

Migration and Preservation of Monarchs in California

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Breeding Monarchs

THE MONARCH BUTTERFLY LIFE CYCLE

1 Egg
3-5 DAYS

2 Larva
10-14 DAYS

Caterpillar
grows by molting
5 INSTARS

4 Adult
2-5 WEEKS (BREEDING GENERATIONS);
6-9 MONTHS (OVERWINTERING GENERATION)

3 Chrysalis
10-14 DAYS

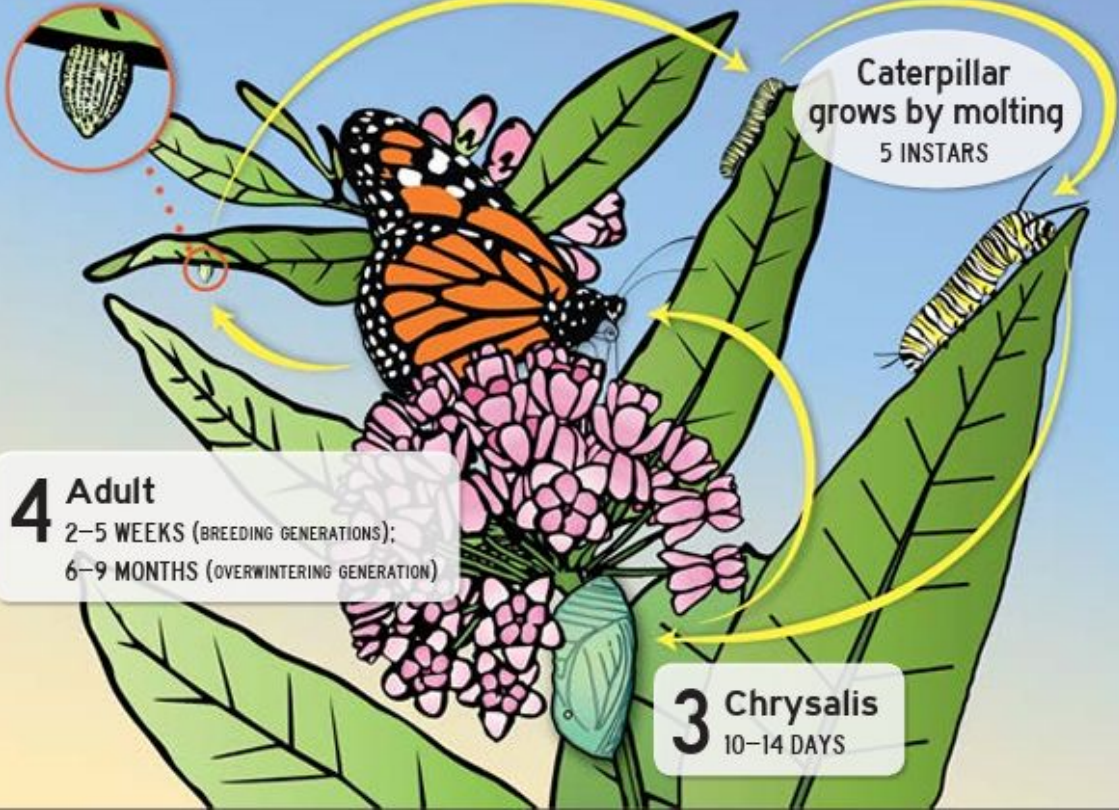


Photo: Isis Howard / Xerces Society

NO MILKWEED /
SIN CRECIMIENTO
DE ALGODONCILLO

NORTHERN LIMIT OF MILKWEED /
LÍMITE NORTE DE ALGODONCILLO

Monarch Migration



Spring & Fall

La Migración de la Monarca

Primavera y Otoño

LEGEND / LA LEYENDA

Overwintering areas		Zona de invernada
Spring breeding areas		Zona de reproducción de primavera
Spring & summer breeding areas		Zona de reproducción de primavera y verano
Summer breeding areas		Zona de reproducción de verano
No breeding area		Sin zona de reproducción
Resident population		Población residente
Potential breeding habitat		Hábitat no confirmada de reproducción
Fall migration		La migración de otoño
Spring migration		La migración de primavera
Unconfirmed migration		Ruta de migración no confirmada



SUMMER / VERANO

SPRING / PRIMAVERA

RESIDENT POPULATION /
POBLACIÓN RESIDENTE

WINTER / INVIERNO

WINTER /
INVIERNO

Overwintering Monarchs



Photo (left): Bob Danziger; Photo (right): Isis Howard / Xerces Society

Western Monarch Count

- Xerces staff led
- Volunteer and partner-powered since 1997
- westernmonarchcount.org

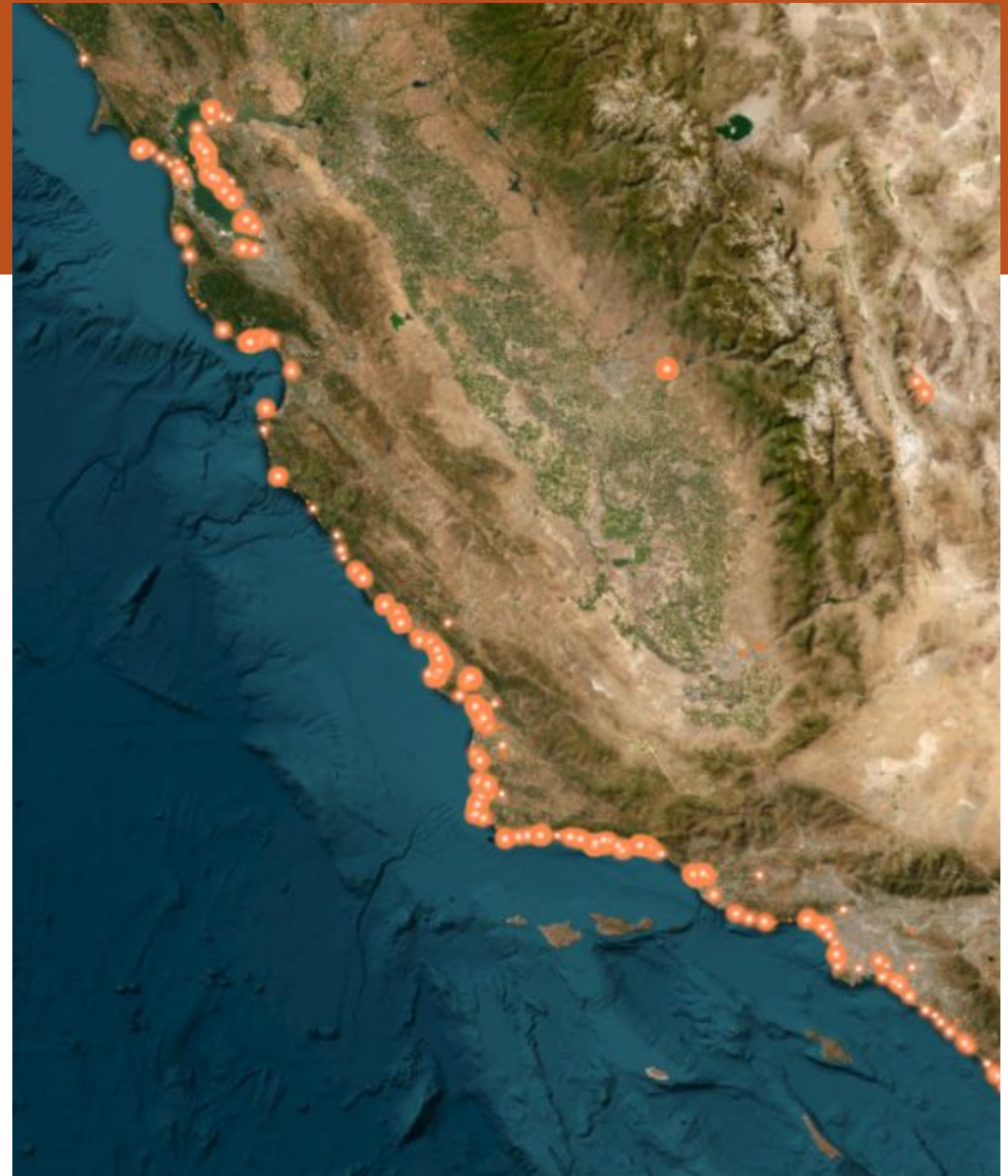


Photo: Traci Ikegami, Xerces volunteer



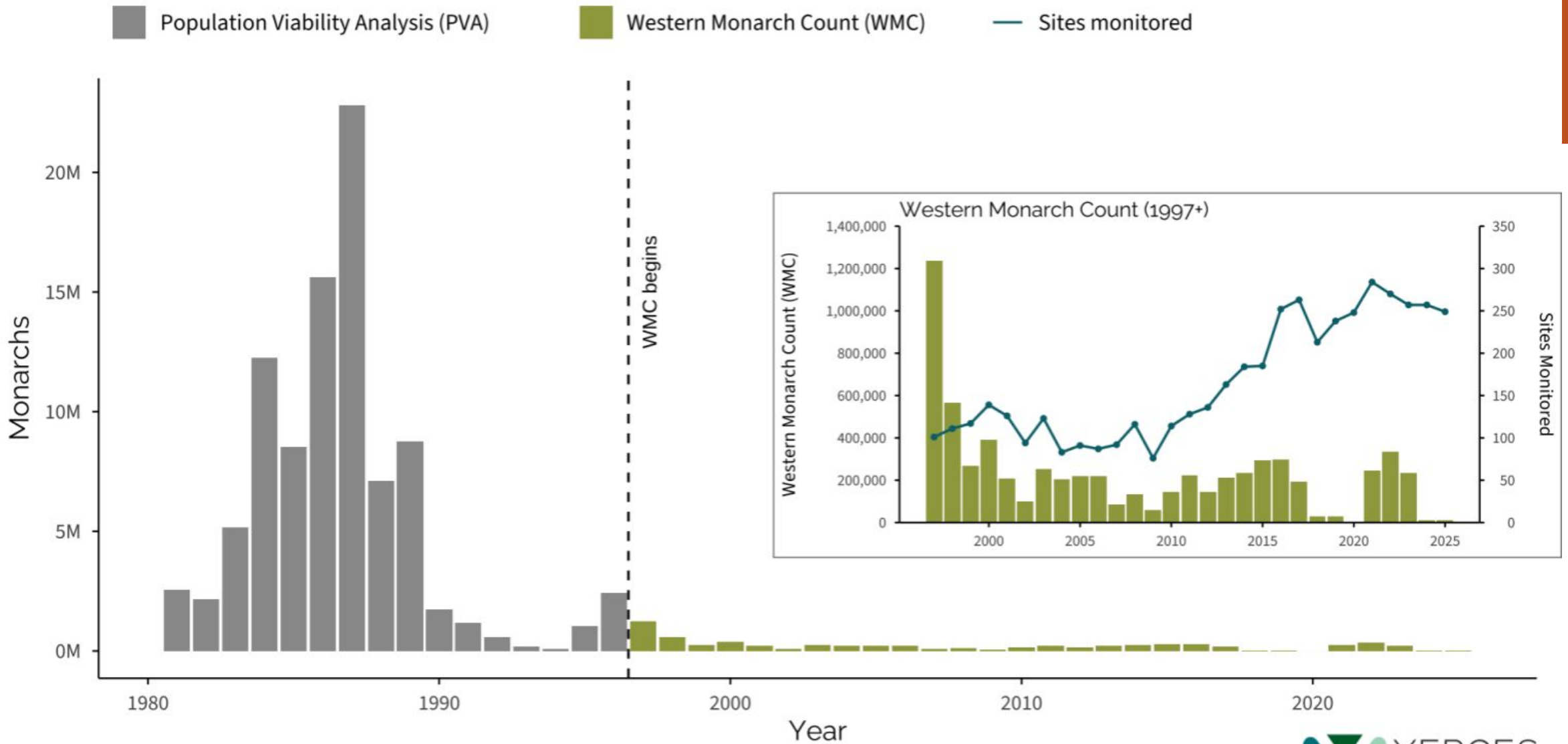
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Western Monarch Overwintering Abundance (1980–2025)

Population Viability Analysis (1980–present) and Western Monarch Count (1997–present)



PVA estimate source: Schultz, C.B., Brown, L.M., Pelton, E., & Crone, E.E. (2017). Citizen science monitoring demonstrates dramatic declines of monarch butterflies in western North America. *Biological Conservation*, 214, 343–346.

Conservation status

- **IUCN Red List:** vulnerable
- **Federal ESA:** candidate species
- **California:** Species of Greatest Conservation Need; overwintering sites in the Coastal Zone considered Environmentally Sensitive Habitat Areas
- Local, state, regional, national, tribal and trinational recovery efforts underway, but more is needed!



GLOBAL THREATS TO INVERTEBRATES

PESTICIDES

Insecticides
Fungicides
Herbicides



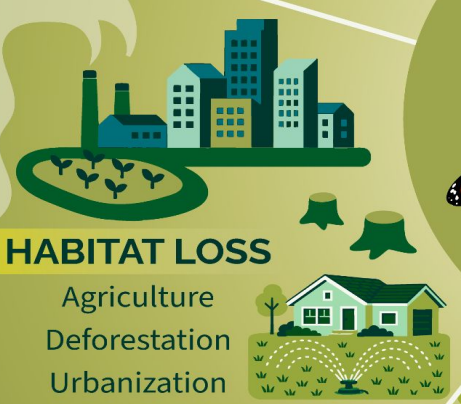
POLLUTION

Chemical
Light



HABITAT LOSS

Agriculture
Deforestation
Urbanization



CLIMATE CHANGE

Storm intensity
Sea-level rise
Drought
Fire



INTRODUCED SPECIES

Managed
Non-native
Plants, animals, & pathogens





California State Parks Role in Monarch Overwintering Site Management

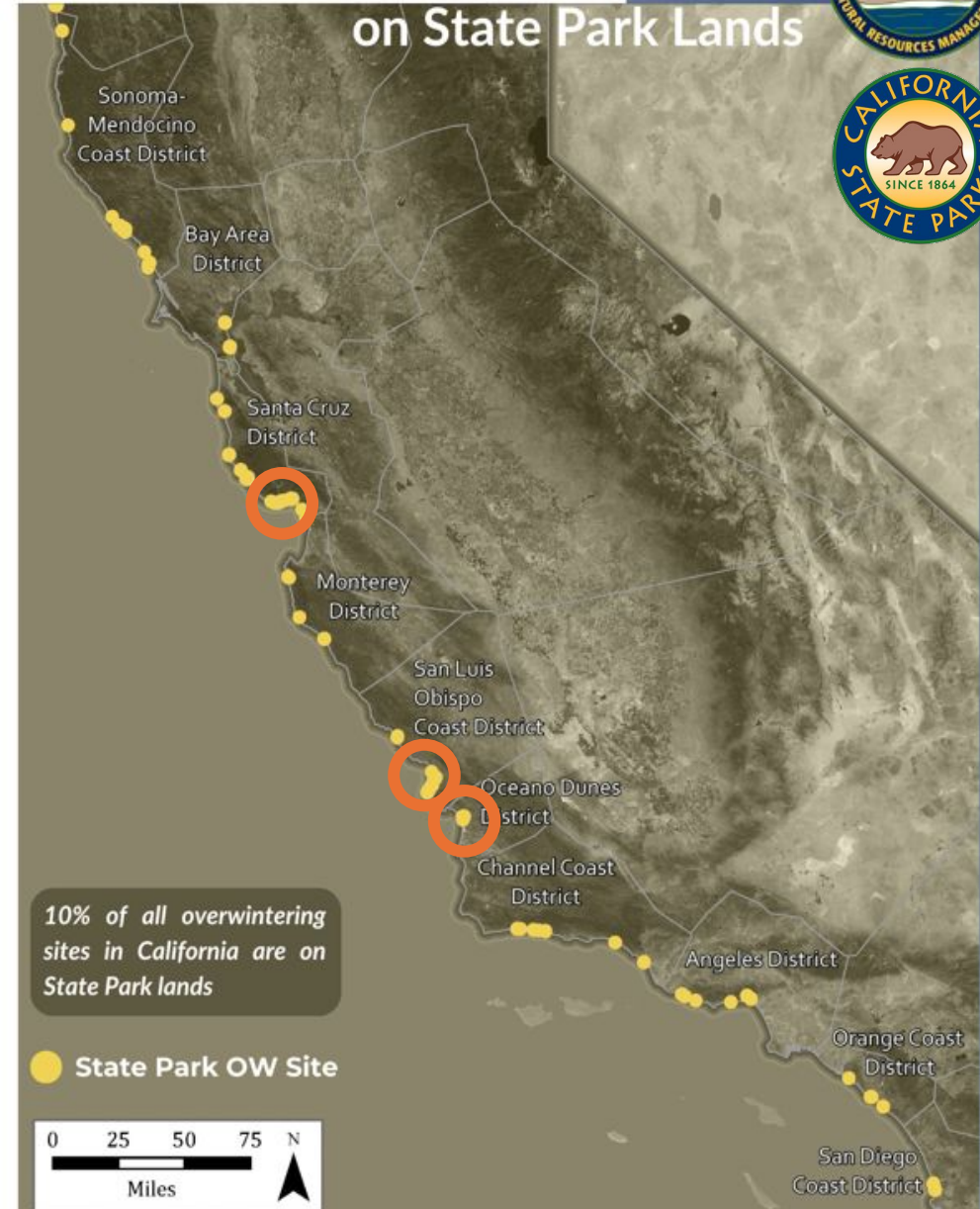
Importance of State Parks for Overwintering Monarchs

~50 sites in 40 parks
(10% of all overwintering sites)

25% in Xerces' top priority sites
(e.g., Pismo, Santa Cruz, Morro Bay sites)

MONARCH OVERWINTERING SITES

on State Park Lands



Lighthouse Field State Park



Andrew Molera State Park



Groves are a small footprint in a larger managed landscape

Western Monarch Site Boundaries



Major Threats in Overwintering Sites

- Tree loss
- Fuels hazards, fires
- Invasive plants
- Habitat disturbance



Other monarch threat

Predators (yellow jackets)



Monarch Conservation at Overwintering Sites

Habitat **assessments**



Management **plans**



Management **actions**



Topanga Canyon State Park



Monarch Conservation at Overwintering Sites

Example Actions

- Monitoring
- Habitat enhancement
- Hazard tree removal
- Native tree & nectar planting
- Visitor management



Photo: RCD of the Santa Monica Mountains

Point Mugu State Park



Lighthouse Field State Park

Monarch Conservation at Overwintering Sites

● **32** sites - Habitat **assessments**



● **19** sites - Management **plans**



● **13** sites - Management **actions**

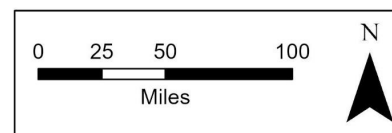




Photo: RCD of the Santa Monica Mountains

Point Mugu State Park (RCD of Santa Monica Mountains)



Lighthouse Field State Park (Groundswell Coastal Ecology)



Photo: Sara Cuadra-Vargas/Xerces Society

Topanga Canyon State Park (Xerces Society/RCD of the Santa Monica Mountains)



Conservation Priorities for western monarchs

MARCH 2026

California Monarch & Pollinator Collaborative: Multi-agency report (coming soon!)

Recommended actions in 6 focal areas:

- Habitat
- Research
- Monitoring
- Outreach
- Funding
- Collaboration

PISMO STATE BEACH
BUTTERFLY GROVE



Monarch Butterfly Overwintering Site Management Plan for Pismo State Beach 5-Year Update

Oceano Dunes District
January 2026



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Cancel

Collect

Submit

● **Count: 275, Tree:1408, on :**
35.138277°N 120.625020°W



Take Photo



Attach

Butterfly# *

275



Tree#

1408



Height (m)

12



Notes



Lower Height (m)



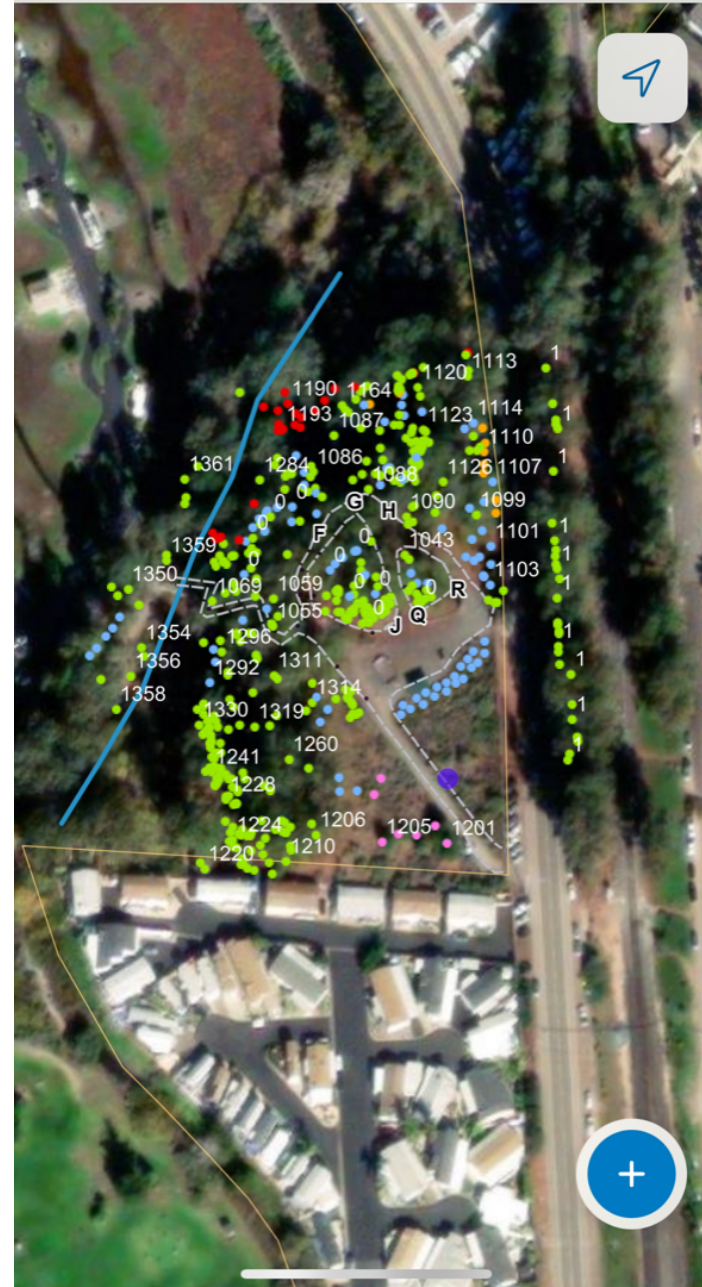
Higher Height (m)



< Maps



GPS accuracy 23.1 ft













Bloom	Common Name	Scientific Name	Flower Color	Max. Height	Water Needs	Notes
				(Feet)	Low, Med, or High	All species perennials, unless otherwise noted. 🦋 Entire genus is likely attractive to monarchs, visit Calflora.org to find native species best adapted to site conditions.
Spring to Summer	1 Nettleleaf giant hyssop	<i>Agastache urticifolia</i>	Purple / red	2	L	Establishes better from transplant than seed. Tolerates clay soil and wet or dry conditions.
	2 Coastal sand verbena	<i>Abronia latifolia</i>	Yellow	1	L	Tolerates salt spray and prefers sandy soils. Can bloom year-round.
	3 Cobwebby thistle	<i>Cirsium occidentale</i>	Pink / white / purple	4	L	Biennial. Attracts bees, butterflies, and hummingbirds. Larval host for several butterfly species.
Spring to Fall	4 Common sandaster	<i>Corethrogyne filaginifolia</i>	Pink / white / purple	3	L	Leave it alone in summer: too much watering can kill it.
	5 Desert globemallow	<i>Sphaeralcea ambigua</i>	Orange	3	L	Drought tolerant. Supports various specialist bees.
	6 Milkweeds 🦋	<i>Asclepias</i> spp.	Pink / white / purple	2-4	L / M	Monarch host plant. ⚠️ <i>Do not plant milkweeds within 1 mile of western monarch overwintering sites or outside of its historic range.</i>
	7 Western vervain	<i>Verbena lasiostachys</i>	Purple	3	L	Good butterfly plant. Tolerates seasonal flooding, sand, and clay. Can be used for erosion control.
Summer	8 Coyote mint	<i>Monardella villosa</i>	Pink / purple	2	L	Requires good drainage.
	9 Mountain monardella	<i>Monardella odoratissima</i>	White / purple	1	L	Does best at mid to high elevations. Attracts many species of butterflies.
	10 Pacific aster 🦋	<i>Symphyotrichum chilense</i>	Yellow / violet	4	L	Tolerates clay soils and wet or dry conditions. Supports various specialist bees.
Summer to Fall	11 Goldenrods 🦋	<i>Solidago</i> spp.	Yellow	3	L	Important late-season forage for bees, butterflies, wasps, beetles, and more.
	12 Smooth beggartick	<i>Bidens laevis</i>	Yellow	3	H	Prefers wet areas and can be used in bioswales. Attracts beneficial insects and butterflies in the fall.
	13 Sunflowers 🦋	<i>Helianthus</i> spp.	Yellow	5-8	M	Excellent butterfly nectar plant. Attractive to many pollinators and beneficial insects.
	14 Western goldentop	<i>Euthamia occidentalis</i>	Yellow	6	H	Wetland-riparian. Attractive to many pollinators and beneficial insects.

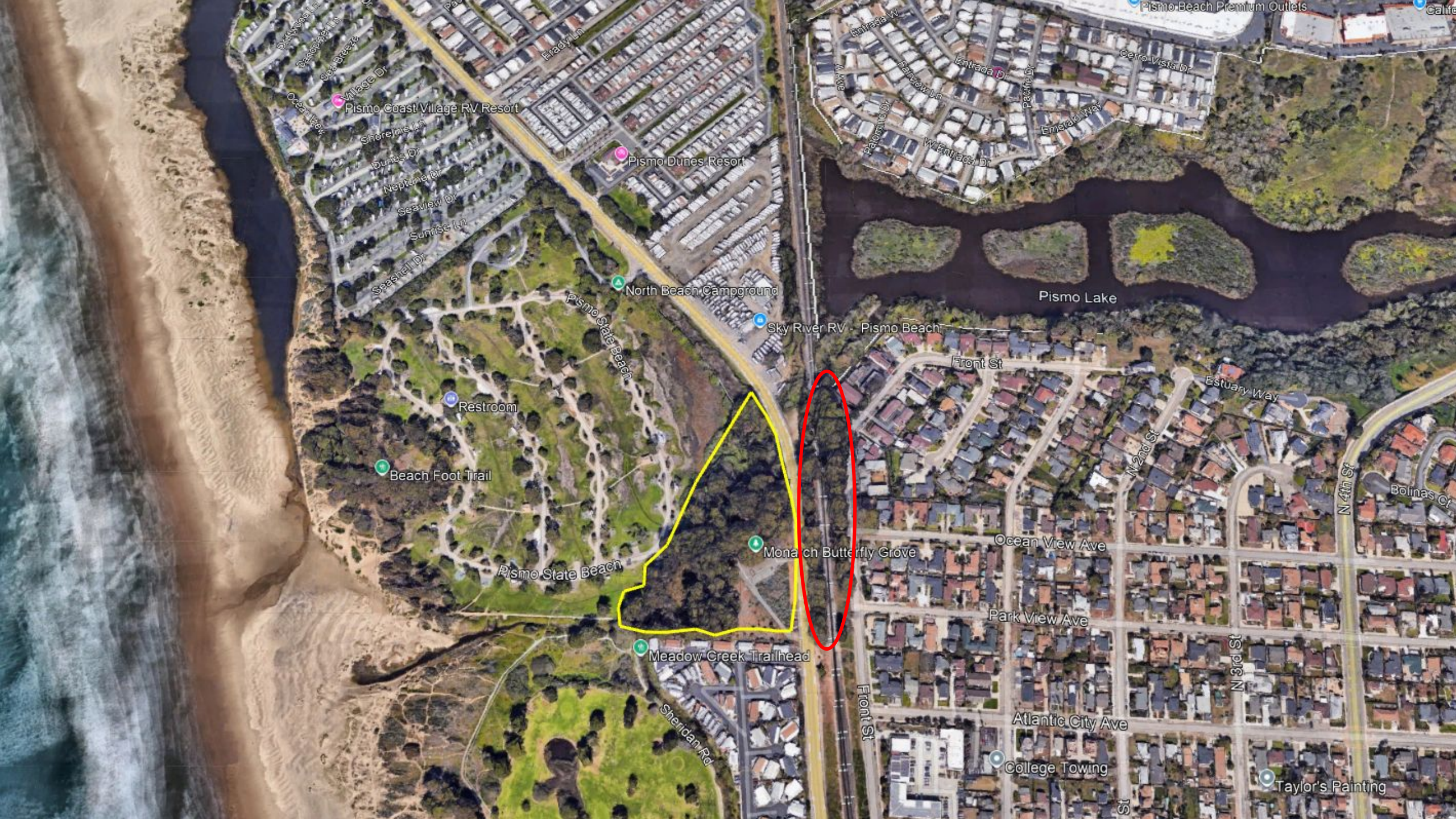
This list of monarch nectar plants for California was produced by the Xerces® Society. For more information about monarch conservation, please visit www.xerces.org



Nectar Garden







Pismo Beach Premium Outlets

Pismo Coast Village RV Resort
Pismo Dunes Resort

Pismo Lake

North Beach Campground
Sky River RV - Pismo Beach
Pismo State Beach
Restroom
Beach Foot Trail
Mona ch Butterfly Grove
Meadow Creek Trailhead

Front St
Ocean View Ave
Park View Ave
Atlantic City Ave
College Towing
Taylor's Painting

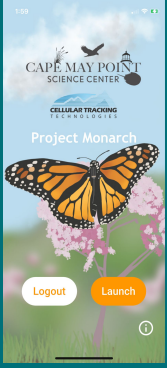


Radiotagging Study on State Parks

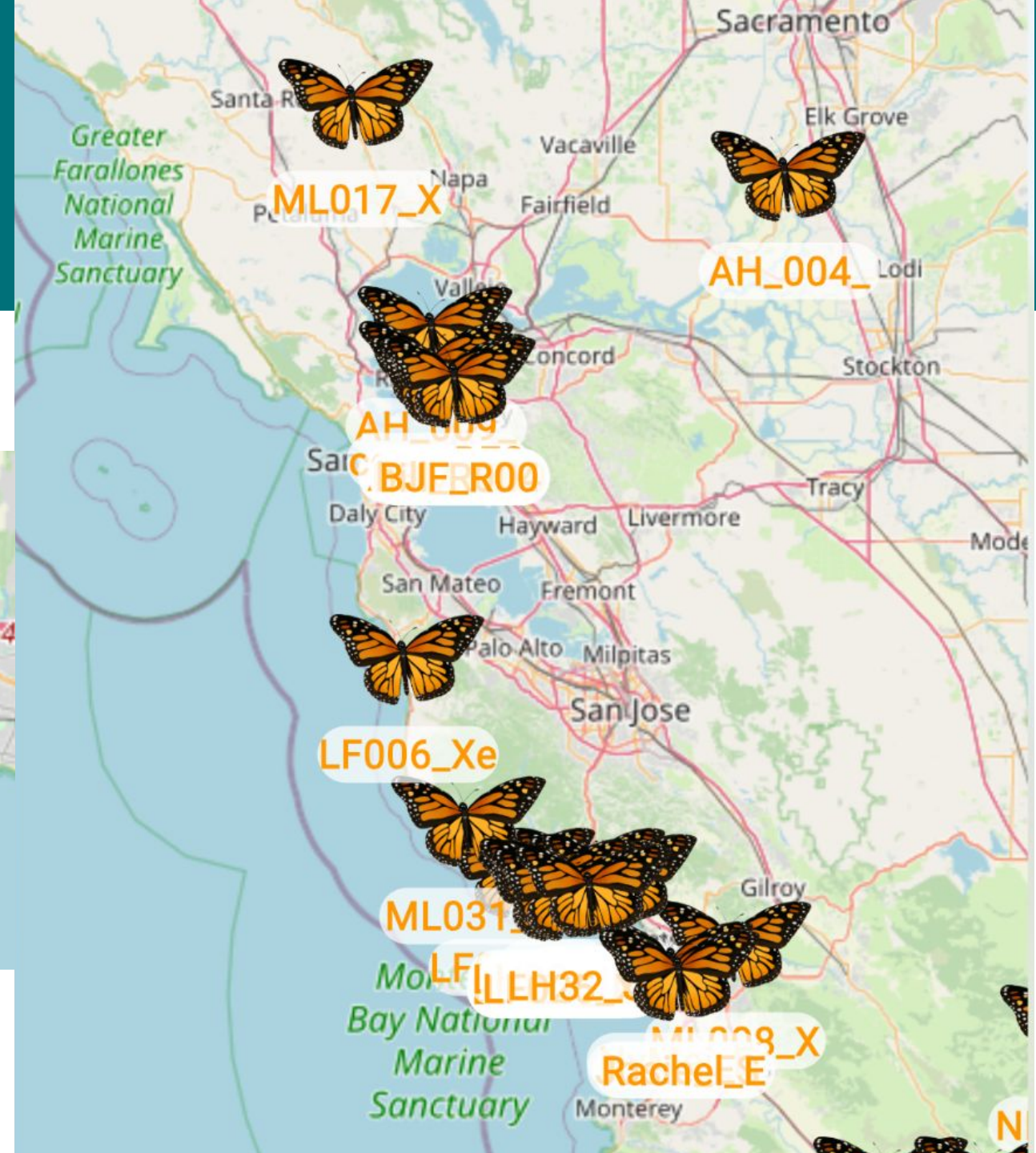
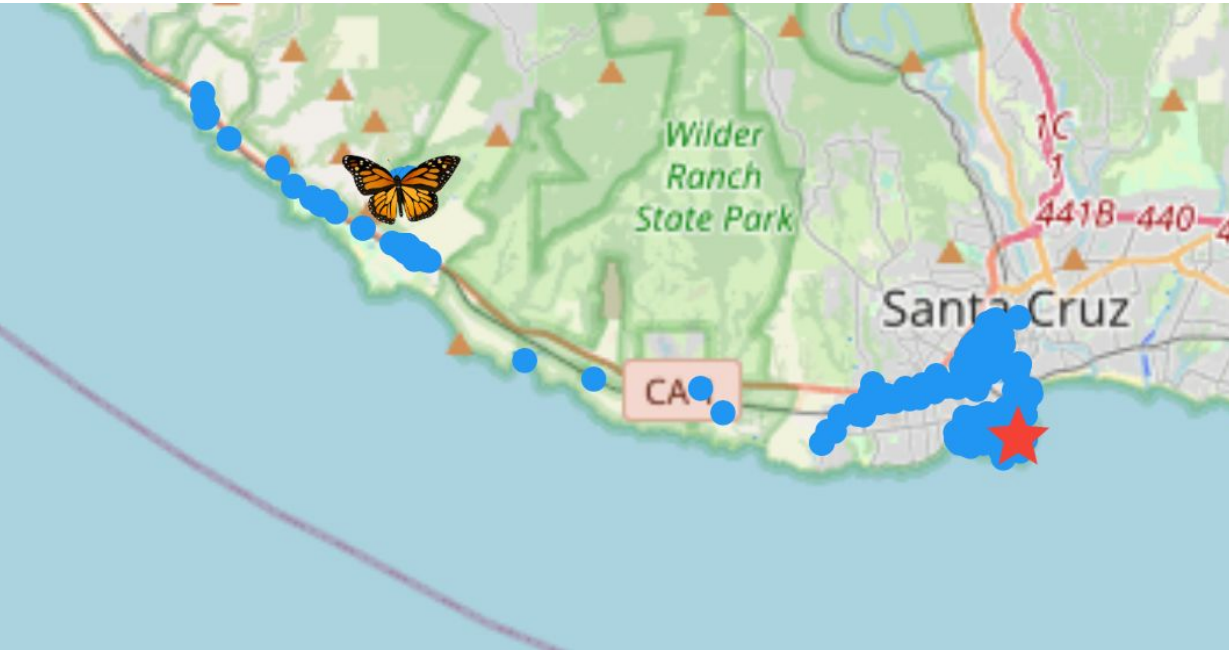


Learn more at our website!





Project Monarch App

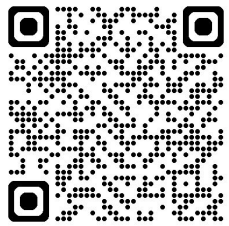


Community Science

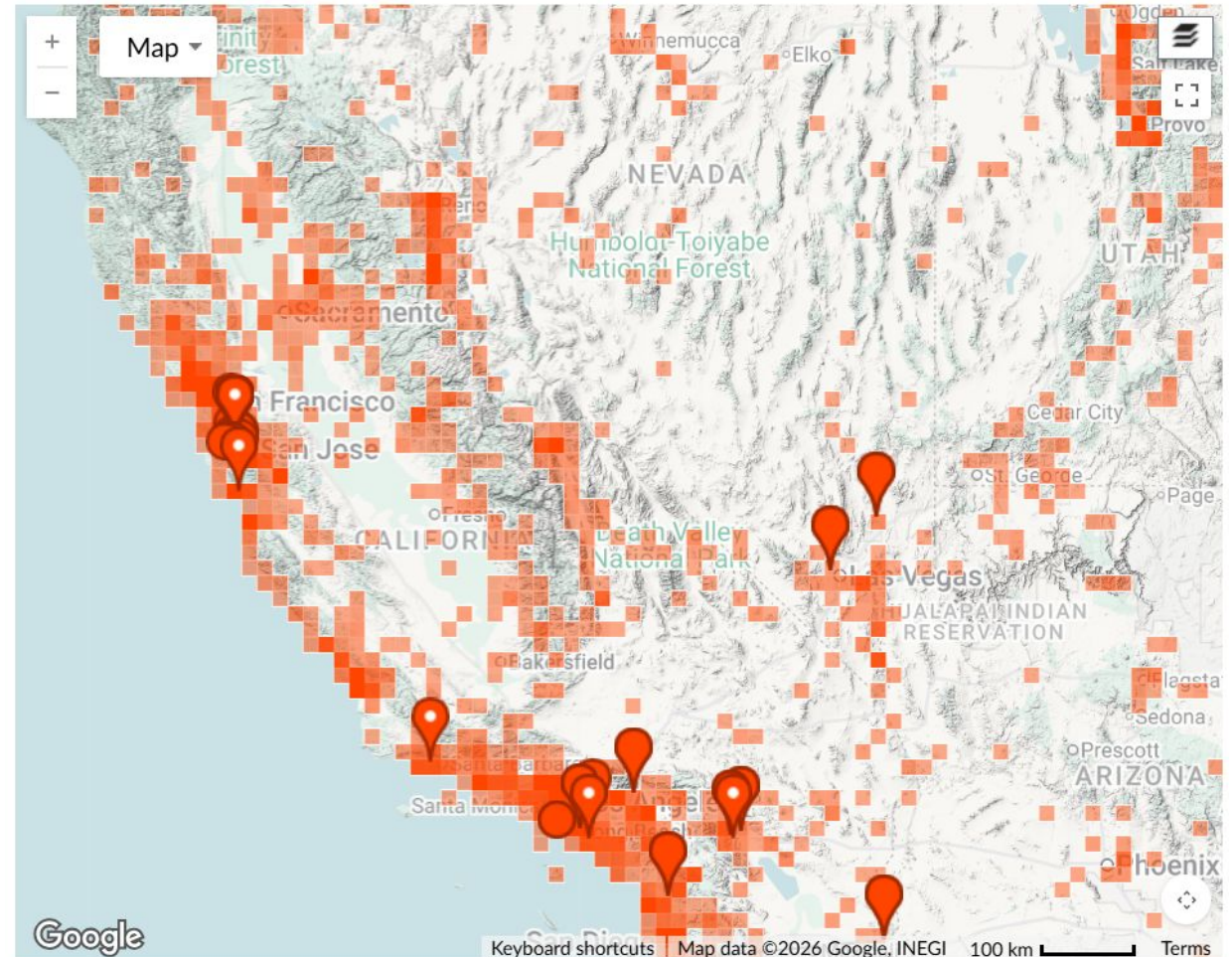
Help us track monarchs and milkweeds using iNaturalist



WESTERN MONARCH
MILKWEED MAPPER



iNaturalist.org



Xerces.org Resources



OUR WORK ▾ GET INVOLVED ▾ GIVE ▾ RES

[Xerces Society - Pollinator Conservation Program](#) - Native Plant, Seed And Services Directory



Native Plant, Seed and Services Directory

Native plants are the foundation of diverse habitats that support pollinators, beneficial invertebrates, and other

MONARCH NECTAR PLANTS California

California is one of the most floristically biodiverse regions in the world, supporting unique plant communities such as prairie grasslands, chaparral, giant sequoia groves, and Joshua tree woodlands. The native plants that make up these communities in turn support an incredible array of insects and other animals, including the monarch butterfly. During spring and summer, monarchs leave hundreds of overwintering sites along the California coast and fan out across the western landscape to breed and lay eggs on milkweed (*Asclepias* spp.), the monarch's host plant. Several generations are likely produced during this time. In the fall, adults from throughout the western U.S. migrate back to overwintering sites in California and central Mexico, where they generally remain in reproductive diapause until the spring, when the cycle begins again.

Once, millions of monarchs overwintered along the Pacific coast of California and Baja, Mexico. By 2018, the population of western monarchs hit a record low of less than 29,000 butterflies, which represents a 99.4% decline since the 1980s. The significant problems afflicting western monarchs include habitat loss, pesticide use, and climate change. Because of the monarch's migratory life cycle, it is important to protect and restore habitat across their entire range. Adult monarchs depend on diverse nectar sources for food during all stages of the year, from spring and summer breeding to fall migration and overwintering. Caterpillars, on the other hand, are complex and may impact at overwintering sites. Provide flowers where significant populations have declined or are not available. The list also includes plants that appear to be native to your region.

Whether to grow milkweed from seed (B), transplants, or rhizomes may depend on the species and the location. Milkweeds are a necessary plant to support monarch caterpillars (C), and provide a rich nectar source for adult monarchs (D) and many other flower-visiting insects. (Photos: L - John Anderson, Hedgecroft Farms, Inc.; C, R - Xerces Society / Stephanie McKnight)

MONARCH JOINT VENTURE XERCES SOCIETY for Invertebrate Conservation

PROTECTING POLLINATORS FROM PESTICIDES Buying Bee-Safe Plants

While it may feel awkward to start the conversation with your retailer or nursery, consumer requests can trend into nursery production practices and the purchasing behavior of retail plant buyers. By respectfully asking the questions outlined here, you will signal that customers are interested and care about the safety of bees. Your initiative will help nurseries understand your concerns, talk more deeply with their suppliers, and adopt valuable changes. Share this fact sheet with friends and family and encourage them to also make up a conversation the next time they buy plants.

Consumer Requests Are Powerful and Can Transform Practices

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NATIVE MILKWEED IN CALIFORNIA Planting and Establishment

Native Milkweed Planting and Establishment in California

Monarch butterflies are an iconic species in California. The western monarch population, which generally breeds west of the Rocky Mountains and overwinters along the California coast, has declined 99.4% since the 1980s. In 2018, the western monarch population reached an all-time low, with only 28,429 butterflies counted.

Because monarch caterpillars can only grow to adulthood when feeding on milkweeds (*Asclepias* spp.), planting native milkweed is a critical component of supporting monarchs and helping their numbers recover. However, native milkweeds can be difficult to grow in the West. The Xerces Society has partnered with local native plant nurseries and USDA Natural Resources Conservation Service Plant Materials Centers to find best practices for growing narrow-leaved and showy milkweed (*A. fascicularis* and *A. speciosa*), because these are the most widespread milkweeds in California and both species are commercially available. While these efforts are ongoing, this fact sheet contains our best information to date on getting milkweeds to flourish.

Western Monarch Call to Action

Faced with these alarming numbers, the Xerces Society worked with monarch scientists at institutions across the West to develop the Western Monarch Call to Action, a five-point rapid response action plan to rescue the western population of the monarch butterfly. Planting milkweeds is one of the essential steps we need to take. To read the call to action and find out more about what you can do to help monarchs in western states, visit www.xercesmonarch.org.

Where should you plant milkweed?

We recommend against planting milkweeds along the coast within 5 miles of monarch overwintering grounds, and in other areas (such as high elevation forest sites) where milkweed did not historically occur to avoid disrupting monarchs' natural behavior. If you live near overwintering sites, consider planting early spring, late fall, and winter-blooming nectar plants instead of

XERCES SOCIETY for Invertebrate Conservation

Priority Action Zones in California for Recovering Western Monarchs

Xerces.org Resource

Priority #1

Coastal areas where monarchs overwinter:
Protect and restore overwintering habitat and plant pesticide-free native nectar plants. *Avoid planting milkweed at or near overwintering sites.* (See “Where to Plant Milkweed” on back.)

Early breeding zone:
Protect and plant pesticide-free early season native milkweed and nectar plants.

Priority #2

North coast areas where monarchs do not overwinter: Plant pesticide-free native nectar plants.

Summer breeding zone:
Identify and protect existing native milkweed and nectar plants. Plant pesticide-free native milkweed and nectar plants.



County boundaries



Xerces Habitat Kit Project

Proposal window is open!



Kit Types & Regions



Provide for ecological diversity with kits developed for different landscapes and regions

Project Types



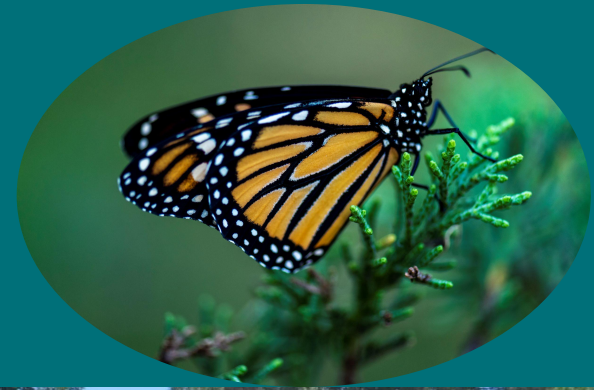
Public lands, working lands, urban gardens, schools, tribes, natural areas

Community



Support community-oriented projects & under-resourced individuals and communities

How to help



- Plant locally appropriate native plants
- Protect monarchs from pesticides
- Eliminate food resources for predators
- Spread the word – monarchs are in decline
- Participate in community science
- Volunteer
- Engage local community groups and politicians to protect and restore monarch habitat

Photo: Bee Campus USA - UC Davis



Questions

