

Green Benefit District Embracing Biodiversity

2019
Noreen Weeden



*inspiring people to protect
Bay Area birds since 1917*



California Wildrose *Rosa californica*
Photo by: Noreen Weeden



Black-necked Stilt
Photo by: Noreen Weeden

Mission



*inspiring people to protect
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GGAS a science based non profit
engaging people to:

Experience the wonder of birds
and translate that wonder into
action; and

Protect native bird populations
and their habitats.



Pink Flowering Currant
Ribes sanguineum
Photo by: Eddie Bartley



CALIFORNIA
NATIVE PLANT SOCIETY



Yerba Buena's mission is to:

- increase the understanding of our local native flora and
- preserve our natural heritage for future generations

Mission

Science

Education

Conservation



Townsend's Warbler
Photo: Noreen Weeden

Important indicators of environmental health, climate

- Beneficial Resource
- Connect people with nature
- Intrinsic value
- Culturally significant
- Economic resource

Why birds bring us together

SF Bay - Western Hemispheric importance!

- **International Biodiversity Hotspot**
- Pacific Flyway 1 million+ birds
- **479 bird Species** seen in SF
- Local issues:
 - Habitat changes and loss
 - Endangered Species
 - Threatened Species
 - Anemic breeding** bird population



Why here?

- **Food** - birds eat a lot!

Plants: seeds, nectar, fruit

***Insects**

Reptiles, amphibians, fish

Mammals (RODENTS)

- Clean water
- Places to hide & rest
- Variety of nesting habitat

Anna's Hummingbird



Bee Plant *Scrophularia californica*

Western Tanager

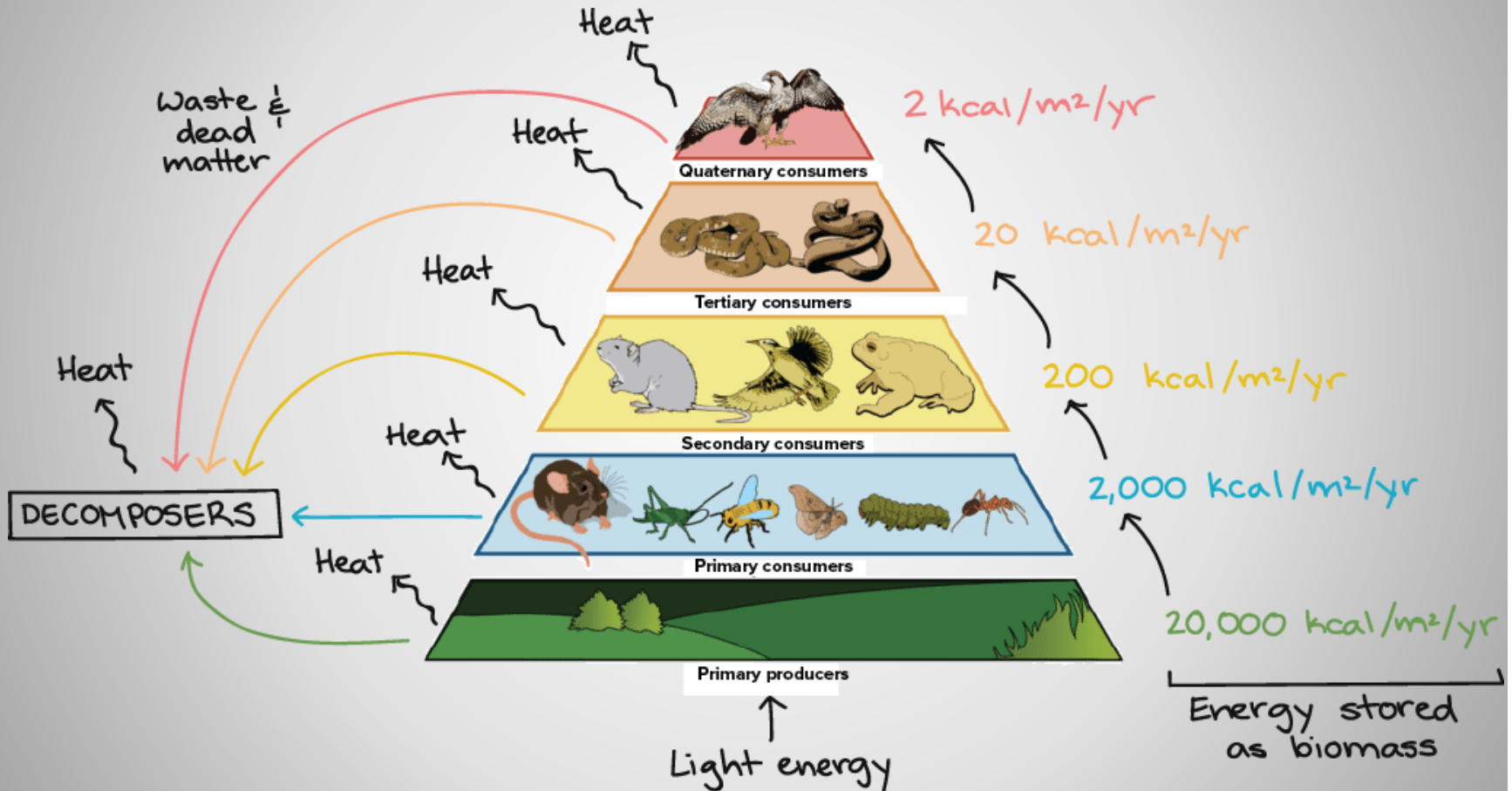


Pine Beetle

What do birds need?

*American songbirds feed their chicks **insects 96% of the time**

Where do they get it? Plants!

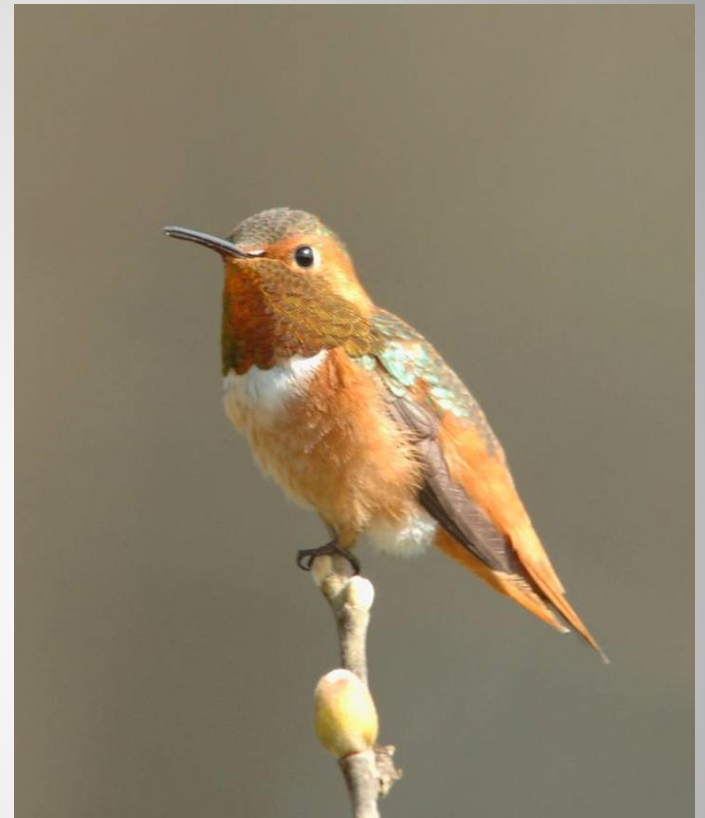


Courtesy: Khan Academy

Native Plants do it best!

Why local native plants do it better:

Evolved from the beginning of life to **THIS location**



First discovered in San Francisco:

Allen's Hummingbird *Selasphorus sasin*

on **Arroyo Willow** *Salix lasiolepis*

Principles of Biodiversity

Why local native plants do it better:

- **Perfectly adapted to:**
 - Our “Mediterranean” climate
 - Our soil conditions



Farewell-to spring *Clarkia rubicunda*

One of many summer and fall blooming wildflowers

Why local native plants do it better:

Co-evolved with all the other species in their community

Co-evolution = evolution involving a series of reciprocal changes in two or more non-interbreeding populations that have a close ecological relationship and act as agents of natural selection for each other



California Thrasher California Coffeeberry

The value of these **unique** genomic types and **relationships** are **extraordinary and special**.

Like Ming Vases or one of a kind art; once they are gone, things that have taken millions of years to create may be gone forever.

- Dr. Brent Mishler UC Berkeley

Principles of Biodiversity

Why local native plants are better:

- **Most are genetically unique**
- **Provide maximum eco-services** for their given location



Franciscan Paintbrush *Castilleja subinclusa*

“A ginkgo that you plant in D.C. and a ginkgo that you plant in L.A. are doing the same thing for bird conservation — nothing”

Dr. Desirée Narango, Smithsonian Institute

Principles of Biodiversity



“This zone here is unique in the whole world.”

James Roof

Director of Tilden Botanical Garden

530+ Native Plants to choose from!

**Bringing “Franciscan Country” home
- our truly unique ecological region**

Map available - <https://www.mrcityprinting.com>

A brief look back: super diverse and unique

By 1846 most of the ancient oaks and riparian trees were cut...
It was not "treeless" or "all sand dunes"





This 1849 map shows the central western portion of Yerba Buena was primarily vegetated dunes



CITY OF SAN FRANCISCO

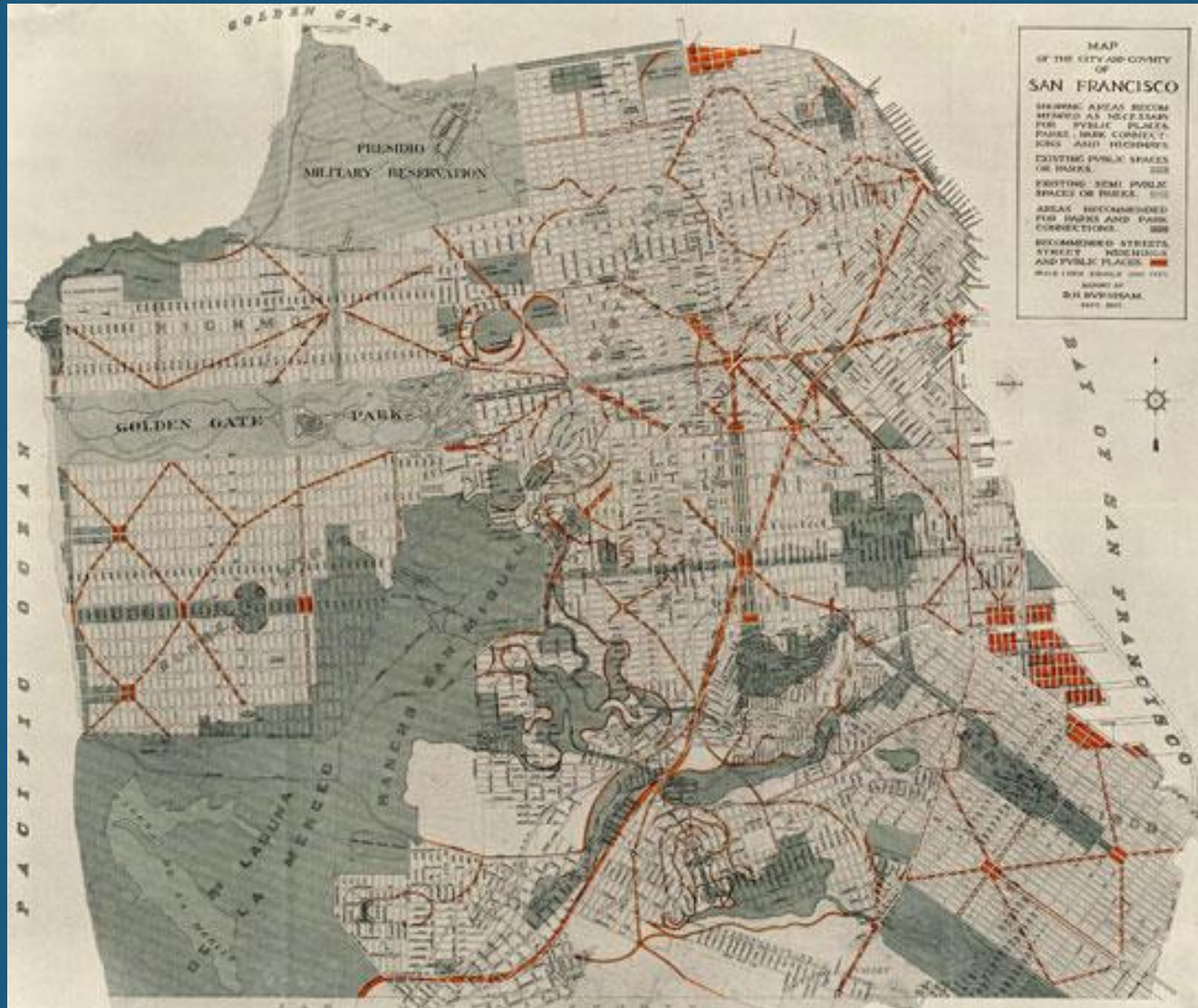
By 1878 the Northeastern portion was primarily built out,
Mission Bay encircled but not yet filled
Potrero working farms, Dogpatch waterfront



THE CITY OF SAN FRANCISCO.

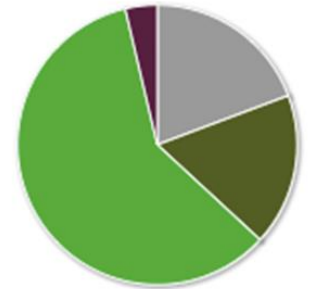
BEING THE VIEW FROM THE BAY LOOKING NORTH-WEST.

By 1905 most of the streets in Potrero Hill and Dogpatch had been planned out but there were still **Green corridors and connectors**





QUICK COMPARISON



60-80% of plants are non-native

We don't have
to look far to
experience our
natural heritage



- Low maintenance
- Generally very low water needs
- Most easy to grow
- Save money
- Support wildlife
- Unique to this area
- Connect us with this area's natural history



Why Biodiversity?

Evening Primrose













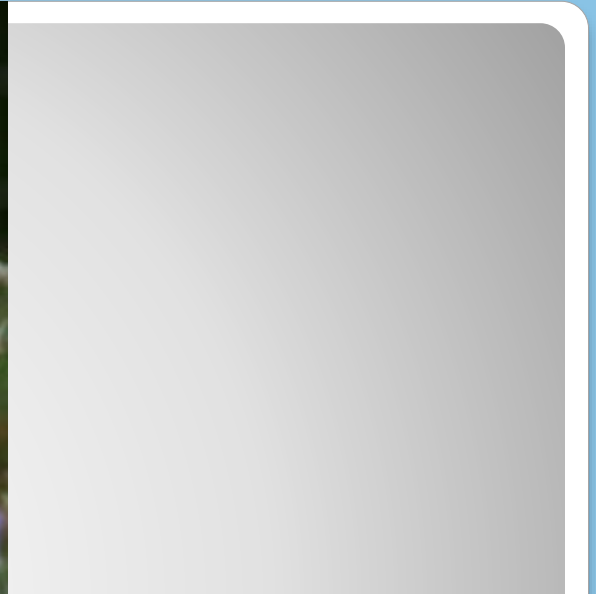
Liam O'Brien

More Native Plants, More Butterflies

- California Poppy



State Flower



- Lupines

Native Wildflower



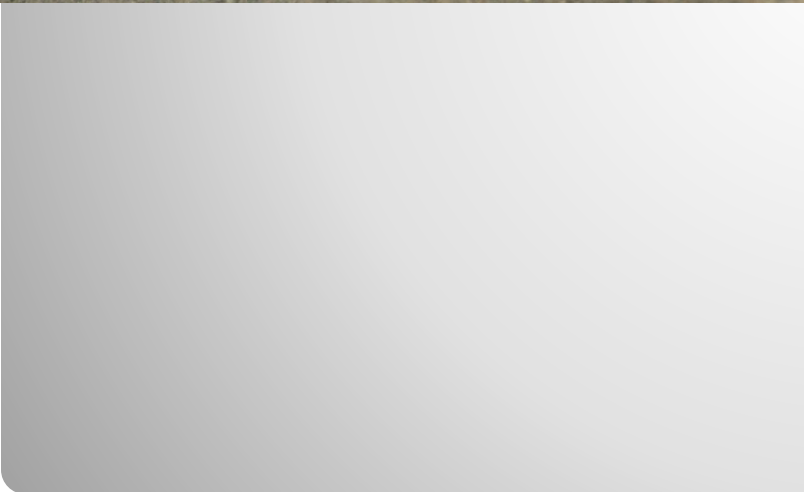


Fruit

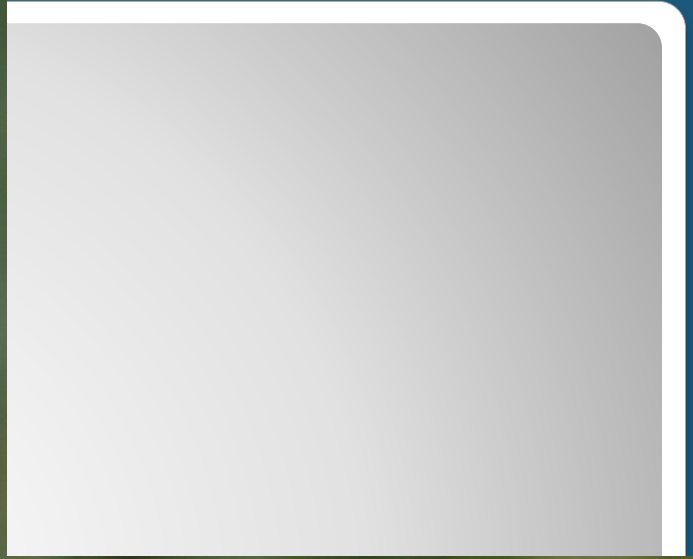


Bay Nature Magazine

Cedar Waxwing and Toyon



Nuts



Seed





Our native insects are not adapted to feed on alien plant species which dominate traditional urban landscapes.

Without the native plants, we won't have the insects, and without the insects we won't have the birds.

Insects



Nectar for Hummingbirds





Pipevine Swallowtail

- Wikipedia

Dutchman's Pipevine

- Las Pilitas Nursery



Nectar

- Height
- Color
- Blooming

**Plan for plant
diversity**



A lawn is nature under totalitarian rule. - Michael Pollan, Second Nature



Native grasses, sedges, wildflowers



Edged by open gardens



Interspersed with boulders, ferns or hedges



Overshadowed by trees of varying heights



Native shrubbery is crucial cover



Clean water



Photo: Sharon Beals

Lizard Tail

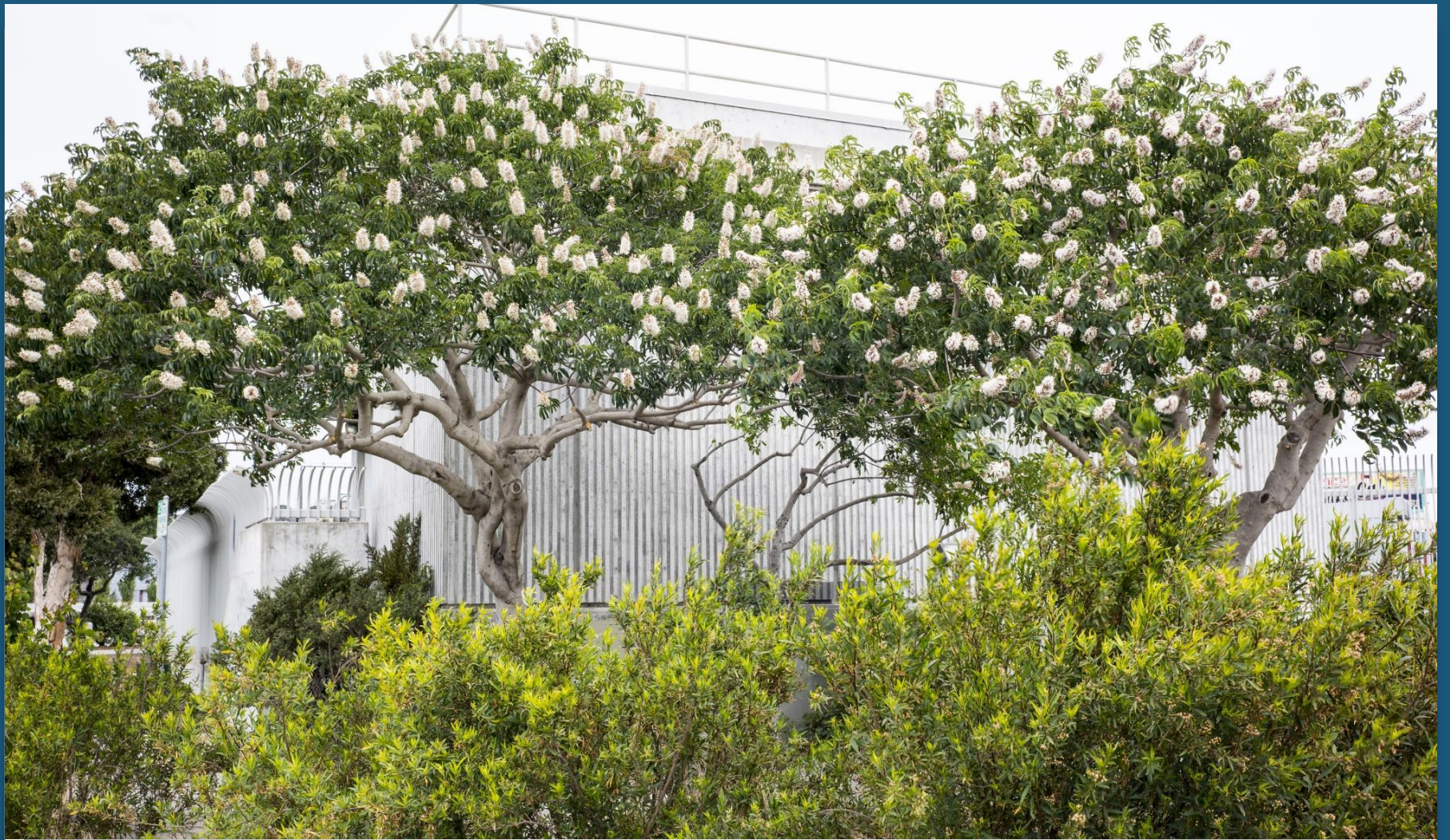


Photo: Sharon Beals

Buckeye



Toyon

Photo: Sharon Beals

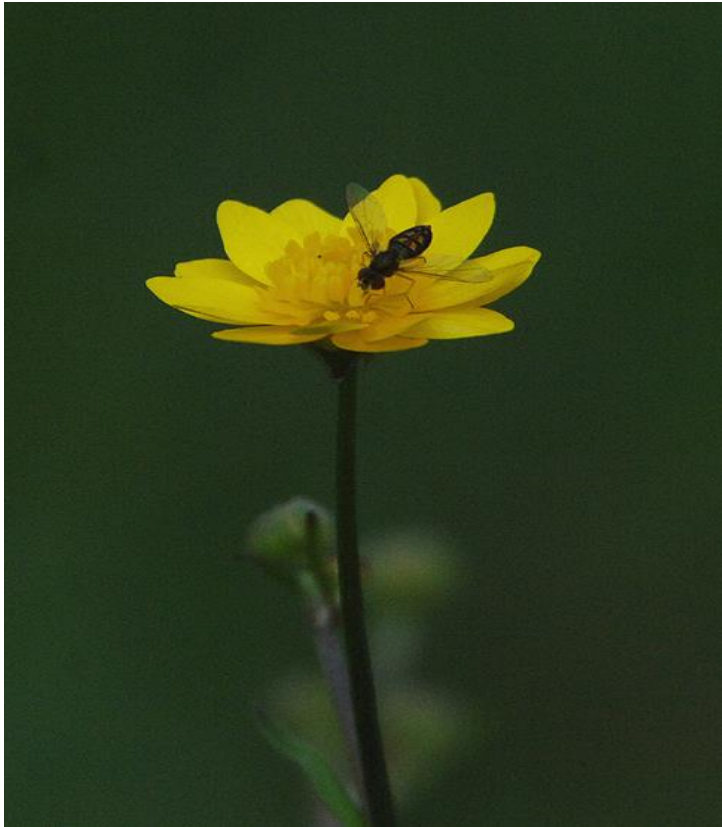


Photo: Sharon Beals

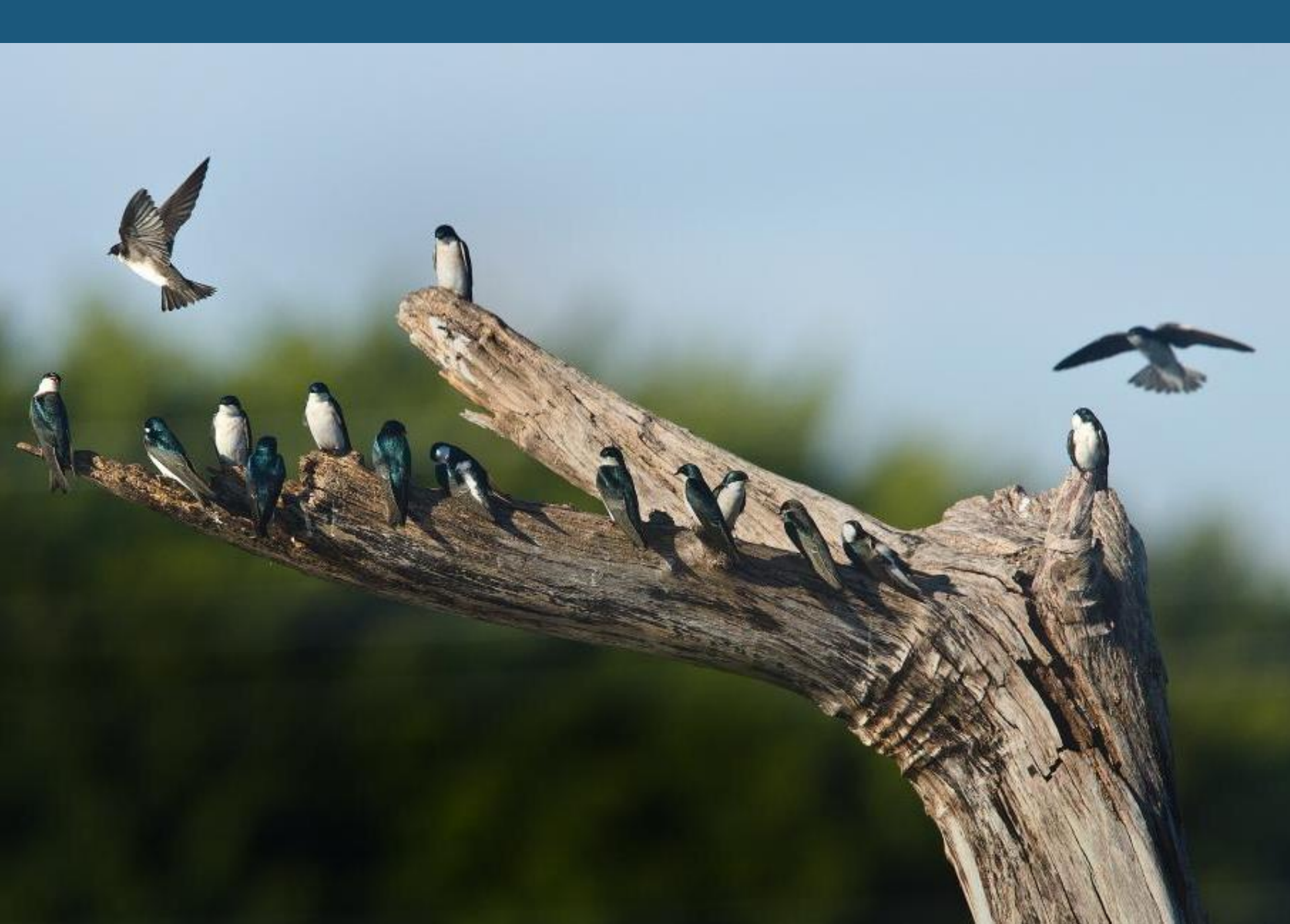
Phacelia



Nesting



**Beneficial
insects vs.
fertilizers &
pesticides**



Tree Swallows Doug Mallaney



Bringing back extirpated species

- Support biodiversity in the GBD
- Plant native plants
- Join Golden Gate Audubon and CNPS Yerba Buena

What Can You Do?



Golden Gate Audubon Society
nweeden@goldengateaudubon.org
(510) 301-0570



Thank You



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