



Steps for Success with Milkweed and Monarchs for the Inland Southern California Valleys

The Western Monarch population is believed to have declined more than 99% since monitoring began in the 1980's.

Why are Monarchs in Decline?

1. Plants of the *Asclepias* genus (milkweeds) are the **only** food source for the Monarch caterpillar. Areas with native milkweed populations have declined due to land use changes to agriculture and urbanization.
2. Broad use of pesticides.
3. Monarch health is impacted by "OE", *Ophryocystis elektroscirrha*, a microscopic parasite that is spread among milkweed and nectar-source plants by infected butterflies.

Other factors include: loss and degradation of over-wintering sites, loss of plants that provide nectar, and climate change.



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Narrow Leaf Milkweed, *Asclepias fascicularis*



PHOTO: JULIA WERTZ, PIVAGAY

Monarch butterfly on a Narrow Leaf Milkweed.

Narrow leaf milkweed is the Monarch's native *host* plant in inland southern California. Its flowers also provide nectar for adult butterflies. It is a perennial (long-lived) plant that grows 3-4 ft. high and forms colonies. It grows best in full to part sun and is a low to moderate water user. It's dormant during winter resprouts in spring.

Milkweed is also an excellent resource for many pollinators and other beneficial insects, including native bees and syrphid flies.

TOXIC: Wear gloves while handling milkweed. After handling, immediately wash hands. Do not rub your eyes. If milkweed sap does get into your eye, seek immediate treatment. Milkweed can be toxic when ingested by people, pets and other animals. After feeding on milkweed, the Monarch itself becomes toxic to animals, which helps protect it.



Ways to Help Monarchs

1. The simplest approach is to grow a lot of native milkweed: the *host* plant for Monarch eggs and caterpillars. Our native Narrow leaf milkweed (*Asclepias fascicularis*) goes dormant during winter here, so **don't weed it out if it appears dead**. It should re-emerge around Valentine's Day.

Keep newly-planted milkweed watered until it goes dormant.

2. If you are growing non-native milkweed, it's important that it be cut back around Halloween to mimic the dormancy pattern of native milkweed. If you happen to have eggs/caterpillars at that time, wait to cut off leaves until butterflies emerge and leave. Cut back non-native, tropical milkweed (*Asclepias curassavica*) every month throughout the winter. Cut tropical milkweed to no larger than 6 inches. Remove leaves and regrowth until February.

You can tell if you need to cut back non-native milkweed by the color of the flower. Remember this:

Yellow or red, disease is spread – pink or white, Monarchs are all right.



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Tropical Milkweed
Keep non-native milkweed cut back from November through February.



© Dave Struthers

Native Milkweed will go dormant during fall and return around Valentine's day.
Don't weed me out!

3. Grow a variety of plants (particularly natives) that provide nectar year-round, especially in early Spring and Fall. For butterflies, include those plants with flower clusters (like yarrow and *Eriogonum*) and flowers with composite heads that butterflies can rest on (like sunflower, daisy and aster). Larger pollinators like hummingbirds get nectar from tubular-shaped flowers. Nectar sources do not have to be from native plants only.

Find a list of nectar plants for Monarchs at: <https://xerces.org/monarchs/monarch-nectar-plant-guides> . It's also important to select "waterwise" plants for conserving water in southern California.

Visit the LandUse Learning Center (4500 Glenwood Dr., Riverside) to see a demonstration garden of pollinator plants and native milkweed. Pick up a design and plant checklist for planning your yard and to take to your nursery.





4. Eliminate pesticide use. Pesticides also kill the beneficial insects that help control pests. Use the least-toxic alternative including diluted soaps, oils, and ant traps.

For milkweed, start by removing pests by hand or spraying with a jet of water. Be careful when watering and spraying pests to not accidentally blow off eggs and caterpillars. Before spraying, check for caterpillars, eggs, and beneficial insects. If present, place your hand behind the part of the plant that you are spraying. That way the eggs and caterpillars will hit your hand and drop down near the plant, rather than blow too far away. Caterpillars may climb back up, or you can very gently place them back on the milkweed. Spray may break off the sap-sucking pests and leave their mouthparts.

If there are a lot of pests, spray three days in a row. It's fine if some remain as food for the beneficial insects. The beneficials, like ladybugs and green lacewings, usually need a week or two to lay eggs and build up their numbers. They will then provide a more thorough control of an infestation.

Milkweed Pests

Common milkweed pests include aphids, white flies, milkweed bugs, scale insects, spider mites, thrips, and leaf miners.



PHOTO COURTESY OF GREG HILME

Milkweed Bug (*Berberis nevinii*)



PHOTO COURTESY OF LUIS PARRA RUBIO

Oleander Aphids (*Aphis nerii*)



PHOTO COURTESY OF BEATRIZ MOISSET

Damage from Leaf Miners



PHOTO: FLOK, SHUTTERSTOCK

Spider Mites (*Tetranychidae*)

For more information about Monarchs and other pollinators:
Pollinator Partnership - <https://www.pollinator.org/pollinators>
Xerces Society - <https://xerces.org/pollinator-conservation>
Monarch Joint Venture - <https://monarchjointventure.org/>

Monarch Watch - <https://monarchwatch.org>
Bee City USA - <https://www.beecityusa.org/>
Calflora - <https://www.calflora.org/>



Lifecycle of a Monarch Butterfly

There are four stages in the metamorphosis of butterflies: egg, larva, pupa, and adult. The Western Monarch lives a very short time, with a generation lasting between one-two months.



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A female adult monarch lays an egg on milkweed. The egg hatches after 3-5 days and becomes a caterpillar.



PHOTO: SQUEEZE, PIXABY

The caterpillar (larva) eats milkweed and grows for 9-14 days. It molts (sheds its skin) five times, finally “pupating” into a green chrysalis.



PHOTO: DIANA RUIZ

A new chrysalis (pupa) is bright green and opaque. It will gradually become transparent.



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The caterpillar spends 8-13 days inside the chrysalis transforming into a butterfly.



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This butterfly has just emerged from its chrysalis. The adult will live 20-32 days eating nectar.



PHOTO: YHEFMAN, SHUTTERSTOCK

A cluster of overwintering Monarchs on a Eucalyptus tree near the California coast.

Several generations occur between late February and October. Then migration begins back to the coast.

The returning generation overwinters along the mild climate of the Pacific coast from California to Baja CA, Mexico. For this reason, it's critical that overwintering sites be protected. Monarchs need tall trees (at least 60 feet high) like Eucalyptus, Monterey pine, and Monterey cypress. The forest must be dense enough to provide wind protection, yet the tree canopy needs to be open enough so that the roosting Monarchs get filtered sunlight that helps keep their bodies warm.

