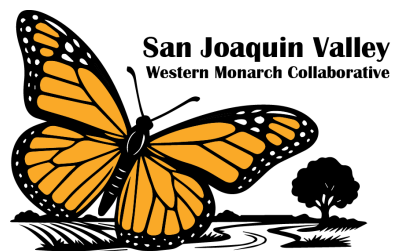


San Joaquin Valley Western Monarch Conservation Strategy: A Five-Year Plan for Success

Finalized as of January 22, 2026



Introduction

California's San Joaquin Valley (SJV), located entirely within the [Priority #1 Action Zone](#) for western monarch butterfly conservation, is important for season-long early breeding and nectaring habitat during the western monarch's migration. Providing and maintaining quality habitat, mitigating threats to migration, and removing barriers to pollinator habitat conservation are essential to advancing western monarch conservation. The San Joaquin Valley is also one of the most productive agricultural regions in the U.S., however, the area faces the retirement of up to a million acres of farmland to manage groundwater overdraft. This creates a unique opportunity to develop habitat that supports monarchs and other at-risk native pollinators, and create resilient agriculture in a transitioning landscape. Additionally, farms facing water use reduction requirements may have the opportunity to use their lands to support both monarch habitat and/or native seed and plant material development that would provide continued economic opportunity for their operations.

There is a timely and unique opportunity for western monarch conservation in the San Joaquin Valley, based on the geographical importance of the region for the western monarch's breeding and migration, as well as current landscape transitions occurring across the valley. This document presents the San Joaquin Valley Western Monarch Conservation Strategy, which provides a proof of concept for a collaborative conservation effort of the western monarch in this strategic region over the next five years.

Mission

Through an aligned and collaborative approach, the San Joaquin Valley Western Monarch Conservation Strategy aims to provide quality habitat for forage, breeding, and shelter on a mix of public and private lands across California's San Joaquin Valley to support the western monarch. This Strategy builds on existing opportunities and initiatives to address water scarcity, support resilient agriculture, and establish strong communities in support of monarch and pollinator conservation. Important elements of the Strategy include the deployment of collaborative research and monitoring efforts, sharing of existing expertise and information, and providing tools and resources to landowners and land managers to support their participation. Additionally, this Strategy includes coordination to increase the production and accessibility of regionally appropriate native plant materials that are critical to monarch conservation efforts.

This Strategy is informed by the Western Monarch Butterfly Conservation Plan 2019-2069, developed by the Western Association of Fish and Wildlife Agencies (WAFWA). This five-year conservation strategy creates a short-term action plan that can be implemented immediately, while maintaining coordination with the long-term WAFWA Conservation Plan.¹ The Strategy also incorporates key actions highlighted in the Priority Action and Gap Analysis Report, developed by the [California Multi-Agency Monarch and Pollinator Collaborative Working Group](#), a state and federal working group that collaborates to increase monarch and pollinator conservation in the state as well as identify priority actions in alignment with WAFWA, recurring Western Monarch Summits, and Western Monarch Breeding Science objectives. Additionally, this Strategy is aligned with the California Native Seed Strategy.

¹ The Western Monarch Butterfly Conservation Plan 2019-2069 is updated approximately every 5 years. The first planned update will be released in early 2026, after the finalization of this document. Topics that specifically reference alignment with the WAFWA Conservation Plan or require updates to content relating to the Conservation Plan will be assessed and altered as appropriate.

San Joaquin Valley Western Monarch Collaborative

This Strategy informs the work of the San Joaquin Valley Western Monarch Collaborative ('Collaborative'), which includes many partners working in this region. The Collaborative's overarching mission is to implement the Strategy outlined in the following pages. The Collaborative is composed of subgroups, or Action Teams, designed to leverage the various types of expertise among partners, and to identify and execute key tasks and actionable items that support the implementation of the Strategy. The Action Teams' work is oriented around the following goals, which are reflected in the Objectives listed throughout this Strategy.

- *Habitat Implementation and Coordination Action Team (Steering Committee)*: Develop and implement monarch habitat projects in the SJV to improve rearing and nectaring opportunities and conditions.
- *Research and Monitoring Action Team*: Support research and dissemination of information in the SJV by identifying research needs, engaging in collaborative monitoring efforts, and promoting ongoing research and monitoring.
- *Landowner Incentives Action Team*: Increase landowner engagement and access to incentivization programs by increasing transparency around funding availability and needs, developing recommendations for landowner incentivization, and supporting landowners in the adoption of conservation actions.
- *Native Plant Materials Action Team*: Improve native plant material availability for implementers, with a focus on improved volume, pricing, and ecotype availability to the extent reasonable, while helping stabilize the native plant and seed supply chain.
- *Communications Action Team*: Update the public on proactive conservation actions happening through the Collaborative in the SJV, while increasing inter-team communications and collaboration.

Annual Work Plans will be appended to this Strategy that reflect the progress made each year of the Strategy's implementation and that delineate how the work of the Action Teams contributes to the objectives and actions laid out in this Strategy. See Appendix A for the 2025-2026 Work Plan.

Partners and Stakeholders

The following list of partners will continue to evolve to reflect the current work of the Collaborative.

Audubon California, Bureau of Land Management (BLM), California Association of Resource Conservation Districts (CARCD), California Department of Fish and Wildlife (CDFW), California Department of Food and Agriculture (CDFA), California Native Plant Society (CNPS), California Native Seed Supply Collaborative (CNSSC), California Department of Transportation (CalTrans), Environmental Defense Fund (EDF), Grassland Water District (GWD), Hedgerow Farms, Heritage Growers, Lockwood Seed & Grain, Monarch Joint Venture (MJV), National Park Service (NPS), USDA National Resources Conservation Service (NRCS), Pollinator Partnership (P2), River Partners (RP), S&S Seeds, Inc. (S&S), The Almond Board, The Great Basin Institute (GBI), Native Seed Group (NSG), The Nature Conservancy (TNC), The Wine Institute, The Xerces Society for Invertebrate Conservation (Xerces), United States Geological Survey (USGS), University of Illinois Chicago, University of the Pacific, United States Fish and Wildlife Service (USFWS), Valley Eco (VECO), and Velo Consulting.

Strategy Implementation Timeline

While the specifics of timeline will be dictated by interactions between the entities working on the following objectives, there is urgency around these actions to ensure timely conservation of monarchs due to their recent extreme population fluctuations and to address the immediate needs of the communities that rely upon the San Joaquin Valley ecosystem. There is also the consideration that planting, growing, harvesting and processing native seeds and plant materials is a multi-year process; three to five years is the planning horizon for developing appropriate native seeds and plant materials. The five-year timeline developed attempts to account for these realities.

Near-term = Years 1-2: Implement immediate actions that can advance monarch conservation on natural and working lands.

Mid-term = Years 2-5: Normalize processes, ensure accountability, and sustain progress.

Long-term = Years 5+: Evaluate success and reevaluate strategic objectives.

Near-term Actions (August 2024-August 2026)

Objective 1: Solidify connections with key partners and stakeholders.²

Action 1: Establish regular meeting cadence to accomplish near-term actions and plan details for mid- and long-term actions.

Action 2: Codify a collaborative, inter-organizational structure for decision-making, information sharing, public outreach, and dispute resolution.

Action 3: Define roles and responsibilities.

Action 4: Identify key Tribal, community, and additional partners to accomplish Strategy objectives and invite their participation and input.

Objective 2: Establish estimates for habitat conservation quantity and quality targets.³

Action 1: Establish a target for habitat conservation and restoration acreages within the San Joaquin Valley.

Action 2: Establish and/or consolidate standards and best management practices around habitat creation, enhancement, and restoration including, but not limited to patch size, milkweed density, interpatch distance for targeted milkweed species, use of native plants for nectar resources, habitat durability, buffers from pesticide application, appropriate invasive species management in monarch habitat, and regionally appropriate native seed mixes and establishment techniques. These standards and practices will be developed in coordination with WAFWA and the California Multi-Agency Monarch and Pollinator Collaborative Working Group.

Action 3: Estimate the amount of native plant materials (e.g., native milkweed and nectar resources)

² *Objective 1 is in accordance with WAFWA Section 4: Current Conservation Efforts, and the state-specific efforts listed for California.*

³ *Objective 2 is in accordance with WAFWA Section 5: Monarch Population and Habitat Goals and Objectives, Short-Term Population Objectives.*

needed to accomplish habitat conservation and quality targets.

Action 4: Communicate with native plant seed collectors, native seed and plant producers, and habitat restoration specialists to develop a cost estimate and timeline to implement Actions 2.2 and 2.3 for this Objective.

Action 5: Establish coordination with, and ensure access to National Wildlife Refuges and additional public lands that support meeting established monarch butterfly habitat quantity and quality targets, with a focus on habitat connectivity to support migration.

Objective 3: Create a private landowner outreach and incentivization toolbox.⁴

Action 1: Determine key private and working land areas based on both monarch habitat goals and the needs of the farming, ranching, Tribal, and other stakeholder communities in the San Joaquin Valley.

Action 2: Establish relationships and contacts within ongoing landowner support programs (e.g., MLRP, NRCS, CDFA, USFWS Partners Program) as well as utility companies that are expanding development across the SJV (e.g. solar companies).

Action 3: Create a toolbox of existing support programs and initiatives and streamline a process for access to these tools, along with regulatory assurances, interagency coordination, and technical assistance, within the context of the monarch conservation strategy.

Action 4: Create quality targets and establish and promote best management practices (BMPs) and incentives for agricultural lands adjacent to habitat, including identifying resources and outlining BMPs for minimizing pesticide drift and runoff into habitat areas and reducing risks to monarchs that may visit pollinator-attractive crops for nectar.

Action 5: Identify strategic partners to compile existing resources and incentives for growers to increase education, awareness, and adoption of integrated pest and pollinator management strategies, with an emphasis on prevention-based management alternatives.

Objective 4: Establish and implement appropriate monitoring, data collection, and data sharing protocols.⁵

Action 1: Compile and share existing western monarch breeding and summer habitat implementation and management resources applicable to the San Joaquin Valley, including development of resource-sharing platforms and protocols.

Action 2: Identify gaps in existing resources and develop resources to address those gaps where feasible.

Action 3: Coordinate to prioritize identified knowledge gaps that relate to management of the western monarch and/or the creation of quality monarch breeding and migratory habitat within the SJV and/or the Central Valley.

⁴ Objective 3 is in accordance with WAFWA Section 6: Monarch Conservation Strategies, 6.6 Education and Outreach.

⁵ Objective 4 is in accordance with WAFWA 6.7 Research and Monitoring Priorities, 6.7.3 Monitoring Strategies.

Action 4: Establish criteria to evaluate established monitoring protocols, define timing and frequency of assessments, and conduct assessments to evaluate the efficacy of current protocols.

Action 5: Establish regionally-appropriate and cost-effective habitat monitoring guidelines, including stated goals, and protocols, pesticide sampling, and data storage and sharing guidelines, and delegate responsibilities for monitoring actions.

Action 6: Identify and leverage resources to support habitat monitoring five years after creation and pesticide sampling at co-identified sites in the SJV.

Objective 5: Identify communication needs and develop and implement a Communications Action Plan.⁶

Action 1: Identify communication expertise and capacity within partner organizations to build an Interagency Communications Action Team to develop a Communications Action Plan that includes both internal and external audiences.

Action 2: Finalize and share the Communications Action Plan with input and approval of the partners.

Action 3: Once finalized, begin implementation of the Communications Action Plan to build support for Strategy implementation.

Action 4: Establish Tribal outreach and communications as part of the communications strategy to raise awareness, find and develop opportunities for pollinator co-production of knowledge and co-stewardship, and seek support for monarch conservation efforts in the SJV.

Action 5: Establish congressional outreach as part of the communications strategy to share our success, raise awareness, and seek support for monarch conservation efforts in the SJV and beyond.

Objective 6: Work collaboratively to plan monarch habitat restoration activities for Spring 2025 and Spring 2026.⁷

Action 1: Identify location(s) for pilot project(s) to showcase the partnership and strategy, with site connectivity integrated where possible.

Action 2: Estimate responsibilities, funding, plant materials, and a timeline needed to implement and monitor the identified project(s).

Action 3: Coordinate to leverage capacity and deliver a prioritized project(s) plan.

⁶ Objective 5 is in accordance with WAFWA Section 6: Monarch Conservation Strategies, 6.6 Education and Outreach.

⁷Objective 6 is in accordance with WAFWA Section 7: Capacity, Funding, and Implementation, 7.2 Implementation.

Objective 7: Assess funding needs, secure new funds, and leverage existing funds to support Strategy implementation.⁸

Action 1: Establish a target of native plant materials (e.g., regionally appropriate native seeds and native milkweed plugs) and associated costs and timelines needed to support the established habitat conservation targets within the SJV (see Objective 2).

Action 2: Develop cost estimates and timelines for site preparation (e.g., removal of invasives or soil treatment) and site maintenance (e.g., removal of invasives and watering) for habitat creation, restoration, and enhancement.

Action 3: Develop cost estimates and timelines for implementation of monitoring protocols, data collection, and data sharing.

Action 4: Develop cost estimates for agricultural benefit programs at appropriate scale for the SJV and for regulatory and permitting needs.

Action 5: Assess existing partner capacities to accomplish Strategy objectives and assess resources within partner organizations, including projection of additional resources needed.

Action 6: Identify funding opportunities and leverage resources to accomplish Actions 7.1-7.5.

Mid-term Actions (August 2026-August 2029)

Objective 1: Maintain and strengthen connections with key partners and stakeholders.⁹

Action 1: Assess progress, share updates, and continue coordination.

Action 2: Assess partners and stakeholders, conducting outreach to new parties as necessary or as opportunities arise.

Objective 2: Work toward identified habitat goals with a focus on increasing connectivity.¹⁰

Action 1: Work with a geospatial ecologist and local experts to identify opportunities for increasing pollinator habitat connectivity in coordination with existing efforts.

Action 2: Assess and report on habitat gains/losses via monitoring.

Objective 3: Secure consistent funding to support increasing the availability of native plant materials while simultaneously reducing their costs.

Action 1: Expand the native seed and native plant materials market for the SJV.

⁸ Objective 8 is in accordance with WAFWA Section 7: Capacity, Funding, and Implementation, 7.1 Capacity and Funding.

⁹ Mid-Term Actions: Objective 1 is in accordance with WAFWA Section 4: Current Conservation Efforts, and the state-specific efforts listed for California.

¹⁰ Mid-Term Actions: Objective 2 is in accordance with WAFWA Section 5: Monarch Population and Habitat Goals and Objectives.

Action 2: Conduct economic analyses to determine how to ensure profitability and long-term viability of the native plant material production and where best to engage with local and national businesses.

Action 3: Continue optimizing seed mixes and research and development protocols with local native plant producers.

Action 4: Capitalize on conservation and agriculture resiliency opportunities (e.g., SGMA and MLRP).

Action 5: Assess and pursue long-term funding mechanisms for native plant materials (e.g., grant programs, agencies, or legislative support, where feasible).

Objective 4: Work to implement actions identified in the Communications Strategy.¹¹

Action 1: Assess communication strategy annually and adjust as needed.

Action 2: Increase community awareness through educational, vocational, and other outreach materials and/or events targeted to the needs of communities in which we are working.

Action 3: Continue Tribal outreach and communications to raise awareness, find and develop opportunities for pollinator co-production of knowledge and co-stewardship, and seek support for monarch conservation efforts in the SJV and beyond.

Action 4: Continue congressional outreach as part of the communications strategy to share our success, raise awareness, and seek support for monarch conservation efforts in the SJV and beyond.

Objective 5: Establish and implement appropriate monitoring, data collection, and data sharing protocols.¹²

Action 1: TBD by near-term actions

Objective 6: Implement the partnership's planned annual project(s).¹³

Action 1: TBD by near-term actions

Objective 7: Ensure adaptive management of the Strategy.¹⁴

Action 1: Track milestones against Strategy targets and establish ESA conservation targets (if applicable).

Action 2: Share successes and failures.

Action 3: Review new research and information on western monarch conservation, habitat management and creation, the SJV, and other pertinent topics.

¹¹ Mid-Term Actions: Objective 4 is in accordance with WAFWA Section 6: Monarch Conservation Strategies and Section 7: Capacity, Funding, and Implementation.

¹² Mid-Term Actions: Objective 5 is in accordance with WAFWA Section 6 Monarch Conservation Strategies, 6.7 Research and Monitoring Priorities, 6.7.3 Monitoring Strategies.

¹³ Mid-Term Actions: Objective 6 is in accordance with WAFWA Section 7: Capacity, Funding, and Implementation, 7.2 Implementation.

¹⁴ Mid-Term Actions: Objective 7 is in accordance with WAFWA Section 7: Capacity, Funding, and Implementation, 7.4 Adaptive Management of the Western Monarch Conservation Effort

Action 4: Adjust Actions as needed based on data collected at project sites and practitioner experiences.

Long-term Actions (August 2028 and beyond)

Objective 1: Confirm continued engagement with partners and stakeholders.¹⁵

Action 1: Continue to add partners and stakeholders and conduct outreach to new parties as necessary or as opportunities arise.

Action 2: Review existing partners' capacities and programmatic activities and ensure this Strategy is meeting their needs. Adjust as necessary and appropriate.

Objective 2: Ensure commitments to data sharing and long-term access to data, as appropriate.

Action 1: Review data gathered as part of this Strategy and ensure that it is accessible according to agreed upon sharing standards.

Action 2: Identify remaining barriers for data accessibility and develop actions to address those barriers.

Objective 3: Ensure the Strategy's longevity.

Action 1: Assess the progress in habitat and native plant materials objectives and adaptively manage as needed to ensure long-term success.

Action 2: Leverage existing funding sources and identify new funding pathways to support the Strategy's longevity.

Action 3: Review this Strategy and update after five years as necessary, and in alignment with updates to the Western Monarch Butterfly Conservation Plan 2019-2069 and updated materials from the California Multi-Agency Monarch and Pollinator Collaborative Working Group.

Objective 4: Ensure adaptive management of the Strategy.¹⁶

Action 1: Track milestones against Strategy targets and establish ESA conservation targets (if applicable).

Action 2: Adjust monitoring protocols, best practices, pesticide buffers, standards of practice, etc. based on monitoring results and lessons learned.

¹⁵ Long-Term Actions: Objective 1 is in accordance with WAFWA Section 6: Monarch Conservation Strategies, 6.6 Education and Outreach.

¹⁶ Long-Term Actions: Objective 3 is in accordance with WAFWA Section 7: Capacity, Funding, and Implementation, 7.4 Adaptive Management of the Western Monarch Conservation Effort.

Objective 5: Apply the exportable recovery model developed by the partnership beyond the San Joaquin Valley.¹⁷

Action 1: Create a toolkit to develop and implement an exportable model for monarch conservation in other areas.

Action 2: Identify other areas where this model could apply and assess interest and capacity from potential partners to develop and implement an analogous Strategy in those regions.

¹⁷ *Long-Term Actions: Objective 4 is in accordance with WAFWA Section 6: Monarch Conservation Strategies, 6.6 Education and Outreach.*