INTEGRATED MONARCH MONITORING PROGRAM
Monitoring monarch butterflies and evaluating habitats to inform conservation efforts

Overview

The Integrated Monarch Monitoring Program (IMMP) is a national initiative to track monarchs and their habitats across their North American breeding range in order to better understand habitat availability, quality, and use by monarchs. Data from IMMP enable researchers to evaluate how all monarch life states interact with habitat characteristics across geographies and through time. To gather information on the vast scale used by this migratory species, this monitoring effort engages a broad network of citizen scientists, biological researchers, resource managers, and landowners. Participants collect data that build a national dataset available for local, regional, or national analyses. Conservation organizations can engage now to develop datasets that will benefit their own monitoring efforts as well as nationwide monarch conservation.

Monitoring Sites

The IMMP accommodates data from almost any location. There are two main ways in which the program identifies sites for monitoring: random and non-random.

1) **Random**: Randomly-selected sites are spatially balanced across several land use types (grassland, agriculture, rights-of-way, developed) to gather representative data about habitat availability and monarch use.

2) **Non-Random**: Non-random sites may be selected by landowners or managers. These are typically sites managed for monarch habitat, and help assess the effectiveness of conservation actions and improve our understanding of conservation sites in providing monarch habitat.

Explore other ways to be involved, too! Aside from collecting data in the field, IMMP participants can host their own training workshops, help secure permission to monitor high priority sites, share IMMP information at events, and more! Email Monarch Joint Venture staff to learn more.
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Field Activities

Field activities are conducted in a **1- hectare** monitoring plot. Participants may **choose one or more activities** according to their interests or information needs. Data may be collected on a mobile device via Survey123 or on paper and entered online.

**Site Description**

- 5-15 min, each visit
- Record site characteristics and plot information while walking through plot

**Milkweed & Blooming Plant Survey**

- 1-3 hrs, monthly
- Collect data in 100 quadrats placed along transects to count milkweed and identify blooming nectar plants in order to describe milkweed density, nectar plant frequency, and species diversity

**Monarch Egg & Larva Survey**

- 1 hr, weekly
- Examine milkweed plants for monarch eggs and caterpillars to measure density of immature monarchs on milkweed stems and species

**Adult Monarch Survey**

- 30 min, bi-weekly
- Walk a 500-meter survey route to measure adult abundance while recording adult locations, behaviors, and nectar species use

**Monarch Parasitism and Survival**

- 15 min, daily
- Rear monarch caterpillar(s) to estimate survival and parasitism rates

Remember, you do not have to complete all of the activities per site. Survey frequencies are just recommendations.

For online training videos, protocol access, and more information visit: monarchjointventure.org/IMMP

Questions? Email monitoring@monarchjointventure.org