

UC SANTA CRUZ CAMPUS NATURAL RESERVE

MONARCH BUTTERFLY

California overwintering population



Tiernan Boyd

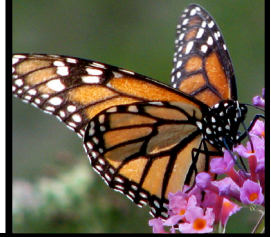
Scientific Name: *Danaus plexippus* pop. 1

Common Name: Monarch Butterfly

Global Rarity: Apparently Secure (species);
Imperiled/Vulnerable (certain populations)

State listing: Imperiled/Vulnerable

UCSC Rarity: Rare overwintering



General Description

The Monarch butterfly is famous for their annual migration from the northern and central United States to Mexico. Monarchs cover thousands of miles and may live out their entire 6-8 month life span before they can return to the site where they were born. They can be identified by their orange wings laced with black and bordered with white dots that span 3.5-4 inches. This coloration serves as a warning to predators that the monarch butterfly is toxic due to its consumption of milkweed as a larvae. This butterfly relies on milkweed as the exclusive diet of their caterpillars. Monarchs have experienced a devastating 90% decline over the past 25 years due to agricultural herbicide use on milkweed, and therefore are considered vulnerable to extinction.

Identification

General Color: Orange and Black

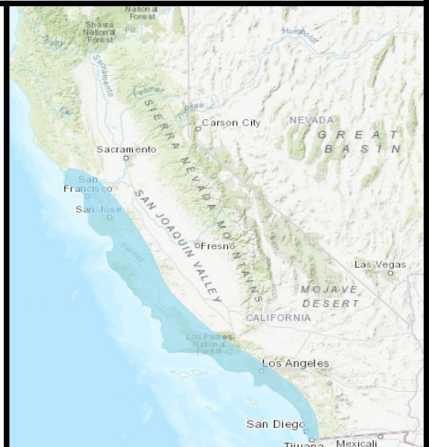
Wings: Orange with black and white pattern; approximately 4 inch wingspan

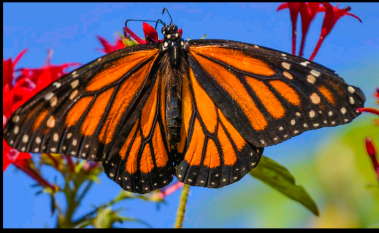
Body: Black with white spots on thorax

Sex: Males with thinner wing veins and one black spot on each hind wing; females with thicker wing veins and no black spots on hind wing.

Geographic Range

Monarchs range from regions of northern South America to southern Canada, depending on their migration. There are both Western and Eastern Monarch populations in the United States. Overwintering locations for Western adult butterflies can be found along the California coast and central Mexico.





UCSC Distribution

A eucalyptus grove in southern campus provides potential overwintering habitat, though in most years numbers monarch numbers are low.

Life history

Habitat: Milkweed fields and meadows for breeding are the typical habitats in the spring and summer. Overwintering habitats are wooded groves of pine, cypress, and eucalyptus trees that border coastal California.

Reproduction: Generation 1 male and female monarchs mate in spring, a few days after emergence. On their way back north, the females lay eggs in milkweed fields. Within her lifetime, a female monarch lays 100-300 eggs.

Behavior: Monarch butterflies travel up to 3,000 miles for their migration. It takes 3-4 generations to reach the northern extent of their range; the final generation migrates to overwintering sites.

Diet: Larva feed on milkweed, building up alkaloids that make them extremely toxic to predators. Adults have a diet of nectar.

Predators: Ants, spiders, wasps, some species of birds including California scrub-jays

Research Highlights and Fun Facts

- Both monarch caterpillars and butterflies are aposematic, meaning that they have bright coloration to warn predators of their toxicity.
- Individual butterflies never finish the entire migration. Instead, it's the grandchildren of those that started the journey that complete the migration back to overwintering territories.
- In the winter monarchs huddle together in clusters on branches to stay warm.



Conservation Status

Imperiled/Vulnerable

Additionally, the US Forest Service lists the species as Sensitive. A mere 2,000 individual Western Monarchs were counted at 2021 overwintering sites, a decline to less than 0.01% of counts in the 1980s.



Threats

Statewide:

1. Breeding habitat loss due to agricultural use of herbicides
2. Overwintering habitat loss in California and Mexico
3. Climate change resulting in warm wet winters and hot dry summers that change migratory patterns
4. Pollution from pesticides

UCSC campus:

Though eucalyptus is considered an invasive species, removal of the grove that provides overwintering habitat may reduce habitat for potential future populations. This loss could be mitigated, however, by protection of nearby stands of taller trees.

Ways you can help

1. Plant native nectar plants in your garden; do not plant milkweed if you live within 5 miles of an overwintering site
2. Don't use herbicides or pesticides
3. Advocate for measures that help fight climate change
4. Educate your friends and family about the decline in monarch butterfly populations
5. Support organizations helping conserve monarch populations



References and Photo Credits

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