

Monarch Ecology

The monarch butterfly is well-known for its long-distance seasonal migration and its spectacular winter gatherings. Monarchs living east of the Rocky Mountains generally migrate to central Mexico to overwinter. To the west of the Rockies, monarchs mainly migrate to the California coast, which is the only place in the United States that regularly hosts the awe-inspiring sight of thousands of monarchs gathered for the winter. These days, most of California's monarchs cluster in groves of nonnative eucalyptus, although they will also use native trees such as Monterey pine, Monterey cypress, and redwood. Many of these native trees are now less common on California's coast, which may explain why monarchs tend to be seen on eucalyptus.

In the spring, monarchs disperse across California and several western states, searching for milkweed plants on which to lay their eggs. Monarch caterpillars will only eat milkweed to grow and develop into adults. Several generations are produced throughout the spring, summer, and fall, with the last generation migrating to the California coast in the fall. Remarkably, monarchs return to the same groves of trees as their ancestors. How they complete this feat remains a mystery!

Monarch caterpillar eating milkweed.



The Xerces Society is a nonprofit organization that protects

wildlife through conservation of invertebrates and their habitat. To protect western monarchs, the Xerces Society is working with multiple partners, to:

- Increase production of native milkweed seed to help reverse loss of milkweed in important monarch breeding areas.
- Protect, manage, and restore coastal California overwintering habitat.
- Conduct monitoring and management workshops for citizen scientists and landowners.

www.xerces.org/monarchs



The Monarch Joint Venture is a partnership of federal and state agencies, non-governmental organizations, and academic programs that are taking a science-based approach to protecting the monarch migration across the lower 48 United States. The MJV is achieving this goal through a combination of: 1) monarch habitat conservation; 2) education; and 3) research and monitoring to inform monarch conservation efforts.

www.monarchjointventure.org



The Pacific Grove Museum of Natural History inspires discovery, wonder, and stewardship of the natural world. The Museum highlights the miraculous life and endangered migration of monarch butterflies throughout the California Central Coast, and provides education and interpretation at the Monarch Grove Sanctuary in downtown Pacific Grove.

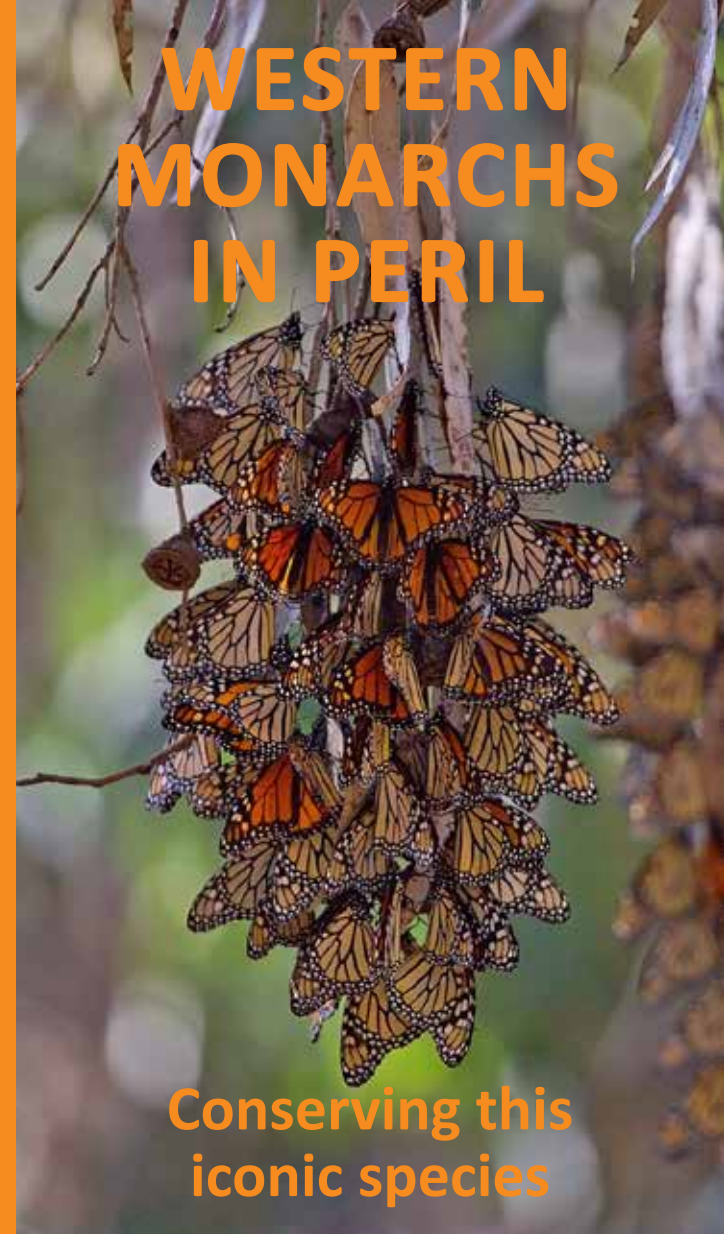
www.pgmuseum.org

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WESTERN MONARCHS IN PERIL



Conserving this iconic species

Hundreds of thousands of monarch butterflies spend the winter in tree groves along the coast of California. They come from breeding areas as far north as Canada, but with a greater than 80% decline in monarch numbers at many of California's overwintering sites since 1997, the future of this migration is at risk.

Read about how you can help!

Monarchs in Decline

The future of the western monarch migration is at risk. Since 1997, citizen scientists have monitored California's overwintering monarchs, revealing 80% or greater declines in butterfly numbers at many sites. This underscores the need to gain a clear understanding of the status of monarchs and their habitat, and to take conservation action.

Scientists believe monarchs are disappearing because:

- ❁ **Milkweed breeding habitat is being lost** due to herbicides, urban and rural development, and the intensification of agriculture, as well as long-term drought, which may be linked to climate change;
- ❁ **Overwintering groves are being destroyed** by development; and
- ❁ **The quality of overwintering habitat is getting worse** as trees in the monarch groves age.

How YOU Can Help Protect Western Monarchs and Their Habitat

- 1. Plant native milkweed.** This can be in your backyard, at your workplace, or at your school. Nonnative tropical milkweed, although widely available, should not be planted because it may interfere with the monarchs' natural breeding and overwintering cycles, and increase monarch parasites. Also, the Xerces Society recommends against planting any milkweed within one mile of an overwintering site, as it may trick monarchs into breeding out of season. If you live in California, visit the website below to find out which native milkweeds to plant: <http://www.xerces.org/milkweed/>
- 2. Plant native flowers.** Monarchs need nectar to provide energy to migrate, breed, and overwinter. Flowers can be planted anywhere, including overwintering sites.



Monarch nectaring on showy milkweed.



Overwintering cluster in coast redwood.

3. Avoid using insecticides and herbicides.

These may kill butterflies or caterpillars, or kill the plants that monarchs use for nectar or breeding.

4. If you live near an overwintering site or monarchs roost on your property, consult with a monarch expert before cutting or trimming any trees.

Monarchs are very choosy about the overwintering sites they use. Improper tree trimming or removal may result in unsuitable habitat for overwintering monarchs.

5. Become a citizen monitor. The Xerces Society is looking for volunteers who are able to visit the same overwintering sites year after year to monitor monarch populations. For more information, contact us at monarchs@xerces.org.

6. Support monarch conservation efforts. Volunteer for or donate money to projects and nonprofit organizations that protect monarchs.

Photos

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Caterpillar © Bryan Reynolds, www.bryanreynoldsphoto.com.