

JUNE 22 -23, 2022

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# MONARCH BUTTERFLY CONSERVATION SUMMIT

## Recommendations Summary Report



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# EXECUTIVE SUMMARY

The Monarch Butterfly Conservation Summit (Monarch Summit), convened by U.S. Senator Jeff Merkley (Oregon), in collaboration with the Department of the Interior on June 22- 23, 2022, was a first of its kind summit on preserving the monarch butterfly held at the U.S. Capitol Visitor Center in Washington, DC. The two-day Monarch Summit brought key stakeholders together to share information on the current state of the science—including natural history, population status, and habitats—and barriers to conservation success for this iconic species. It also brought together policymakers and state and federal agencies to plan how to put the science into action. Together, the attendees worked to identify 11 recommendations that Senator Jeff Merkley could implement in the next three to six months to make significant steps towards long-term progress on Monarch butterfly conservation. This document summarizes the 11 recommendations developed by the attendees of the Monarch Summit.

*The findings and conclusions in this report are those of the event participants and do not necessarily represent the views of the U.S. Fish and Wildlife Service.*





# PURPOSE

The Monarch Butterfly Conservation Summit (Monarch Summit) was designed to:

- Inform participants on the current science and conservation practices,
- Collaboratively develop recommendations that make significant steps towards long-term progress on Monarch butterfly conservation, and
- Develop recommendations that could be initiated in the next three to six months to support long term conservation action for monarch butterfly.

# INTRODUCTION

The Monarch Summit participants developed recommendations that can be implemented in the next three to six months to make significant steps towards long-term progress for the Monarch butterfly. The participants were divided into breakout sessions focusing on one of these five key topics areas:

- Conservation Needs Throughout the Breeding Range,
- Community and Stakeholder Engagement,
- Research and Monitoring,
- Overwintering Areas, and
- Addressing and Mitigating Threats.

Some recommendations were repeated within multiple breakout sessions. The total number of recommendations developed varied across the topical areas of breakout sessions. The following are the compiled recommendations provided across all breakout groups.

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# RECOMMENDATION 1

## Promote State and Federal agency coordination and collaboration to support the Monarch Butterfly

Public lands and roadsides provide an opportunity to greatly benefit the Monarch butterfly. State and Federal agencies have the authority to manage public lands and roadsides. The Monarch Summit participants envision bringing State and Federal public land managers together with qualified habitat specialists to identify and plan projects that will support the conservation and restoration of Monarch butterfly habitat and to establish best management practices that can be used to support the continued conservation of the Monarch butterfly. The Monarch Summit participants agree that the focus of the coordination and collaboration should be on areas that will result in the largest gains for the Monarch butterfly, such as focusing on the Priority 1 early breeding areas of western California as described in the [Priority Action Zones in California for Recovering Western Monarchs Map](#). Specific examples of State and Federal agency coordination and collaboration for the Monarch butterfly include:

- Encourage agencies responsible for public lands (e.g., Bureau of Land Management, U.S. Forest Service, Department of Defense, etc.) to coordinate, discuss, and jointly prioritize conservation and restoration projects for Monarch habitat
- Support the Bureau of Land Management and the Department of Transportation in creating land management plans that would address Monarch butterfly habitat needs on energy easements and roadside rights-of-ways
- Support the U.S. Fish and Wildlife Service and U.S. Geological Survey in prioritizing the use of the Integrated Monarch Monitoring Program
- Promote the Monarch Conservation Science Partnership and Monarch Joint Venture and their efforts to model monarch population trends, assess the impact of threats, establish population targets and habitat goals, and develop tools to guide conservation efforts
- Support States in developing pollinator coordinator positions that will lead and facilitate Monarch conservation efforts, identify gaps, needs and priorities, work with stakeholders, and address concerns that may be unique to their specific state





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# RECOMMENDATION 2

## Support the creation of Monarch Butterfly Garden templates for private landowners

Private landowners are not always aware of the importance of the Monarch butterfly or the actions they can take to support to conservation of the species. In addition to continuing to educate private landowners, and the public, about the Monarch butterfly, the Monarch Summit Participants envision making it easier for anyone that owns land to create a garden that will support healthy Monarch butterfly habitat by creating Monarch butterfly garden templates. . The templates would be developed in conjunction with suppliers and local nurseries and would indicate what plants are recommended for the local residential garden system to support the Monarch butterfly. This would also provide an opportunity to link pollinator conservation to the larger messaging (e.g., water, carbon footprint) and to engage the nationwide network of USDA Extension Services to disseminate residential gardening advice benefiting pollinator conservation.

# RECOMMENDATION 3

## Host site visits to engage decision makers and leaders in promoting Monarch Butterfly initiatives

Monarch butterflies are a focal species that provide an opportunity to catalyze efforts that support landscape prioritization for multiple species and engage people that are not typically involved in conservation initiatives (e.g., planting native plants, water conservation etc.). The Monarch Summit participants envision hosting a series of site visits to the U.S. overwintering groves in California for key decision-makers and leaders. The site visits should include state-level leadership, agency managers, local decision-makers, and influential community members. These site visits are expected to influence people, including decision makers and leaders, to share stories about the Monarch butterfly and inspire them to take action to protect the Monarch butterfly and habitat.



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# RECOMMENDATION 4

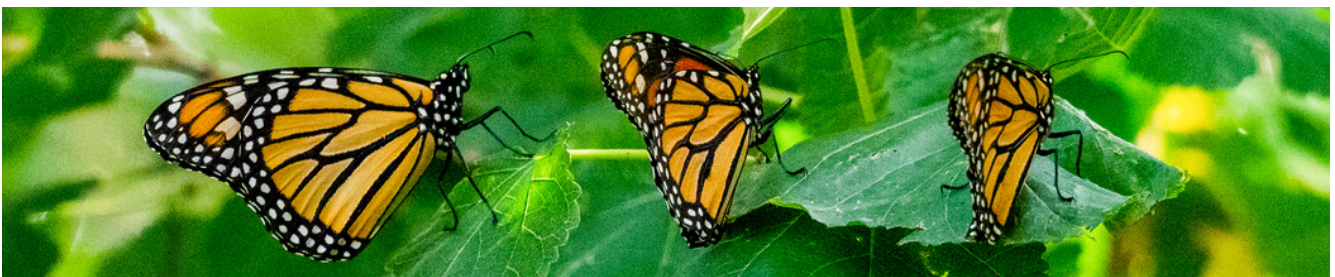
## Promote appropriate labeling of nursery plants and the development of a federal pollinator plant certification program

Nursery plants that are promoted as being attractive to pollinators are not always appropriately labelled to indicate if they are harmful to Monarch butterflies (and other pollinators). The Monarch Summit participants envision a certification process, verified by a third-party, that would prevent the mislabeling of products sold as “monarch-friendly” or “pollinator-friendly.” Several relevant programs exist, such as USDA Organic and Bee Better Certified; however, there are limitations to each of these programs. The establishment of a federally-implemented certification program that outlines criteria for nursery and growers that allows them to label their products as pollinator friendly to achieve trust and transparency for consumers in their garden plant purchases should be supported. This certification program should be affordable for producers and consumers.

# RECOMMENDATION 5

## Support incentives for nurseries to stock plants that benefit Monarch butterflies

Public and private landowners rely on nurseries to provide stock plants. The Monarch Summit participants identified a key gap and area of opportunity as addressing the inadequate supply of native plant materials that support the Monarch butterfly. The Monarch Summit participants envision incentivizing nursery stocks to include appropriate native milkweed species and nectar plants throughout the breeding range, with a specific and immediate focus in the Priority 1 areas of western California (Coast Range and Sierra foothills), to benefit the Monarch butterfly. Potential incentives for nurseries could include providing a guarantee of sale for large numbers of plants that, if not purchased by the public, could be used for habitat restoration projects. This would require coordination between the nurseries and entities conducting Monarch habitat restoration projects.





## RECOMMENDATION 6

### Support research to develop relevant standards and metrics that can be used to implement Monarch management strategies

Research, mapping, and monitoring provide insights into how to coordinate partners, allocate resources and develop management strategies to conserve the species into the future. The Monarch Summit participants envision supporting future and current research on the Monarch butterfly and habitat will be used to develop relevant standards and metrics to implement management strategies. Specific examples of research to develop relevant standards and metrics that can be used to implement Monarch management strategies include:

- Support experimental habitat restoration studies in the agricultural landscape of the Central Valley of California to identify the habitat characteristics most suitable for monarchs and other pollinators.
- Support research to create standards and metrics for monarch habitat restoration.
- Support the development of ecologically relevant metrics of non-target, sub-lethal effects of pesticides as an alternative to LD50 for butterflies
- Support research to improve the demographic model of western monarchs to include the realistic effects of pesticides and climate stressors on monarch vital rates and behavior and to identify, map, and prioritize existing and potential monarch habitat





## RECOMMENDATION 7

### Encourage the establishment and protection of migratory corridors

Establishing migratory corridors will help prioritize locations where conservation efforts are likely to have the most impact. In addition, it would assist in determining the prioritization of areas or landowners that should be contacted to implement conservation and restoration projects for the Monarch butterfly where the opportunity exists to have the greatest impact on monarch population numbers. The Monarch Summit participants envision establishing migratory corridors in areas that have the lowest pesticide use based on land-use and Priority 1 early breeding areas of western California. The Monarch Summit participants also support expanding current studies and research to characterize the interaction of resident and migratory populations to determine if interactions impact migratory populations.

## RECOMMENDATION 8

### Encourage the development of effective and efficient seed propagation techniques and the use of Monarch-appropriate seed mixes

Robust seed mixes provide a diversity of nectaring flowers that bloom throughout the growing season and support the Monarch butterfly. Early season milkweeds, native milkweeds, and additional nectar species should be incorporated into seed mixes. The Monarch Summit participants envision developing effective and efficient seed propagation techniques and Monarch butterfly appropriate seed mixes. This could be achieved by scaling up current efforts on seed propagation trials with partners in the Plant Material Working Groups, operationalizing the Plant Conservation Alliance's National Seed Strategy, developing a complete list of appropriate plant species, and coordinating the development of seed mixes for a national seed strategy. Specifically designed Monarch appropriate seed mixes could be used on public lands, or on easements, as a conservation practice to support Monarch habitat.





## RECOMMENDATION 9

### Encourage the development of an enhanced clearinghouse for data and information

Research, monitoring, and data collection on multiple topics have been conducted for the Monarch butterfly. The Monarch Summit participants recognize they are at times “data rich, information poor.” This means there is good data of Monarch butterfly occurrences and general site identification, but data is not a consistent or shared on all levels (e.g., government, academia, nonprofit organizations, etc.). The Monarch Summit participants envision developing an enhanced, central clearinghouse for data and information about the overwintering sites. The clearinghouse for data and information would provide the infrastructure to manage (e.g., data entry), safely store, and provide access to data on the Monarch butterfly (to ensure coordination in implementing consistent policies and procedures). Specific examples to support the sharing of data and information until an enhanced clearinghouse is developed include:

- Support integrating the Xerces Society for Invertebrate Conservation overwintering databases data into the California Natural Diversity Database System
- Support developing procedures to collect pesticide data for the U.S. Forest Service agricultural databased in a manner that will not compromise agricultural producers

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# RECOMMENDATION 10

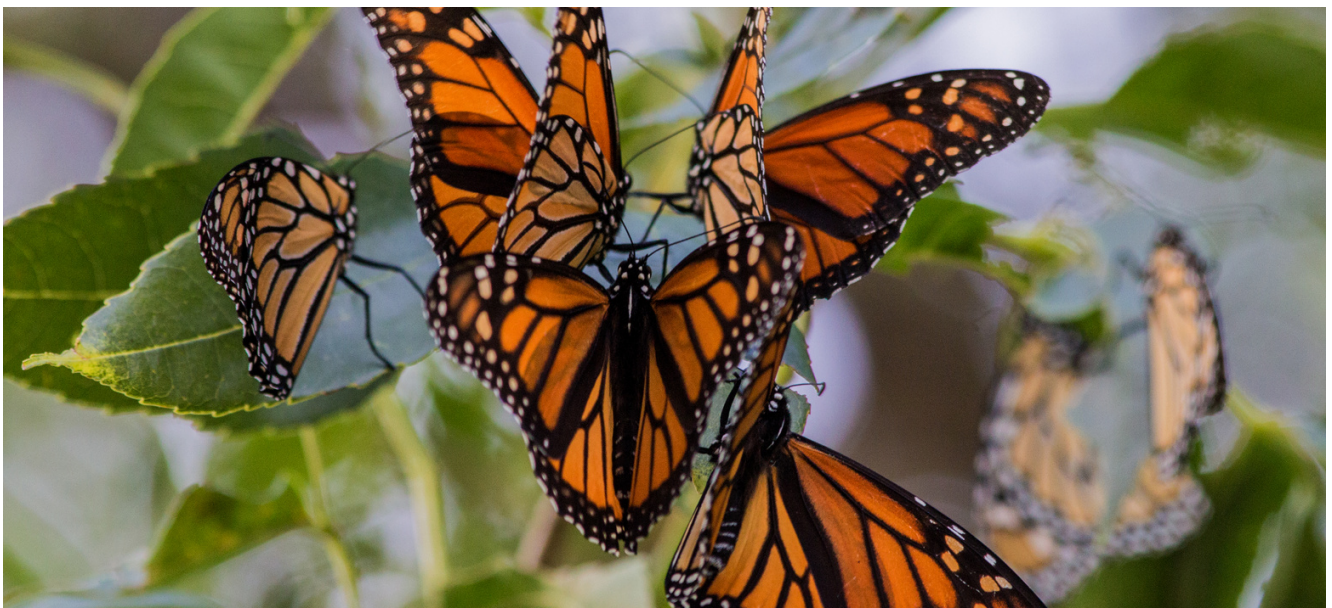
## Support existing and develop new Candidate Conservation Agreements with Assurances

A Candidate Conservation Agreement with Assurances (CCAA) is a voluntary agreement that provides incentives for non-federal landowners to conserve candidate species by engaging in conservation activities that provide a new conservation benefit to the species. The Monarch Summit participants envision supporting existing CCAs and developing new CCAs for the Monarch Butterfly. Specifically, the Monarch Summit participant discussed enhancing support for existing Department of Transportation's energy companies currently enrolled (such as coordination with the Federal Highways Administration) and increasing awareness for new partners to enroll in the Nationwide Candidate Conservation Agreement for Monarch Butterfly on Energy and Transportation Lands. Monarch Summit participants also recommended exploring additional ways to implement CCAs throughout the Monarch range including engaging additional sectors. The Monarch Summit participants recognize more discussions are needed to define the details and look forward to continuing the conversation.

# RECOMMENDATION 11

## Encourage the expansion of State Insect Authorities

State wildlife agencies need the authority to protect at risk or imperiled insects. However, only three western states currently have this authority through their existing laws and regulations. The Monarch Summit participants envision expanding the State Insect Authorities to protect at risk or imperil insects such as the Monarch butterfly.





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# SPECIAL THANKS

## **A SPECIAL THANK YOU TO SENATOR JEFF MERKLEY FOR HIS LEADERSHIP IN CONVENING THE MONARCH SUMMIT AND HIS TEAM FOR HOSTING THE PARTICIPANTS AT THE U.S. CAPITOL.**

We thank the monarch butterfly experts and agency representatives that served as panelists for their contribution and support for this important conservation issue. They include:

- Amanda Barth, Utah State University;
- Wendy Caldwell, Monarch Joint Venture;
- Alix Cleveland, U.S. Forest Service;
- Elizabeth Crone, Tufts University, University of California Davis;
- Cat Darst, U.S. Fish and Wildlife Service;
- Ryan Drum, U.S. Fish and Wildlife Service;
- Matthew Forister, University of Nevada;
- Sarah Hoyle, Xerces Society for Invertebrate Conservation;
- Ryan Orndorff, Department of Defense;
- Sarina Jepsen, Xerces Society for Invertebrate Conservation;
- Hillary Sardinas, California Department of Fish and Wildlife;
- Cheryl Schultz, Washington State University;
- Paul Souza, U.S. Fish and Wildlife Service;
- Carlos Suarez, USDA Natural Resources Conservation Service;
- Wayne Thogmartin, U.S. Geological Survey;
- Francis Villablanca, Cal Poly State University San Luis Obispo; and
- Louie Yang, University of California Davis.

In addition to the science and monarch experts, speakers and champions across the two days of the summit included

- U.S. Secretary of Interior, Deb Haaland
- Assistant Secretary for Fish and Wildlife and Parks, Shannon Estenoz
- U.S. Fish and Wildlife Service Director, Martha Williams
- U.S. Senators Ron Wyden (D-OR)
- U.S. Senators Alex Padilla (D-CA)
- Congressman Salud Carbajal (D-CA), and
- Congressman Jimmy Panetta (D-CA)





# PARTICIPANTS

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- Crystal Boyd, National Fish and Wildlife Foundation
- Wendy Caldwell, Monarch Joint Venture
- Jim Chu, U.S. Forest Service
- Alix Cleveland, U.S. Forest Service
- Taylor Cotton, Washington Department of Fish and Wildlife
- Elizabeth Crone, Tufts University, University of California Davis
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- Ralph Gundel, U.S. Geological Survey
- Andrea Hanson, Oregon Department of Fish and Wildlife
- Robert Harper, USDA Forest Service
- Juli Hartwig, Washington State Department of Transportation
- Elsa Haubold, U.S. Fish & Wildlife Service
- Will Heaton, National Fish and Wildlife Foundation
- Edward Henry, USDA Natural Resources Conservation Service
- Caroline Hernandez, University of Illinois Chicago
- Izzy Hill, U.S. Department of Agriculture
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- Andrew Schmidt, Pheasants Forever and Quail Forever
- Cheryl Schultz, Washington State University
- Anthony Sedillo, U.S. Senate
- Nanatte Seto, U.S. Fish and Wildlife Service
- Natalie Sexton, U.S. Fish and Wildlife Service
- Paul Souza, U.S. Fish and Wildlife Service
- Katie Steiger-Meister, U.S. Fish and Wildlife Service
- Matt Strickler, U.S. Department of the Interior
- Carlos Suarez, USDA Natural Resources Conservation Service
- Safa Syed, U.S. Senate
- Wayne Thogmartin, U.S. Geological Survey
- Darrin Thome, U.S. Geological Survey
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- Louie Yang, University of California Davis
- Karlee Yurek, Bureau of Land Management