

Western Monarch Resource Review: Project Summary

NAPPC Monarch Taskforce & MJV Communications Working Group

I. MJV Communications Working Group and NAPPC Monarch Taskforce

A. The Monarch Joint Venture (MJV) Communications Working Group is a team of MJV partners and stakeholders that work together on monarch butterfly communications projects and issues. The North American Pollinator Protection Campaign (NAPPC) Monarch Taskforce is a cross discipline team focused on monarch communications and engaging broad stakeholders for monarchs. These two groups are working in collaboration to advance national communications priorities for monarch butterfly conservation, such as the Western Monarch Resource Review described below.

II. Objective

A. Monarchs in western North America face unique challenges and participate in migrations that are behaviorally distinct from eastern monarchs. However, conservation and outreach for monarchs in North America often focuses on eastern migrants. Here, we aim to assess resources available online related to western monarch biology and conservation and to identify gaps in outreach and education materials.

III. Approach

- A. Group members identified organizations that were likely to have western monarch conservation resources available on the web.
- B. Members of the group divided up the created list of organizations to review their websites for western resources. During the site review, all western monarch resources discovered were added to a list and reviewed. A spreadsheet was created to review the resources and record relevant information about the resource, i.e. date created, accuracy of information, etc.
- C. Reviewers from the Xerces Society for Invertebrate Conservation and the US Fish and Wildlife Service working on western monarch conservation reviewed the identified list to identify resources the group may have missed.
- D. Finally, the resources were coded into various categories of focus (i.e., citizen science, milkweed, research, nectar plants, etc.), and gaps in the resources were noted. The coding was reviewed to find which areas were missing and well-covered, and then this was presented to the full group.

IV. Results

- A. We found 94 resources related to western monarchs. These resources were sorted into the following categories: gardening, milkweed, migration, agriculture, overwintering, roosting sites, roadsides, citizen science, habitat restoration, urban/developed lands, and biology/natural history.
- B. Habitat restoration, citizen science, milkweed, gardening and monarch biology/life history were the best represented categories of resources.

C. We identified the following gaps:

1. Only 2 resources focused on migratory roosting sites.
2. Only 2 resources focused on western monarchs and agriculture (not including general habitat guides).
3. Only 2 resources focused on education specifically, however many of these address education as part of more specific information and objectives.
4. Information about state specific monarch conservation initiatives was not complete at this time.
5. 5 resources addressed urban and developed lands. However, gardening applies to many urban settings and there were plenty of gardening and habitat resources.
6. 5 resources addressed roadsides.
7. 4 resources addressed funding.

V. Where resources will be available

- A. The identified high-quality western monarch conservation resources will be available on the Monarch Joint Venture website under the [Downloads and Links page](#). Western Monarch Resources are listed on this page under their own category for easy location.
1. Links to this section of resources will also be found on the MJV website under '[Monarch Migration](#)' and under a [project description](#) of the Western Monarch Resource Review effort.
 2. The spreadsheet of our review is [available here](#) (Microsoft Excel).

VI. Recommendations for future needs

- A. Resources on monarch conservation and agriculture in the west would be a valuable addition to the available information.
1. Potential partners with experience in this realm: EDF, Xerces, USFWS, Keystone, WAFWA
- B. Support partner organizations to make information available
1. Provide support to SWMS in creating educational materials to inform the public on their data on migratory routes and roosting.
 2. Provide support to WAFWA to share information about western states' monarch conservation initiatives.
 - a) A western monarch conservation plan is currently in development and this could be an opportunity to support partners in the west with implementation and outreach.
 3. Assess what rights of way activity is taking place in the west where resources may not yet exist, and support engagement with and awareness of this work.
 - a) The Arizona DOT would be a good starting point for this work.
- C. Nurseries often offer workshops and handouts that draw the general public in their areas. Influencing this outreach to ensure accuracy and availability would be

an opportunity to expand monarch conservation awareness and action. Increasing access to and awareness of native plant nurseries may be a starting point.

1. MJV is working with the Xerces Society Milkweed Seed Finder to include milkweed vendors on the [Monarch Conservation Efforts Map](#). A recruitment or outreach campaign about this resource could be conducted.
2. It is important to be considerate of pesticide use, the tendency for organizations to ‘jump on the bandwagon’ for monarchs or pollinators, and availability of appropriate plant resources.
3. Increased availability of regionally specific and commercially accessible native plant lists for monarchs.
4. The MJV has a [handout on growing native milkweed for nurseries](#) already, which have been included with other MJV handouts in the resource list.

VII. **Getting involved in western monarch conservation**

- A. Restoring the monarch population to a sustainable level is going to take an “all-hands-on deck” approach, involving people from diverse backgrounds and with access to all types of land.
- B. Everyone can help protect the monarch migration for future generations by creating habitat, educating others, and participating in research or monitoring activities, like citizen science.
- C. To get involved, people can take a number of actions.
 1. Plant habitat! Monarch habitat contains both native milkweed host plants and a diversity of other blooming plants.
 2. Plant native! [Native nectar and milkweed plants](#) are best suited for your location and for the pollinators and monarchs in your area.
 3. Plant a variety of native nectar plants so you have blooming flowers all growing season long. Monarchs need nectar to migrate both in the spring and fall, and to breed in the summer! Resources for finding native nectar plants in your area include:
 - a) The Xerces Society [Monarch Nectar Plant Guides](#)
 - b) Southwest Monarch Study [Regional Planting Guides](#)
 - c) Pollinator Partnership [Ecoregional Plant Guides](#)
 - d) National Wildlife Federation [Native Plant Finder](#)
 4. Avoid buying pollinator plants treated with insecticides; systemic insecticides like [neonicotinoids](#) will harm monarchs and other beneficial pollinators long after they’ve been treated.
 5. [Minimize application of harmful chemicals](#) in and surrounding your monarch habitat to avoid unintended consequences to the beneficial insects or plants in the area.

6. [Simple actions](#) make a big difference for monarchs.
7. In addition or instead of creating habitat, there are many ways to volunteer to help the monarchs, such as becoming a citizen scientist, public advocate or holding an event.
8. Most of what we know about monarchs is because of citizen scientist volunteers from across the continent that have been involved in studying the species for decades. By [contributing observations](#) from your yard, community, or areas you visit, researchers can learn more about monarchs and how to protect them.
 - a) Many [monarch citizen science projects](#) are national in scope, and you can contribute from anywhere. Here is a list of some monarch citizen science projects focused on the western monarch population:
 - (1) The Western Monarch Milkweed Mapper is part of a collaborative effort to map and better understand monarch butterflies and their host plants across the Western U.S. Data compiled through this project will improve our understanding of the distribution and phenology of monarchs and milkweeds, identify important breeding areas, and help us better understand monarch conservation needs. [Find out more here.](#)
 - (2) Understanding migratory and breeding patterns in Arizona and the desert Southwest is very important, since monarchs there fall between the eastern and western migratory populations. The [Southwest Monarch Study](#) tracks migration and breeding patterns of monarchs in this region, and needs more volunteers!
 - (3) Monarch Alert is a citizen based research project backed by graduate student researchers and faculty from Cal Poly State University, San Luis Obispo. They focus on the demography and population fluctuations of western monarch butterflies, through sampling of overwintering populations in [San Luis Obispo](#) and Monterey Counties. They also partner with citizen scientists to understand breeding habits and abundance of monarch butterflies in backyard gardens. This is accomplished through tagging data collected by citizen scientists. [Join them here!](#)
 - (4) The Monarch Butterflies in the Pacific Northwest is a citizen science program tagging and studying monarchs in the Pacific Northwest. To find out more about tagging in this region, [visit their Facebook page.](#)
 - (5) The Western Monarch Count is an annual effort of volunteer citizen scientists to collect data on the status of

monarch populations along the California coast during the overwintering season, which occurs from approximately October through March. [Find out how you can get involved here.](#)

9. If you care passionately about monarchs and pollinators, and want to make your voice heard, start by contacting your elected officials; visit the MJV [‘Advocate’](#) page for tips.
10. Inspire your personal and professional networks to get involved in monarch conservation by sharing the monarch story and inviting their participation.
11. Increase the impact you have in your community and for monarchs by engaging local community groups, businesses, or other organizations to become part of the international monarch conservation movement.