines 40 years of data
- **Another study documented declines of 75% to 96% in several California species** (*National Audubon Society's Christmas season bird counts combined with summertime surveys by the U.S. Geological Survey)*
  - Most attributed to habitat loss

Restore insects! Repair the loss!

- **Habitat required for nesting sites for pollinators has been greatly diminished by development**
  - 70% of native bees nest underground
- **Insects provide much of the nature's pest control also in decline**
  - millions of species of predators and parasitoids that keep food webs in balance

Restore insects! Restore the loss!

- Insects decompose dead plants, releasing the nutrients they contain for use by plants
- Plants and insects sequester an enormous amounts of carbon with their bodies and within the soil around the roots
- Nearly all insects are harmless and beneficial - learn to live with them!

Native Berries

- **And what about berries?**
  - Studies have shown that there's a significant difference in the fat content of native species vs introduced species.
  - Berries of many introduced Eurasian species contain less than 1%
  - Berries from natives are often contain nearly 50% by weight

“There is, in fact, no distinction between the fate of the land and the fate of the people. When one is abused, the other suffers.”

~Wendell Berry

Building Your Homegrown Habitat

- **Shrink the Lawn**
  - Every square foot dedicated to lawn is a square foot that is degrading local ecosystems
  - Aim to reduce your lawn by half
  - Think of lawn as an area rug, not wall-to-wall carpeting
- **Remove Invasive Species**
  - Invasive species or ecological tumors that spread unchecked into our local ecosystems, castrating the ecosystems ability to function

Building Your Homegrown Habitat

- **Plant Keystone Species - power houses for your landscape**
  - A few genera of native plants are the backbone of local ecosystems, producing the food that fuels insects
- **Be Generous with Your Plantings**
  - increase the abundance and diversity of our plantings
    - If you have one tree in your yard, consider adding two more
    - Add vertical diversity by adding understory trees and shrubs

Building Your Homegrown Habitat

- **Plant for Specialist Pollinators**
  - Planting a wide diversity of natives is key
- **Network with Neighbors**
  - Partnering with like-minded neighbors, you will be able to create larger areas that are more connected

Building Your Homegrown Habitat

- **Install a water feature**
  - Small water features are irresistible to resident and migrating birds

Building Your Homegrown Habitat

- **Bee Hotels**
  - build several small ones with only four or five holes each
  - disperse the smaller units throughout your yard
    - more difficult for B predators, parasites, and diseases to be able to attack all of your native bees in one place

Building Your Homegrown Habitat

- **Create Caterpillar Pupation Sites Under Your Trees**
  - Caterpillars are the mainstay for baby birds
  - More than 90% of the caterpillars that develop on plants do not pupate on their host plants
    - drop to the ground and pupate within the duff on the ground or in chambers they form underground
  - Lawn gets compacted by frequent mowing making it is difficult for caterpillars to burrow into the soil or find leaf litter for their cocoons

Keystone Species

- ~ 14 % of plants provide 90% of insect's food
- Keep the food web healthy

Keystone Species

– **Native oaks**

(*Quercus spp*.)

Keystone Species

- **Native wild cherries (*Prunus spp*.)**
  - Bitter Cherry (*Prunus emarginata*)
  - Chokecherry (*Prunus virginiana*)

Keystone Species

- **Willows (Salix spp.)**
  - Red Willow (*Salix laevigata*)

Keystone Herbaceous Species

- lupine (*Lupinus spp*.)
- sage wort (*Artemesia douglassiana*)
- coyote bush (*Baccharis spp*.)
- senecio (*Senecio spp*.)

Keystone Species

- goldenrod (*Solidago spp.*)
- rabbitbrush (*Ericameria spp*.)
- deer vetch (*Lotus spp*.)
- wild strawberry (*Fragaria spp.*)

Keystone Species

- **Find a complete list for your specific area on the National Wildlife Federation's Native Plant Finder website.**
- **Calscape (calscape.org)**

California Native Plant Society Calscape

Restore Nature One Garden at a Time

Search for California native plants by name

ADVANCED SEARCH

Enter a California address or click the map to see plants native to that location

California

7988 plants native to California


All Plants
7988


Trees
216


Shrubs
1451


Perennials
3700


Annuals
2216


Grasses
646


Succulents
188


Vines
92


Ferns
113


Sun
2844


Shade
586


Part Shade
2278

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

Search for California native plants by name

ADVANCED SEARCH

Advanced Search

Search Clear

Select desired plant characteristics and then click 'Search' to see matching plants

Native To California

Type

- [ ] Annual herb
- [ ] Fern
- [ ] Grass
- [ ] Perennial herb
- [ ] Shrub
- [ ] Succulent
- [ ] Tree
- [ ] Vine

Sun

- [ ] Full Sun
- [ ] Part Shade
- [ ] Full Shade

Drainage

- [ ] Fast
- [ ] Medium
- [ ] Slow
- [ ] Standing

- [ ] Slow
- [ ] Standing

Water Requirement

- [ ] Extremely Low
- [ ] Very Low
- [ ] Low
- [ ] Moderate - High

Ease of Care

- [ ] Very Easy
- [ ] Moderately Easy
- [ ] Fairly Difficult
- [ ] Very Difficult

Common Uses

- [ ] Bank Stabilization
- [ ] Bee Gardens
- [ ] Bird Gardens
- [ ] Bogs and Ponds
- [ ] Butterfly Gardens
- [ ] Butterfly Host Plants
- [ ] Deer Resistant
- [ ] Groundcovers
- [ ] Hedges
- [ ] Hummingbird Gardens

Availability in Nurseries

- [ ] Commonly Available
- [ ] Sometimes Available
- [ ] Rarely Available
- [ ] Never or Almost Never Available
- [ ] Available Through Seed Stores

Nurseries

- [ ] 3 Rivers Blooms
- [ ] Ackerman Native Plant Nursery
- [ ] Annie's Annuals and Perennials
- [ ] Antelope Valley Resource Conservation Nursery
- [ ] Artemisia Nursery
- [ ] Aspen Hollow Nursery
- [ ] Back to Natives Nursery @ Santiago Park
- [ ] Bay Natives

- [ ] Artemisia Nursery
- [ ] Aspen Hollow Nursery
- [ ] Back to Natives Nursery @ Santiago Park
- [ ] Bay Natives
- [ ] Baylands Nursery
- [ ] Belmont Nursery
- [ ] Berkeley Horticultural Nursery
- [ ] Blossom Hill California Native Plants
- [ ] Blue Moon Native Garden

Fragrance

- [ ] Fragrant - Pleasant
- [ ] Fragrant - Unpleasant
- [ ] None
- [ ] Slight

Flower Color

- [ ] Black
- [ ] Blue
- [ ] Brown
- [ ] Cream
- [ ] Green
- [ ] Lavender
- [ ] Orange
- [ ] Pink
- [ ] Purple
- [ ] Red
- [ ] White
- [ ] Yellow

Flowering Season

- [ ] Spring
- [ ] Summer
- [ ] Fall
- [ ] Winter

Height

[ ] - [ ] (•) Feet ( ) Inches

Genus

[ ]

Advanced Search

Search | Clear

Select desired plant characteristics and then click 'Search' to see matching plants

Native To Cool

Type

- [ ] Annual herb
- [ ] Fern
- [ ] Grass
- [ ] Perennial herb
- [x] Shrub
- [ ] Succulent
- [ ] Tree
- [ ] Vine

Sun

- [x] Full Sun
- [ ] Part Shade
- [ ] Full Shade

Drainage

- [ ] Fast
- [x] Medium
- [ ] Slow
- [ ] Standing

Water Requirement

- [x] Extremely Low
- [ ] Very Low
- [ ] Low
- [ ] Moderate - High

Ease of Care

- [x] Very Easy
- [ ] Moderately Easy
- [ ] Fairly Difficult
- [ ] Very Difficult

Common Uses

- [ ] Bank Stabilization
- [x] Bee Gardens
- [ ] Bird Gardens

Advanced Search Results

Options Edit Search

2 Plants. Native to: **Cool**. Type: ***Shrub***. Sun: ***Full Sun***. Drainage: ***Medium***. Water Requirement: ***Extremely Low***. Ease of Care: ***Very Easy***. Common uses: ***Bee Gardens***. Availability in nurseries : ***Commonly Available***.

1 +

Hollyleaf Redberry

Rhamnus ilicifolia

2 +

Spiny Redberry

Rhamnus crocea

California Native Plant Society
Calscape
Restore Nature One Garden at a Time

Search for California native plants by name

ADVANCED SEARCH

Advanced Search Results

Options Edit Search

28 Plants. Native to: **Cool**. Sun: ***Part Shade***. Drainage: ***Medium***. Water Requirement: ***Moderate - High***.

1 
Scarlet Monkeyflower
Erythranthe cardinalis

2 
Big Leaf Maple
Acer macrophyllum

3 
White Alder
Alnus rhombifolia

4 
California Grape
Vitis californica

5 
Creek Dogwood
Cornus sericea

6 
Red Willow
Salix laevigata

7 
California Wildrose
Rosa californica

8 
Bleeding Heart
Dicentra formosa

9 
Crevice Alumroot
Heuchera micrantha

10 
Humboldt's Lily
Lilium humboldtii

11 
Miner's Lettuce
Claytonia perfoliata

12 
California Maiden Hair Fern
Adiantum jordanii

13 
Bigflower Tellima
Tellima grandiflora

14 
Pacific Blackberry
Rubus ursinus

15 
Douglas' Sagewort
Artemisia douglasiana

16 
Scouringrush Horsetail
Equisetum hyemale

5 

Creek Dogwood

Cornus sericea

6 

Red Willow

Salix laevigata

7 

California Wildrose

Rosa californica

8 

Bleeding Heart

Dicentra formosa

9 

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Rubus ursinus

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Douglas' Sagewort

Artemisia douglasiana

16 

Scouringrush Horsetail

Equisetum hyemale

17 

California Buttercup

Ranunculus californicus

18 

Common Selfheal

Prunella vulgaris

19 

Baltic Rush

Juncus balticus

20 

American Bird's-foot Trefoil

Acmispon americanus

21 

Sticky Cinquefoil

Drymocallis glandulosa

22 

Pt. Reyes Sidalcea

Sidalcea calycosa

23 

Common Ladyfern

Athyrium filix-femina

24 

California Oatgrass

Danthonia californica

25 

Western Dogwood

Cornus sericea ssp. occidentalis

26 

California Meadow Barley

Hordeum brachyantherum ssp. californicum

27 

Slender Cinquefoil

Potentilla gracilis

28 

Miner's Dogwwod

Cornus sessilis

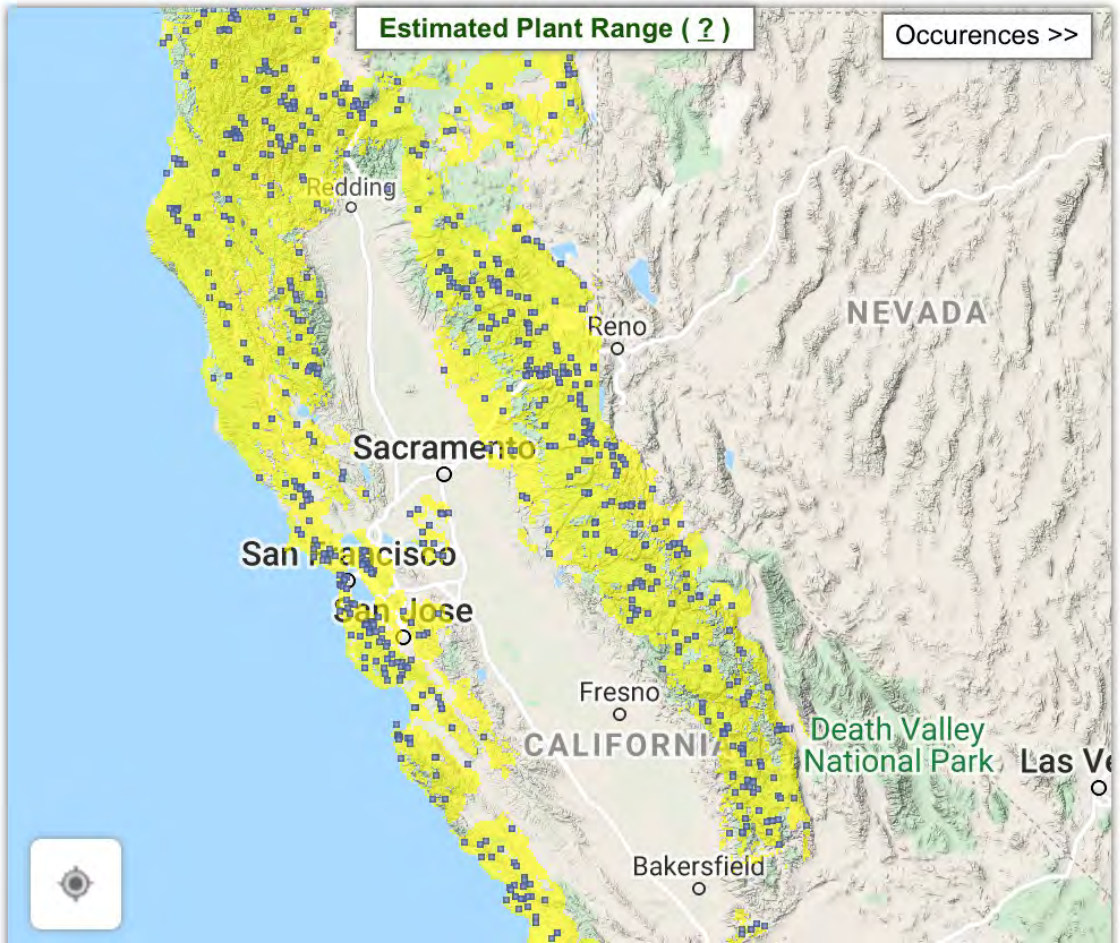
California Native Plant Society
Calscape
Restore Nature One Garden at a Time

Search for California native plants by name

ADVANCED SEARCH

Creek Dogwood
Cornus sericea

Show All Photos



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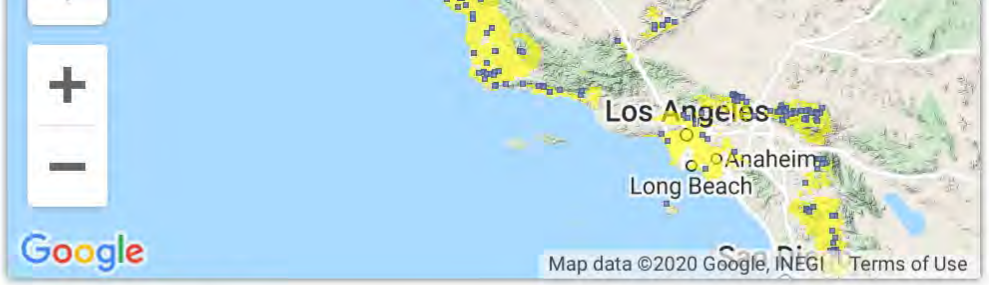
Show All Photos



About Creek Dogwood (Cornus sericea)

30 Nurseries Carry This Plant

Add to My Plant List

The Red Osier Dogwood (Cornus sericea, syn. C. stolonifera, Swida sericea) is a species of dogwood native throughout northern and western North America from Alaska east to Newfoundland, south to Durango and Nuevo Len in the west, and Illinois and Virginia in the east. Other names include Redtwig Dogwood, Red-rood, American Dogwood, and (subsp. occidentalis) Western Dogwood. In the wild, it commonly grows in areas of damp soil, such as wetlands. It is a medium to tall deciduous shrub, growing 1.5-4 meter tall and 3-5 meter wide, spreading readily by underground stolons to form dense thickets. The branches and twigs are dark red, although wild plants may lack this coloration in shaded areas. The leaves are opposite, 5-12 centimeter long and 2.5-6 centimeter broad, with an ovate to oblong shape and an entire margin; they are dark green above and waxy pale below; fall color is commonly bright red to purple. The flowers are small (5-10 millimeter diameter), dull white in color, in clusters 3-6 centimeter diameter. The fruit is a globose white berry 5-9 millimeter diameter.

Plant Description

Plant Type
Shrub, Tree

Size
4 - 13.1 ft tall
9 - 15 ft wide

Form
Spreading

Growth Rate
Fast

Dormancy
Winter Deciduous

Fragrance
Slight

Flower Color
White, Purple, Red

Flowering Season
Summer

Wildlife Supported

Butterflies & moths hosted (13 confirmed ✓, 29 likely *) SHOW ALL

✓ 

Polyphemus moth
Antheraea polyphemus

✓ 

Speckled Green Fruitworm Moth
Orthosia hibisci

✓ 

Salt-and-Pepper Geometer
Biston betularia

✓ 

The Small Engrailed
Ectropis crepuscularia

✓ 

Battered Sallow Moth
Sunira verberata

Landscaping Information

Landscaping Information

Sun
Full Shade, Part Shade, Full Sun

Moisture
Moderate - High

Summer Irrigation
Max 1x / week once established

Nurseries
Carried by 30

Ease of Care
Very Easy

Cold Tolerance
Tolerates cold to 0 - 10° F

Soil Drainage
Medium, Slow, Standing

Soil Description
Tolerates a variety of soils but does best in moist, rich loamy soil. Soil PH: 5 - 7

Common uses
Bogs and Ponds, Hedges, Bird Gardens, Butterfly Gardens

Companion Plants
Maples (Acer species), Ash (Fraxinus species), Walnut (Juglans species), Western Sycamore (Platanus racemosa), Cottonwood (Populus species), Willow (Salix species), Spicebush (Calycanthus occidentalis), Wild Honeysuckle (Lonicera species), Wild Azalea (Rhododendron species), Wild Currant (Ribes species), Wild Rose (Rosa species), and Wild Grape (Vitis species)

Sunset Zones?
1, 2, 3, 4*, 5*, 6*, 7*, 8*, 9*, 10, 14*, 15*, 16*, 17*, 18*, 19*, 20*, 21*, 22*, 23*, 24

Natural Setting

Site Type
Moist places

Climate
Annual Precipitation: 7.3" - 155.6", Summer Precipitation: 0.16" - 5.84", Coldest Month: 23.3" - 56.5", Hottest Month: 46.5" - 79.3", Humidity: 0.01" - 28.16", Elevation: -12" - 10807"

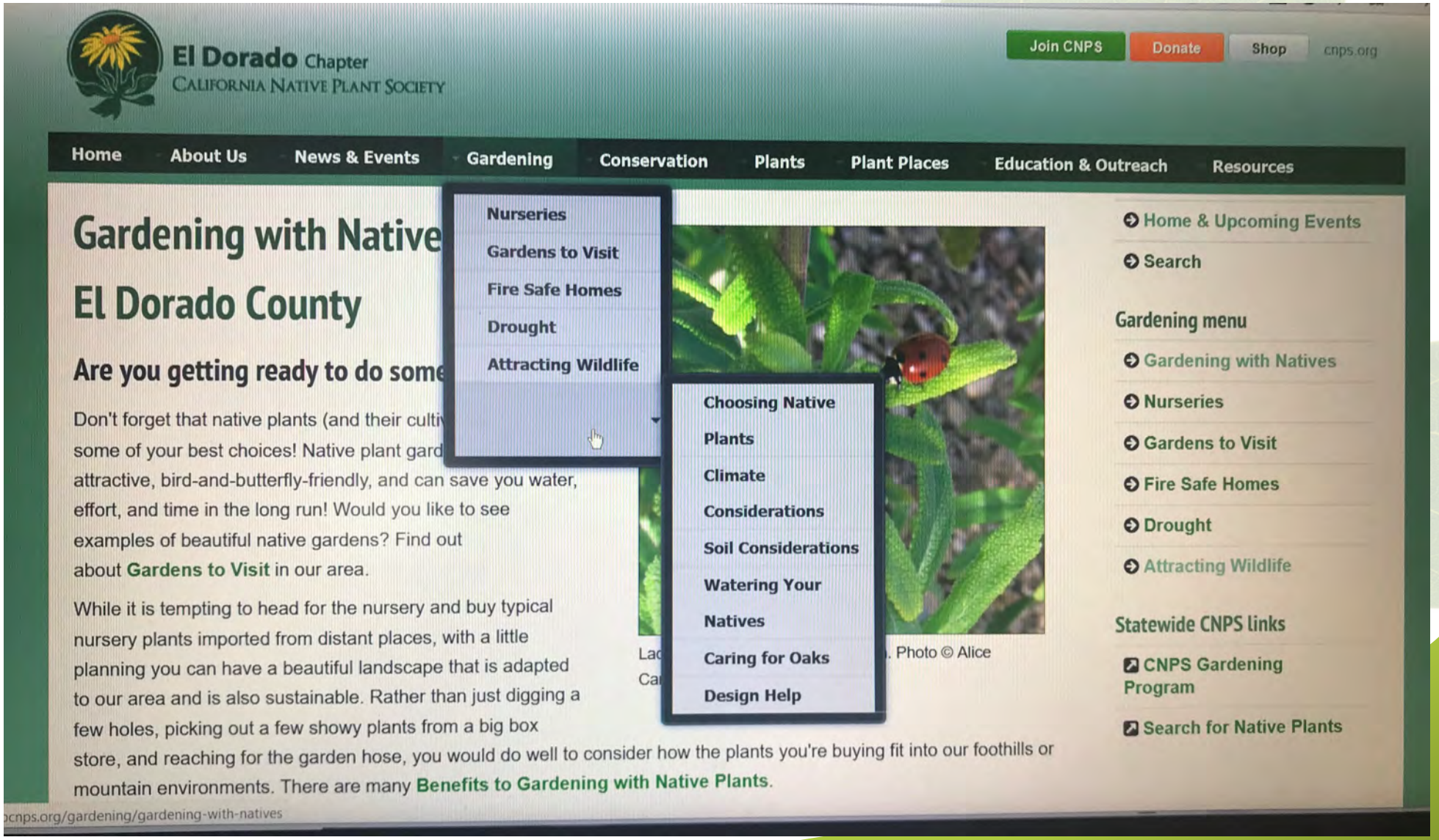
Alternative Names

Botanical Names: Cornus sericea ssp. sericea,Cornus stolonifera
Common Names: Redosier Dogwood

Print Plant Sign Print Plant Label

California Native Plant Society

El Dorado Chapter (Eldoradocnps.org)



EL DORADO CHAPTER CNPS RECOMMENDED PLANTS LIST Oct. 2019

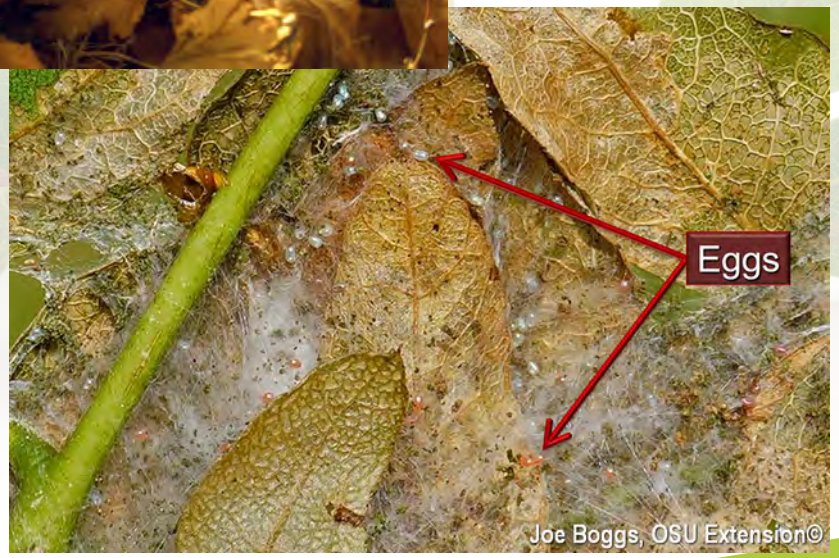
Common Name	Botanical Name	Evergreen or Deciduous	Locally Native Yes or No / Plant Community	Exposure SH = Shade PS = Part Shade S = Full Sun	Water VL = Very Low L = Low M = Moderate	Height ft)	Width (ft)	Flower Color	Birds Yes or No	Bees Yes or No	Butterflies Yes or No
TREES: Under 30' tall and wide, defined tree form											
California Laurel	*Umbellularia californica*	Evergreen	Y/F	S, PS	L	6 - 80 '	3 - 30 '	Yellow,Cream	Y	Y	Y
Oregon Ash	*Fraxinus latifolia*	Deciduous	Y/F,O	S, PS	M	35 - 82 '	30 '	Green	Y	N	Y
Blue Oak	*Quercus douglasii*	Deciduous	Y/O	S, PS	L	16 - 82 '	30 '	Yellow,Green	Y	N	Y
Black Oak	*Quercus kelloggii*	Deciduous	Y/F, O	S, PS, SH	L	20 - 120 '	35 '	Yellow,Green	Y	N	Y
LARGE SHRUBS: 6' - 12' tall and wide											
Bush Anemone	*Carpenteria californica*	Evergreen	N/C,O	S, PS	L, M	6-10 '	10 '	White	N	Y	Y
Coffee Berry	*Frangula californica*	Evergreen	Y/C,O,F	S,PS	L,VL	6 - 15 '	5 - 15 '	Cream,Green	Y	Y	Y
Toyon	*Heteromeles arbutifolia*	Evergreen	Y/C,O	S,PS	L	6 - 30 '	10 - 15	White	Y	Y	Y
Spice Bush	*Calycanthus occidentalis*	Deciduous	Y/O	S, PS	M	6-8 '	4-6 '	Red	Y	N	N
Western Redbud	*Cercis occidentalis*	Deciduous	Y/C,O	PS,S	L	10 - 20 '	10 - 15 '	Pink,Red	Y	Y	Y
Mock Orange	*Philadelphus lewisii*	Deciduous	Y/O,F	S, PS	VL	4.9 - 12 '	6 '	White,Yellow	Y	N	Y
Snowdrop Bush	*Styrax redivivus*	Deciduous	Y/C,O	S,PS	L	8-10 '	6-8 '	White	y	y	y
MEDIUM SHRUBS: 4' - 6' tall and wide											
Oregon Grape	*Berberis aquifolium*	Evergreen	Y/O,F	SH, PS	L	3.5 - 7 '	6 '	Yellow	Y	Y	Y
Concha Ceanothus	*Ceanothus 'Concha'*	Evergreen	N/	SH,PS	VL	4-6 '	4-6 '	Blue	N	N	Y
Cleveland Sage	*Salvia clevelandii*	Evergreen	N/C	PS,S	VL	3 - 4.5 '	8 '	Blue,Purple,Lavender	Y	Y	Y
Chaparral Currant	*Ribes malvaceum*	Deciduous	Y/C,O	PS, S	VL	5 - 8 '	5'	Pink,Purple	Y	Y	Y
Common Snowberry	*Symphoricarpos albus*	Deciduous	Y/F,O	SH,PS	L,M	3 - 6 '	6 '	White,Pink	Y	Y	Y
SMALL SHRUBS: 2' - 4' tall and wide											
Pacific Mist Manzanita	*Arctostaphlos uva-ursi* 'Pacific Mist'	Evergrren	N/	S, PS	L	2-3 '	4-8 '	White, pink	Y	Y	Y
Dwarf Mahonia	*Berberis aquifolium* var. *repens*	Evergreen	Y/O,F	SH,PS	VL	2 - 3 '	5 '	Yellow,Purple	Y	Y	Y
California Buckwheat	*Eriogonum fasciculatum*	Evergreen	N/C	S	VL	2 - 6.6 '	3 '	Yellow,Cream	N	Y	Y
Silver Lupine	*Lupinus albifrons*	Evergreen	Y/C,F,O	S	VL	3.2 - 5 '	5 '	Blue,Purple	Y	Y	Y
Foothill Penstemon	*Penstemon heterophyllus*	Evergreen	Y/C,F,O	S, PS	VL	3.3 - 5 '	5 '	Blue,Purple	Y	Y	Y
White Sage	*Salvia apiana*	Evergreen	N/C	S	VL	3 - 5 '	3 - 8 '	White	Y	Y	Y
SMALL PERENNIALS: <1' - 2' tall and wide											
Sulphur Buckwheat	*Eriogonum umbellatum*	Evergreen	Y/O,F	S	VL	0.33 - 7 '	5 '	Yellow	Y	Y	Y
Common Woolly Sunflower	*Eriophyllum lanatum*	Evergreen	Y/C,F,O	PS,S	VL	1 - 3.3 '	2 '	Yellow	N	Y	Y
California Poppy	*Eschscholzia californica*	Evergreen	Y/O	S	VL,L	0.16 - 2 '	1 - 2 '	Orange,Yellow	Y	Y	Y
Alum Root	*Heuchera micrantha*	Evergreen	Y/C,F,O	PS, SH	M	1-2 '	1-2 '	White	Y	N	N
Coyote Mint	*Monardella villosa*	Evergreen	Y/C,F,O	S, PS	VL	2 '	3 '	Pink,Lavender	Y	Y	Y
Blue Eyed Grass	*Sisyrinchium bellum*	Evergreen	Y/O	S,PS	L	1 - 2 '	0.25'	Blue,Purple	N	N	Y

Building Your Homegrown Habitat

- **Replace the lawn under trees with native shrubs and groundcovers appropriate to your area**
- **Large decorative boulders provide pupation sites**
- **Logs or old tree stumps**
  - Many insect species lay eggs in decaying wood

Building Your Homegrown Habitat

- **Leave the leaves!**
  - Autumn leaves harbor eggs & small caterpillars within curled leaf margins, and dozens of caterpillar species eat fallen leaves
- **Use natural leaf litter whenever you can**



THESE ANIMALS ARE MADE POSSIBLE BY FALLEN LEAVES

Building Your Homegrown Habitat

- **DO NOT Spray or Fertilize**
  - Using insecticides and herbicides is contrary to the goals of homegrown habitat
  - Most native plants are adapted to low nitrogen soils
  - Artificially fertilized soils favor many nitrogen loving, invasive, non-native plant species, especially weeds
  - Fertilizers make for tender growth that's attractive to deer
  - Majority of synthetic fertilizers are washed into our aquifers and waterways
    - cause algal blooms, red tides and other problems

Building Your Homegrown Habitat

- **Soils rich in organic matter are sufficient for healthy plants**
- **Use security lights with motion-sensors**
  - Blazing security lights are ecological traps that kill thousands of moths
- **Set your mower height no lower than three or 4 inches**
  - Generally results in healthier, greener grass that requires less watering
  - May be able to mow over snakes and lizards without killing them

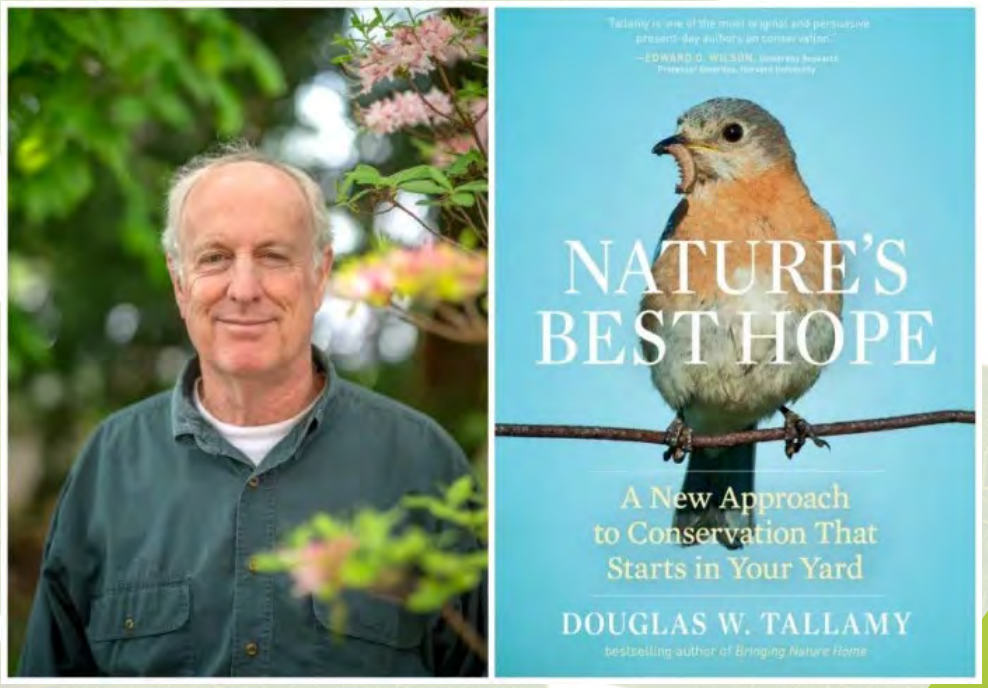
Educate

- **Local and neighborhood civic associations**
  - Lobby local jurisdictions and organizations, such as townships, community service districts, HOAs, schools and park districts
  - Push to update the antiquated, destructive landscape regulations that are based on old notions of what landscapes should be and help re-write the rules.

Bailer or Dumper?

Nature's Best Hope **(Douglas Tallamy)**

"…our environmental boat has sprung a leak. Many of us are trying to repair the leak; others are bailing to keep us afloat until the leak is plugged. What is baffling, though, is that far too many of us are dumping new buckets of water into our boat, as if thinking it will not be a problem for them. At this point, each of us must decide what role we will play in the future: will you be a bailer or a dumper? Your choice of plants in your yard will determine what role you have chosen."



El Dorado County Master Gardeners

Contact us:

530-621-5512 (Tues-Fri 9:00AM-Noon)

mgeldorado@ucdavis.edu

Visit us at 311 Fairlane, Placerville

UNIVERSITY OF CALIFORNIA
Agriculture and Natural Resources

UC Master Gardener Program
El Dorado County

Thank you for being here!

Q & A