



Steps to Take to Save the Western Monarch Migration

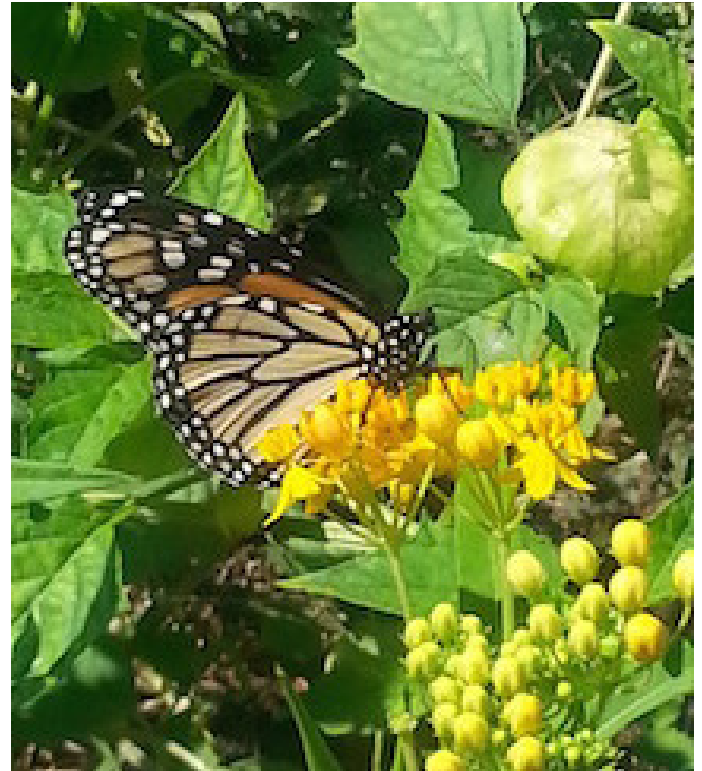
Birgitt Evans, MGAC Class of 1999

Many of us awoke this winter to the devastating news that only 28,429 monarchs were counted this winter in their overwintering colonies along the coast of California, down from approximately 4.5 million butterflies in the 1980s and a historic population of about 10 million. So here it is: extinction on our doorstep.

It may well be too late to save the Western Monarch Migration, the threshold below which the population cannot sustain itself may have been reached. But I have seven flats of native milkweed seedlings on my porch, part of a large-scale planting effort by the Master Gardeners at the Lake Merritt Trials Garden; my declaration that we are not going down without a fight.

The Migration

Western monarchs leave their overwintering grounds in February or March, heading north. Females stop at milkweed bushes to lay eggs along the way. Eggs hatch after about four days, and the caterpillar goes through five instars or stages between molts before the fifth instar leaves to find a suitable

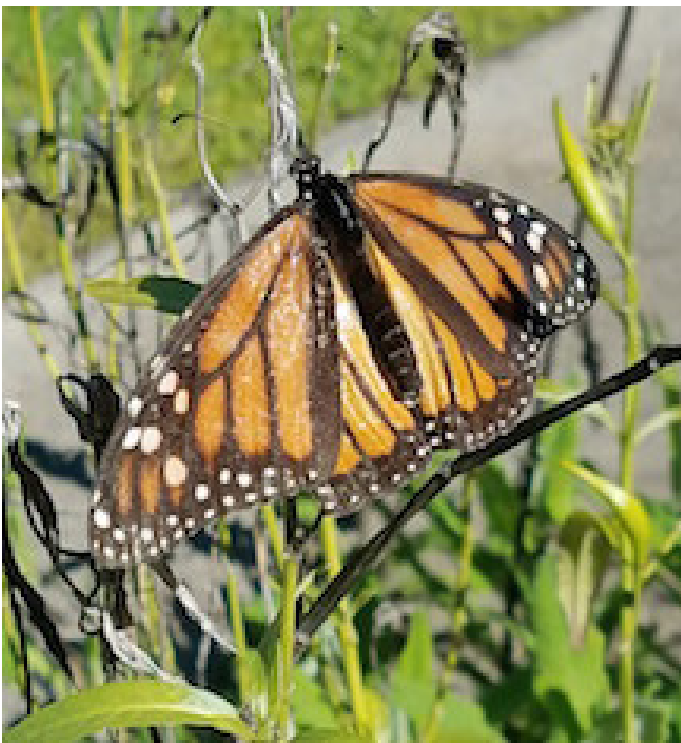


location to pupate. The adult monarch emerges after about two weeks in the pupa and continues north. The entire process, from egg laying to emergence, takes between 20 - 35 days, depending upon temperature.

The migration reaches its northernmost limit in about mid-June, with the adult monarchs living about 2 - 5 weeks and mating and laying eggs multiple times during their lifetimes. In the fall, the final generation migrates back to their coastal California overwintering sites. This overwintering population has a delayed sexual maturity and a lifespan of between 6 - 9 months. During the winter they cluster together in protected groves, favoring eucalyptus and Monterey pine and cypress trees, feeding on nectar, historically provided by winter-blooming California natives.

Milkweed

Today's monarchs face several challenges, the most intractable being a lack of milkweed (*Asclepias spp.*) on which to lay their eggs. The increasing lack of milkweed stems from the construction of housing on urban and rural lands, intensification of agriculture and the control of roadside vegetation by mowing and the use of herbicides. In addition, milkweed plants are being rendered toxic to the caterpillars by the use of systemic insecticides which are absorbed by the plants and distributed throughout their tissues.



Concerned, many people responded by planting milkweeds in their gardens. Unfortunately, most of the plants available were non-native species, such as Tropical milkweed (*Asclepias curassavica*) which has since been found to host a common monarch pathogen (*Ophryocystis elektroscirrha*, or OE) which causes the butterflies to hatch with deformed wings.

In response to OE, we at the Trials Garden removed all nonnative milkweeds from our monarch garden, replacing them with narrow-leaved and showy milkweeds, two California native species. It now seems that this was another mistake. Both of these species emerge from dormancy after the migrating population has moved through, looking for places to lay eggs. Our narrow-leaved milkweed is only an inch tall in mid-March, far too small to be found and utilized by female monarchs.

The Xerces Society has come out with new recommendations for milkweed species that emerge earlier in coastal climates. These include woollypod/Indian (*Asclepias eriocarpa*), California (*A. californica*), and heartleaf milkweed (*A. cordifolia*). Their “Western Monarch Call to Action” page contains innumerable resources and links, including



sources for seeds of these species. At the Trials Garden, we have planted seeds of three native species of milkweed and will continue to search for additional species with the intention of handing out plants to county residents at outreach events in exchange for their pledge to plant and tend the plants for the butterflies. It is our hope that we can create a large enough reservoir of food plants to sustain an increase in butterfly populations.

Nectar Plants

The other thing that monarchs need as they overwinter and as they begin their migration north is food. The Xerces Society has a list of winter blooming plants that historically fed overwintering monarchs; however, many of them are either too large for home gardens or suited to the desert areas of the southern overwintering spots. Some plants

on their list that would be suited to gardens are Bluedicks (*Dichelostemma capitatum*) and Seaside Daisy (*Erigeron glaucus*). Several other winter blooming butterfly plants suited to home gardens are California Golden Current (*Ribes aureum*), Verbena lilacina and Felicia aethiopica, all of which are available at local nurseries. Planting milkweed is fantastic, but it is equally important to plant food for the adults, as well.

The loss of our monarch migration is a big problem, but one in which we are not entirely helpless. I would like to encourage gardeners and monarch-lovers across our county to acquire seeds of the newly recommended milkweed species (woollypod, California and heartleaf) and plant them and to speak with local nurseries about the immediate need to stock these species. I encourage you to visit the Xerces Society’s “Call to Action” page and explore the information available there; xerces.org/save-western-monarchs/ If enough of us act, there is still a chance of saving our Western Monarch migration.

More Information

Visit the Lake Merritt Trials Garden Pollinator Habitat and read more about how to “Create a Monarch Butterfly Habitat in Your Own Garden!” - <http://acmg.ucanr.edu/files/264644.pdf>

Find more information about our native milkweed in a guide produced by the Xerxes society. “California Pollinator Plants Native Milkweeds” - <https://xerces.org/wp-content/uploads/2011/03/xerces-nrcs-california-milkweed-guide.pdf>

Learn what the UCCE program in Vacaville is monitoring- “What’s Going On With the Monarchs” - <https://ucanr.edu/blogs/blogcore/postdetail.cfm?postnum=28097>



Asclepias eriocarpa -Photographed by John Rush at Regiona Parks Botanic Garden located in Tilden Regional Park.