

Meeting the Needs of Monarchs & other Nectar-feeders

Monarchs are in Decline – How Can We Help?

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[youtube.com/c/bugbobswildworld](https://www.youtube.com/c/bugbobswildworld)

Sponsored by California Native Plant Society, San Diego Chapter

Monarch, *Danaus plexippus*

Monarch Adults

- Male: thin bands of black scales on veins, androconal patch on Cu₂
- Female: thick bands of black scales on veins, no androconal patch

Life Cycle

- Egg > Larva > Pupa (Chrysalis) > Adult

Migration

- Eastern migratory population
- Western migratory population
- Non-migratory population: 1° southern Florida

Overwintering

- Spending winter nights together on trees
- Often flying about during the day
- Will drink nectar
- Not hibernating
- This is threatened
- Numbers of monarchs in winter has crashed

Top 50 Priority OW Sites in CA

- Orange County
 - 43. Sundance Drive, Costa Mesa
 - 44. San Clemente State Park
- San Diego County
 - 48. UCSD Coast Site, Azul Street
- https://xerces.org/sites/default/files/2018-05/16-015_01_XercesSoc_State-of-Monarch-Overwintering-Sites-in-California_web.pdf

Xerces Society Counts

- Number of sites monitored has increased
- Number of monarchs found has decreased
- <https://xerces.org/blog/western-monarchs-in-crisis>

Xerces Strategy

- Top 5 Actions - you can easily do the ones in yellow
- Protect and manage California overwintering sites
- Restore breeding and migratory habitat in California
- Plant nectar sources, especially spring bloomers (February–April)
- Plant native milkweed, especially early growers
- Protect monarchs and their habitat from pesticides
- Protect, manage, and restore habitat outside of California
- Research: Continually collect observations of monarchs & milkweeds.

Native Milkweeds

Aboveground parts die in fall/winter

- Narrow-Leaved, *Asclepias fascicularis*
 - White to pink flowers, Hairless slender leaves in 2s to 5s
 - CSS, oak woodlands, grasslands
- California, *Asclepias californica*
 - Maroon flowers, Very hairy wide leaves in twos, Dry CSS & chaparral
- Showy, *Asclepias speciosa*
 - White-pink flowers, Hairy, wide leaves, in twos
 - Many habitats in northern & eastern U.S. to western Canada
- Woolly-fruited, *Asclepias eriocarpa*
 - White flowers, Very hairy wide leaves in twos, threes, or fours
 - CSS, oak woodlands, grasslands

Non-Native Milkweeds

Aboveground parts are perennial

- Bloodflower, Tropical Milkweed, *Asclepias curassavica*
 - Yellow to orange flowers, Hairless leaves
 - Mexico to southern Brazil
- Giant Milkweed, Crown Flower, *Calotropis gigantea*
 - White to lavender flowers, Large leaves
 - Tropical Africa to southern Asia

Problems with Non-Native Milkweeds

- Monarchs can be infected with a protozoan, *Ophryocystis elektroscirrha*, “OE”
- Spores incidentally deposited when laying eggs & nectaring
- Spores eaten by larvae, reproduce, & infect
- Cause crippling, weakness, underweight, or death
- Since non-native milkweeds are perennial, spores are always available
- Repeat visits by monarchs, spore population builds up.

Dara Satterfield on Tropical Milkweed and Monarch Butterflies

- Plant only milkweeds native to your area or state!
- Cut down non-native milkweeds to the ground on November 1, keep cut until March 1.
- Project Monarch Health, monarchparasites.org

Problems with Non-Native Milkweeds

- Spores overwinter on plants, eggs, larvae, pupae, adults
- Monarchs will lay eggs year-round if milkweed is available
- If no milkweed, they won't lay eggs
- Native milkweed dies to ground before winter, so no build-up of spores
- Solution
 - Cut non-native milkweeds to ground in winter, October 1 to March 1
 - Discard cuttings, do not compost
 - Best solution: Plant native milkweeds.

A Strategy for Non-Native Milkweeds

“Admiral Ackbar Strategy” - Bob Allen

- If using non-native milkweed
 - Watch for eggs & young caterpillars
 - Clip leaf with eggs/cats
 - Take indoors, place in container, feed, raise to adult
 - Release adult outdoors
 - Cut tropical milkweed down to the ground from Oct 1 - Mar 1.

Monarchs in Peril

- Xerces Society counts overwintering monarchs in California (~Thanksgiving)
- “From this effort, we know that the western monarch population has undergone a 74% decline over the past 20 years”.

Western Monarch Thanksgiving Count

- Orange County
 - 2018: 0 Overwintering monarchs
 - 2019: 3 Overwintering monarchs
 - 2020: 1 Overwintering monarch

Threats to survival of monarchs & queens?

- Habitat destruction → no milkweed → no larvae
- Pesticides & pesticide drift
- Non-native milkweed & OE
- Lack of adult nectar sources.

Pesticides: Home use is (almost) unnecessary

- All household pests are non-native: cockroaches, house flies, carpet beetles...
- Nearly all home plant pests are non-native insects on non-native plants
- Nearly all of those non-native pests are not pests in their native range
- Native plants have some species that feed on them & evolved with them, thus not pests
- Native plants have few pests; so plant only native plants
- Pesticides are most often used by entomophobes & victims of pest control scams
- Pesticides kill target AND non-target species
- Don't use pesticides!

What can you do?

- Preserve habitat
- No pesticides!
- Plant native milkweed
- Plant adult nectar sources.

Spring/Summer-blooming

- Milkweeds: Woolly-fruited, Narrow-leaved, Showy
- White Yarrow
- California Buckwheat
- Sages: White, Black, Cleveland
- Verbena 'de la mina'

Fall-blooming Wildflowers

- Native thistles
- Coastal goldenbush
- Rabbitbrush
- Goldenrod
- Sand-wash butterweed
- Asters
- Common sunflower

High-value Non-natives

- Research from UC Davis
- Garden Cosmos, *C. pinnata*
- Coneflower, *Echinacea* sp.
- Blanket Flower, *Gaillardia* sp.
- Black-eyed Susan, *Rudbeckia* sp.
- Mexican Sunflower, *Tithonia rotundifolia*

How Can You Help?

- Improve your own milkweed & flowers
- Register as a Monarch Way Station, monarchwatch.org
- Join xerces.org
- Research: Continually collect observations of monarchs & milkweeds...

How Can You Help?

- Monitor Overwintering sites
 - westernmonarchcount.org

How Can You Help?

- Track Monarchs & Milkweed
 - monarchmilkweedmapper.org
- Monarch SOS app
 - monarchjointventure.org/mjvprograms/partnership/projects/monarch-sos-citizen-science-app
- iNaturalist app
 - inaturalist.org