Gardening Near the Ocean Coast

Western Monarch populations return to over-wintering sites all along California's ocean coastline. One of the historical over-wintering sites is located in the coastal areas close to Bolinas.

Over-wintering Monarch butterflies on the coast are in reproductive diapause—a period during which development is suspended. The presence of larval host plants close to this over-wintering site—anywhere within about three miles of Marin's ocean coast—can interrupt the butterfly's natural migratory cycle and encourage attempts at winter breeding that yield poor survival rates.

Please DO NOT plant any milkweed species if you garden within three miles of Marin's ocean coastline.

Please DO plant fall, winter, and early spring blooming plants that provide the nectar the adult butterflies need. On the occasional warm sunny days in winter, the adults will stir themselves and take the opportunity to recharge their energy.

Find Out More

For more on creating resource-rich garden habitats:
  www.homegroundhabitats.org

For more on restoring natural habitats for butterflies, and gardening in coastal conditions, check in with Audrey, SPAWN nursery manager: audrey@tirn.net

Xerces Society
  www.savewesternmonarchs.org

California Native Plant Society, Marin chapter
  www.cnpsmarin.org

Create an Organic, Pesticide-free Garden

Spring Blooming Plants that Provide Nectar

California Wild Lilac / *Ceanothus* species and cultivars
Manzanita / *Arctostaphylos* species and cultivars
Native Currants & Gooseberries / *Ribes* species
Black Sage / *Salvia mellifera* and other *salvia* species
Seaside Daisy / *Erigeron glaucus*

Plant and Encourage Native Wildflowers: From spring blooming clarkias, gilias, and lupines, to late summer blooming tarweeds, these are all flowers that provide nectar for Monarch butterflies.

Late Summer and Fall Bloomers for Nectar

Asters / *Aster chilensis* and other species
Buckwheat / *Eriogonum fasciculatum* & other *eriogonums*
CA Fuchsia / *Epilobium* (*Zauschneria*) species and cultivars
Coyote Brush / *Baccharis pilularis* and cultivars
Goldenrod / *Solidago velutina ssp. californica*
Gumplant / *Grindelia* species
Toyon / *Heteromeles arbutifolia*
Yarrow / *Achillea* species and cultivars

Native Milkweeds

Showy Milkweed | Asclepias speciosa (on front cover)
Needs full sun and average water in a garden setting. Large, fragrant and showy flower heads. Slow to establish but spreads by runners once rooted. Best for large gardens.

Narrow-Leaf Milkweed | Asclepias fascicularis (below)
Lacy foliage gets about 3 feet tall; generally well-behaved. Flower clusters are modest but popular with bees and butterflies. Very drought tolerant; can survive with little summer water once established.

narrow-leaf milkweed
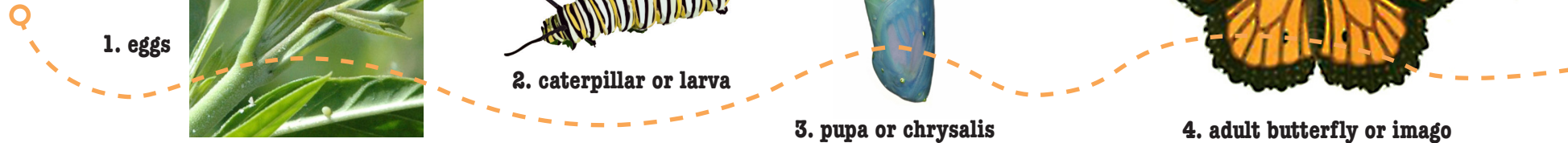
MONARCHS and MILKWEEDS in MARIN

What <u>you</u> can do to help this regal butterfly

HOME GROUND HABITATS

The Monarch butterfly is an insect that just about everyone loves!

With populations in steep decline, Western Monarchs need your help.

Monarch life cycle

1. eggs

2. caterpillar or larva

3. pupa or chrysalis

4. adult butterfly or imago

As recently as the 1980s, millions of Monarchs over-wintered at sites in Marin and along the California coast. In recent years, citizen scientists have documented a plummeting population, which is now less than 1% of its historic size. Monarchs, like many other insect populations, have been stressed by habitat degradation, the loss of larval host plants, and the use of pesticides. All of these factors have contributed to potential loss of the Western Monarch, an iconic symbol of the beauty of nature.

✳ There are no quick fixes but much that CAN be done— and now is the time to help!

Monarch butterflies go through four life stages: the egg, larva (caterpillar), pupa (or chrysalis), and imago or the adult stage—the butterfly. In the pupal stage, the larva undergoes a magical transformation into a butterfly.

✳ At each stage, specific needs must be met for the insect to progress to the final, adult form.

Why Milkweed?

No doubt you have heard that Monarchs need milkweed, but it's the first two stages of the life cycle that are dependent on this plant. Milkweed is the only plant that caterpillars will feed on, therefore, it is the only plant that a female Monarch will lay her eggs on. Without this plant, the cycle does not start. Many host plants are needed to maintain healthy populations.

Milkweeds contain toxic organic chemical compounds called cardiac glycosides. Monarch larvae sequester these toxic compounds within their bodies, which are then passed on to the adult stage. Their bright colors also warn visual predators that they are toxic and distasteful.

There are about 110 different species of milkweeds native to North America, and a number of these plants have been used as garden ornamentals for many years. Unlike the milkweeds native to California, which are herbaceous perennials and die back to the ground in the late fall, some other American milkweed species are evergreen perennials, which may encourage a female to attempt a late brood.

Monarch Migration

Monarchs are famous for their long-distance seasonal movements. The life of a Monarch butterfly includes:

• Arrive at overwintering sites along the coastal areas of Marin between September and November

• Fill up on nectar to prepare for the winter

• On warm winter days, fly to nectar sources and hydrate

• When temperatures begin to warm up (around Feb.), mate and disperse from coastal areas; females travel in-land to search for milkweed. They need nectar to support them on their journey.

• The butterflies that return to the coast in fall are third or fourth generation descendants of the butterflies that left the previous spring!

✳ FIND OUT MORE. Some of the organizations working to assist Western Monarch populations in Marin are listed on the reverse.

✳ If your garden includes any milkweeds other than the species native to California, please be SURE to cut them all the way to the ground by late October.