

Western Monarchs at Risk

The Plight of Monarch Butterflies Along the West Coast

The monarch migration to Mexico is well known, but monarchs from western states overwinter in coastal groves in California.

The number of returning butterflies has dropped steeply.

Action is needed to manage groves and expand milkweed habitat.



Photograph: Ryan Poling/Stockphoto

Monarch butterflies in the western states migrate to groves along California's coast to overwinter in clusters. Annual counts completed over the past fifteen years show that fewer and fewer butterflies are returning.

When monarch butterflies (*Danaus plexippus*) come up in conversation, we usually think of the 3,000-mile journey they make between Canada and Mexico east of the Rockies. These monarchs return each winter to roost in the oyamel fir forests of Michoacan, Mexico, where they gather by the millions.

What many people do not realize is that a geographically distinct population of monarchs overwinters in groves of eucalyptus, Monterey pine, and Monterey cypress trees at hundreds of locations along the California coast. These western monarchs migrate outward each year to search for milkweed plants.

Monarch adults lay their eggs on milkweed plants and the caterpillars that hatch from the eggs feed on the milkweed leaves. Typically, monarchs migrate across California, to Nevada, Oregon, and occasionally parts of Washington and other states in the west. There is also likely a small amount of intermixing between the western and eastern populations.

While the western monarch population is not as large as its eastern counterpart, nor does its migration cover such a distance, the California overwintering sites are magical places that often contain tens of thousands of butterflies.

Monarchs in Decline

Reports from California and Mexico on the status of overwintering monarch populations are concerning. With the help of monarch scientist Dennis Frey and the Xerces Society, citizen-scientists have conducted annual counts of overwintering butterflies on the California coast for over a decade. These observations have revealed a nearly 90 percent decline across most sites—with some faring even worse. For example, in

1997, Natural Bridges State Beach near Santa Cruz had an estimated 120,000 monarchs. By 2009 only 480 butterflies remained. These declines are especially alarming in light of losses of eastern monarchs. Among that population, loss of overwintering sites in Mexico has been well documented; the catastrophic winter storms that hit these sites in 2010 highlight the fragility of this iconic species.

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The Xerces Society for Invertebrate Conservation

www.xerces.org



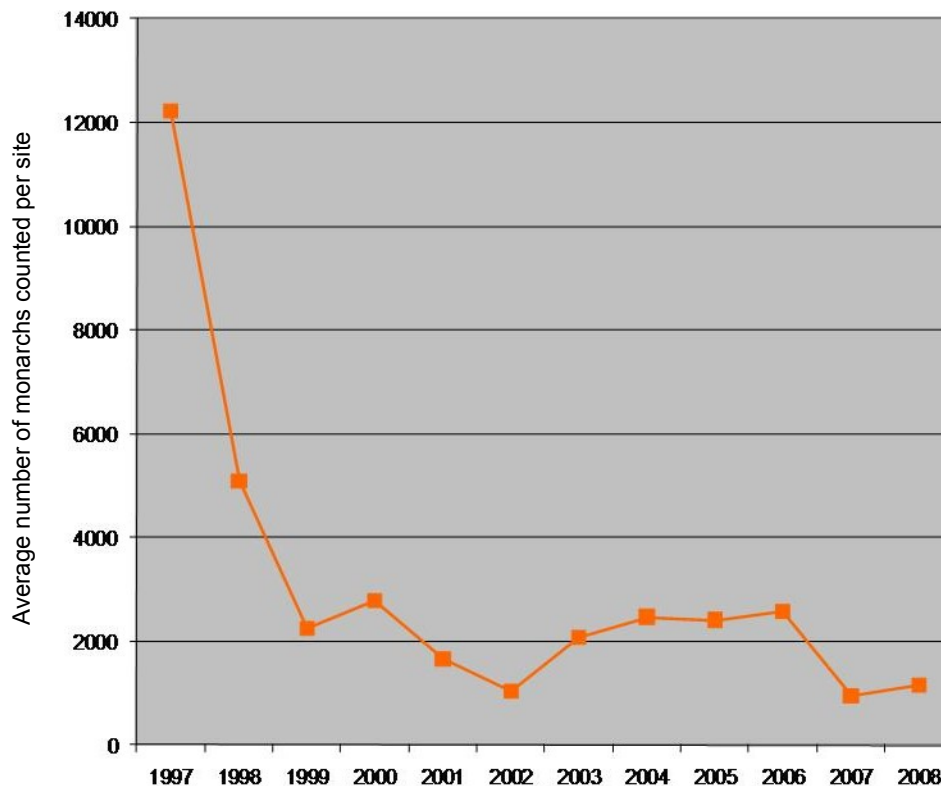
Loss of Overwintering Western Monarchs

The precise cause of the monarch decline across North America is unknown, but scientists believe that the decline is due to:

- **Loss of milkweed** due to herbicides, urban and agricultural development, and long-term drought. Monarch caterpillars feed on milkweed; without adequate milkweed, monarchs are unable to reproduce.

- Habitat conversion in California, resulting in *loss of overwintering groves*.
- **Reduced overwintering habitat quality**, as the trees in California's monarch groves age and senesce.
- **Climate change** may be linked to increasing drought conditions which may further harm milkweed stands.

Yearly Thanksgiving Counts of Overwintering Monarch Clusters in California



Partnership for Monarchs

The Xerces Society, with support from the Monarch Joint Venture—a partnership of federal and state agencies, non-governmental organizations and academic programs working to protect monarch migration in the U.S.—is initiating a project to protect monarchs. Our goals are to assess the current condition of overwintering groves in California, develop management guidelines for these sites, and review the laws regulating the management of these areas.

In addition, we are working with the USDA Natural Resources Conservation Service and native seed farmers to mass produce locally native milkweed seed in Southern and Southwest states. This seed will be used in restoration efforts to help ensure abundant and productive monarch breeding areas.

For more information, email monarchs@xerces.org.

For more information, visit: www.xerces.org/california-monarchs/