# 2025 Minnesota State Agency Pollinator Annual Report

MINNESOTA
ENVIRONMENTAL QUALITY BOARD

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## Prepared by

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# 2025 Interagency Pollinator Protection Team

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**Cover photo:** Marked and released as part of a reintroduction program by Minnesota Zoo scientists, Dakota skipper butterflies (*Hesperia dacotae*; Minnesota Endangered, United States Threatened species) mate in a central Minnesota prairie. Photo by the Minnesota Zoological Garden

# Contents

# Charge

The state of Minnesota recognizes that pollinators are essential for the environment, economy, and our way of life. Executive Order 19-28 (EO 19-28) directs state agencies to work together to protect pollinators, with the Environmental Quality Board (EQB) charged with convening and leading an interagency team to restore healthy, diverse pollinator populations in the state.

The interagency team for pollinator protection (the interagency team) consists of staff from the Department of Administration (ADMIN), Agriculture (MDA), Corrections (MnDOC), Education (MDE), Health (MDH), Natural Resources (DNR), Transportation (MnDOT), the Board of Water and Soil Resources (BWSR), the Pollution Control Agency (MPCA), and the Minnesota Zoological Garden (Minnesota Zoo). Staff from these agencies provide operational support, ensure interagency collaboration, develop cross-agency policies and programs, and report on progress toward statewide pollinator protection goals to the EQB with an annual report.

# Introduction

Worldwide, pollinators play a critical role in supporting both people and the environment; they are vital to the health of natural ecosystems, and to food security. Unfortunately, pollinator populations continue to face threats such as the loss and fragmentation of their habitat, pesticide exposure, disease and parasites, and climate change. These factors do not affect pollinators in isolation, they act together and amplify each other's harmful effects.

Minnesota is home to a diversity of pollinators; even if we only consider wild bees, our state has over 500 recorded species (so far!). Diverse pollinator communities allow flowering plants in natural areas and gardens to flourish, supporting healthy and resilient ecosystems, and supports the state's economy by helping many crops set seed and fruit. This diversity also increases the complexity of pollinator protection efforts, because each species has its own biology and habitat needs.

Since 2016, the interagency team and its members agencies have been working to better understand Minnesota's pollinators and their needs, and how to protect them to achieve our desired outcome of healthy, diverse pollinator populations that sustain and enhance our state's environment, economy, and way of life. The interagency team works toward the three pollinator protection goals outlined by the EO 19-28:

1) Lands throughout Minnesota support healthy, diverse, and abundant pollinator populations.
2) Minnesotans use pesticides judiciously and only when necessary, to reduce harm to pollinators from pesticides while retaining economic strength.
3) Minnesotans understand, value, and actively support pollinators.

This year, the interagency team faced challenges due to changes in state and federal funding for programs key to our pollinator protection efforts. Despite this, our commitment to helping pollinators continues. Inspired by the resilience and resourcefulness of pollinators themselves, we have worked to find ways to optimize resources; collaborate and find opportunities to extend each other's capacity to make progress. This report contains an update on the implementation of the Minnesota Pollinator Action Framework (Framework), highlights from recent state agencies actions, and stories of success.

**Figure 1.** A sweat bee (*Agapostemon* sp) feeds on a flower. Photo by Heather Holm

# Implementation of the Minnesota Pollinator Action Framework

The Minnesota Pollinator Action Framework (developed by the interagency team from 2022-2023) is designed to guide the use of resources and optimize the state's capacity for action around the pollinator protection goals. The Framework includes actions state agencies can **lead** by taking administrative action, actions the state legislature can **enact** by writing laws and allocating funds, and actions for which the state can **encourage** participation of other individuals, communities, and organizations to participate in. The full Framework matrix was published in the 2023 Minnesota State Agency Pollinator Annual Report.

In 2024, the interagency team worked on prioritizing the actions state agencies can lead and encourage. Team members scored actions based on expected magnitude of impact the action would have on a given pollinator protection goal, and the anticipated effort it would take to complete the action. We also identified further opportunities for collaboration among state agencies with external organizations.

In 2025, the interagency team began to use the Framework to track our progress and streamline the development of the annual report to the EQB. Our agencies' collective and individual efforts are now reflected in the Framework implementation matrix (matrix) included in Appendix 1. In this and future reports, we will use the matrix to report progress toward implementing the Framework via the actions and programs agencies are leading or encouraging. The following two sections highlight some of these actions, programs, and accomplishments.

# 2025 Highlights

## Environmental Quality Board

- **Interagency coordination.** Convened and led the interagency pollinator protection team in monthly meetings, tracking the implementation of the pollinator action framework and developing the pollinator annual report.
- **Outreach and public engagement events.**
    - Co-sponsored and tabled at the North American Monarch Summit and hosted a table at the Pollinator Party in Lyndale Park Gardens, and the Monarch Festival in Lake Nokomis, Minneapolis.
    - Organized the celebration of Pollinator Day at the State Fair in collaboration with the Pollution Control Agency and the Department of Natural Resources.

- Purchased 24,000 native seed packets and shared with state agencies from the interagency team. Distributed 10,000+ at pollinator outreach events. Organized peer-to-peer and informational webinars to encourage and promote pollinator protection actions across the state in collaboration with state agencies, and non-governmental organizations. The events will be held during late fall and winter of 2025, and spring of 2026.

## Board of Water and Soil Resources

- **Lawns to Legumes (L2L) Program.** The Lawns to Legumes program offers a combination of workshops, coaching, planting guides and cost-share funding (individual support grants) for installing pollinator-friendly native plantings in residential lawns. Since the launch of the program in 2019, there have been nearly 10,000 projects installed, and 20,000 beneficial pollinator trees and shrubs planted. Projects cover over 11 million sq. ft of habitat and sequester nearly 200 metric tons of carbon per year. In 2025, the current 10 Pollinator Pathways grantees have begun implementing a community conservation approach by hosting workshops, designing and installing habitat throughout the state. BWSR is emphasizing collaboration with schools to engage the next generation of pollinator conservationists.

- **Habitat Enhancement Landscape Program (HELP).** This competitive grant program, focused on restoring and enhancing diverse native habitat across the state, continues to gain momentum in supporting pollinators and other wildlife species. In 2025, the current 16 HELP grantees have begun restoration and enhancement activities on the on the 110 proposed projects.

- **Habitat Friendly Utilities and Solar Programs.** These programs build collaboration with utility companies and conservation partners to increase landscape resiliency (along with co-benefits such as plant diversity, pollinator habitat, carbon sequestration, soil health, and water management) in solar projects and along utility corridors. Nearly 70 projects meet the Minnesota Habitat Friendly Solar standard, covering over 7,000 acres. In 2025 funds were provided to six organizations to restore utility corridors through the Habitat Friendly Utilities Program.

- **Conservation Easements.** The Reinvest in Minnesota and Wetland Bank easement programs currently focus on permanent wetland restoration, adjacent native grassland wildlife habitat complexes and permanent riparian buffers. They have resulted in over 7,700 easements that provide valuable pollinator habitat.

- **Mn Conservation Reserve Program.** The CRP State Incentive Grant Program supports water quality, soil health, and wildlife habitat by helping landowners install or preserve best management practices. This state investment leverages federal funding and private stewardship, providing measurable environmental benefits on 3,300 acres across Minnesota.

- **Pollinator Conservation Outreach and Education.** Staff participated in several community events, including the 2025 Mino-Bimaadiziwin Fond du Lac Health and Wellness Fair, which drew over 590 attendees. More than 150 native seed packets and pollinator planting guides were distributed.

**Figure 2.** Attendees at the Pollinator Party in Minneapolis learn about beekeeping. Photo by EQB

## Department of Natural Resources

**New State Wildlife Action Plan.** The *Minnesota's Wildlife Action Plan 2025-2035: Conserving Habitats and Biodiversity* went through public review and was finalized in 2025. More invertebrates than ever before are represented in the revised list of Species of Greatest Conservation Need.

- **New accomplishments from the Minnesota Biological Survey (MBS).**
  - MBS staff conducted bee surveys in 2024 focusing on species that need certain plants to complete their life cycle. They found over 112 species including new populations of several specialist bees.
  - New bees recorded in Minnesota. In 2025, staff discovered two new state records of *Florilegus condignus* and *Diadasia australis*. Neither genus had previously been recorded in Minnesota.

- **Nongame Wildlife Program updates.**
  - Staff monitored bumble bee and butterfly responses to prairie restorations for the fourth season in 2024. Results show restorations support diverse communities of bumble bees and butterflies. Surveys continued in 2025 of augmented native plantings on the restored portion of Prairie Marshes Wildlife Management Area.
  - Staff monitored bumble bee and butterfly responses to innovative cattle grazing at Hole-in-Mountain Wildlife Management Area for the second season in 2025. Data will be processed in winter 2025-2026.

**Native plant seed production.** Continued production of pollinator specific native seed at Minneopa State Park native plant nursery, with roughly $8,000 worth of seed harvested to supplement plantings throughout state parks in southern Minnesota.

**Figure 3.** A prairie field with diverse grasses and flowers in bloom. Photo by Monarch Joint Venture

- **New pollinator-friendly plantings and protections.**
    - Flandrau and Sibley State Parks completed large landscaping projects in popular use areas to showcase pollinator-friendly plantings.
    - The rustic campground at Flandrau State Park remains closed until Memorial Day each year to protect a large aggregation of nesting native bees (genus *Colletes*).
- **Community science and outreach events.**
    - DNR continues to support and participate in the Midwest Bumble Bee Atlas.
    - DNR continues to interact with thousands of attendees at the State Fair, Minneapolis Monarch Festival, and other pollinator themed events.
    - Staff distributed ~12,000 native seed packets in 2025.

## Department of Agriculture

- **Pesticide label review.** Reviewed Minnesota registered neonicotinoid pesticide product labels with non-agricultural uses. Information reviewed was used to help guide Agricultural Chemical Inspectors during seasonal use inspections. This guidance highlights the active ingredients, and associated trade names, providing timelines and targets for non-agricultural uses of neonicotinoid products registered within Minnesota.
- **Seed survey.** The MDA administered a voluntary survey to seed labelers to determine to what extent seed purchasers have access to insecticide-free seed. The survey led to a publicly available list of Minnesota locations offering insecticide free agricultural seed.
- **Outreach to beekeepers.** Reached several hundred beekeepers (commercial and hobbyists) through talks and events. Pesticide misuse reporting was highlighted as a way for beekeepers to document off-target pesticide impacts and potentially recoup financial losses from honey bee colonies impacted by pesticides.

- **Outreach document revisions.** Revised two outreach documents focused on highlighting non-pesticide pest control methods, and the pollinator/environmental concerns associated with pesticide use. The revised document *Make Your Yard Bee-Friendly* provides more pollinator friendly plants and plant characteristics (sunlight requirements, bloom period). The revised *Stewardship Guidelines and Best Management Practices for Pesticide Treated Seed* document condenses information to one page with a focus on planting and disposal best practices.
- **New translations.** Continued translating pollinator best management practice documents into more languages: Hmong, Somali, and Spanish.

## Department of Transportation

- **New Seed Mixes.** Began using new MnDOT standard seed mixes in 2025, which will improve establishment of native vegetation on construction projects.
- **Pollinator Educational Signage.** Installed new educational signage and planted bee lawn at renovated St. Croix Rest Area on I-94 in Washington County.
- **Monitored monarch butterfly habitat.** Monitored over 60 sites across the state for milkweed density in accordance with the Monarch Candidate Conservation Agreement with Assurances (CCAA).
- **New interpretative pollinator sign and bee lawn.** Installed new educational signage and planted bee lawn at renovated St. Croix Rest Area on I-94 in Washington County.
- **Green Stormwater Infrastructure.** Developed and published kits that will encourage increased use of native vegetation features in urban settings.
- **Pollinator habitat management.** MnDOT continued to utilize prescribed fire on lands it administers with an emphasis on areas with rare native plant communities and areas planted with native seed. Over 950 acres were managed with prescribed fires in 2025.

**Figure 4.** A group of monarch butterflies overwintering in a fir forest in Mexico. Photo by Monarch Joint Venture

### Minnesota Zoological Garden

- **Recovery programs for endangered pollinators.** Continued support of The Pollinator Conservation Initiative for the recovery of endangered pollinators through foundational rearing, breeding, and release programs, as well as wild population monitoring and surveys of habitat conditions. Highlights include:

    - After nearly going extinct as recently as 2022, the last US populations of the Poweshiek skipperling in Michigan (MI) appear to be rising for the first time in decades. This is likely tied to the efforts of the Minnesota Zoo's Pollinator Conservation Initiative and their partner John Ball Zoo (Grand Rapids, MI) which are now producing and releasing 1,200+ adult skipperlings annually. This success is raising hope for the eventual return of this "Most Minnesotan" butterfly back to Minnesota.

    - The Minnesota Zoo released more than 400 Dakota skippers at Glacial Lakes State Park in 2025. Minnesota Zoo scientists also confirmed the presence of dozens of wild adult skippers at the park; these are the product of the 2024 release effort, and they confirm for the first time that individuals released by the Minnesota Zoo are surviving and producing new generations in the wild. Unfortunately, the Dakota skipper propagation program has now been paused for the foreseeable future due to changes in federal funding, permissions, and logistical constraints.

- **Recognition for leadership and contributions in pollinator conservation.**

    - The U.S. Fish and Wildlife Service honored Minnesota Zoo's scientists Dr. Erik Runquist and Cale Nordmeyer as 2024 National Recovery Champions for the Midwest Region. This award recognizes these staff member's leadership and direct contributions to the recovery programs of the United States Endangered Poweshiek skipperling and Threatened Dakota skipper through foundational propagation and release programs that they helped develop and execute.

    - The Association of Zoos and Aquariums independently honored the Minnesota Zoo, John Ball Zoo, and Assiniboine Park Conservancy (Winnipeg, Manitoba) with Top Honors for the 2025 North American Conservation Award for their joint efforts to help pull the Poweshiek skipperling back from the edge of extinction and towards a path to recovery.

# Stories of success

The stories in this section highlight the importance of the collaboration across sectors to protect pollinators. From sharing data and information to inform pollinator protection strategies, to the importance of grassroots efforts to create pollinator habitat in public areas, working together yield the best results.

## A new interactive map for the Living Landscapes Initiative

The Board of Water and Soil Resources (BWSR) Living Landscape Initiative combines the agency's programs to support wildlife species, build corridors and increase resiliency. The BWSR Living Landscape map was created to guide BWSR efforts to protect at-risk wildlife, increase landscape resiliency, and expand habitat corridors along waterways, roads and utility corridors. The purpose of the map is to guide decision making for the BWSR Living Landscapes Initiative including project selection for individual conservation programs.

The map combines several layers of information to help guide conservation programs with considerations for habitat benefits across landscapes. Base layers include the DNR Wildlife Action Map that prioritizes important habitat areas; potential dispersal areas for the rusty patched bumble bee as derived from the U.S. Fish and Wildlife Service, MnDOT highways prioritized as part of the Monarch Candidate Conservation Agreement with Assurances (CCAA), Habitat Friendly Utility Corridors, and the location of highest density BWSR funded easement and habitat projects. The map will be updated periodically to add new habitat corridors that are being developed across the state.

### Living Landscape Priority Areas Map

The map helps guide BWSR programs to protect at-risk wildlife, increase landscape resiliency, and enhance habitat in environmental justice areas.

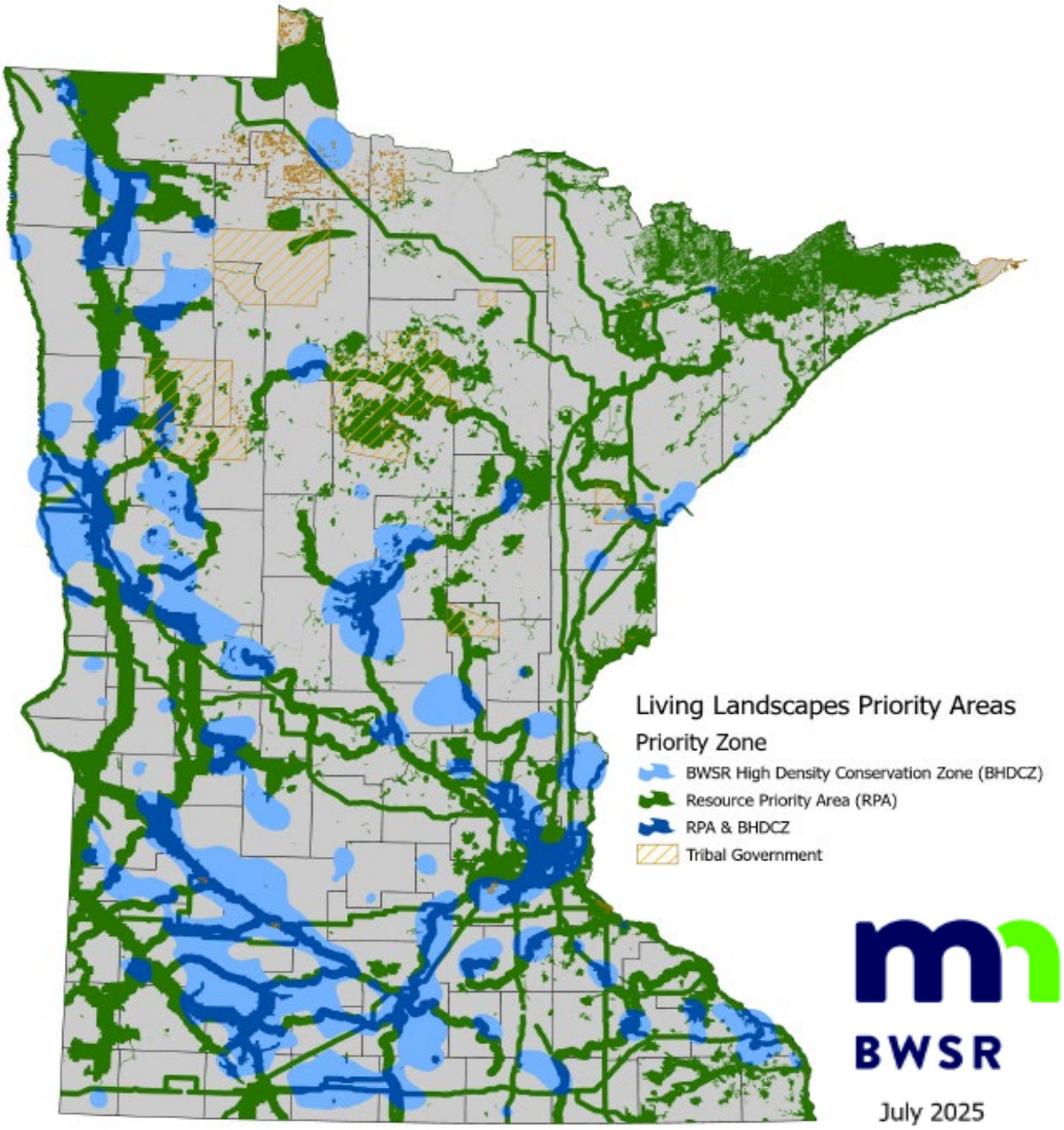


**Figure 5.** Map showing the Living Landscapes Priority Areas in Minnesota.

## New pollinator habitat along I-35 at Duluth's Thompson Hill Information Center

Duluth's Thompson Hill Information Center offers spectacular views of the city skyline, surrounding area and Lake Superior. It's a welcoming spot for residents and the traveling public alike. Now another group of travelers, monarch butterflies, will find respite at this rest area. In June 2025, a group of volunteers from Conservation Minnesota, Duluth Monarch Buddies and the Wild Ones Arrowhead Chapter planted a milkweed field and a small pollinator garden at this popular site. While the monarch is Minnesota's state butterfly, they are not as easy to find as they used to be due to habitat loss and fragmentation. Habitat improvements like this one are important to support monarchs migrating from Mexico to Canada along I-35, also called "The Monarch Highway." The work was done under MnDOT's Highway Sponsorship Program, in conjunction with the Site Development Unit and District One.

The Highway Sponsorship Program forms public-private partnerships to enhance highway roadsides for improved aesthetics, environmental sustainability and habitat improvement. Projects are two to ten years long and are funded by the sponsor. Individuals and organizations can reach out to MnDOT for more info if they have an idea that will help our roadsides!

### Project highlights

- Installation and on-going care of a native plant garden for pollinators outside the Visitor Center building.
- Mass milkweed planting in a field near the site entrance, with other fields to be added.
- Monarch caterpillars spotted on the milkweed just four weeks later!

**Figure 6.** Volunteers planting pollinator friendly plants at the Thompson Hill Information Center. Photo by Paul Dolan

## New EPA Insecticide Strategy: Reducing Insecticide Exposure to Listed and Non-listed Species

In April 2025, the Environmental Protection Agency (EPA) released the final insecticide strategy outlining its plans to strengthen pesticide label requirements to better protect listed species from off-target movement of pesticides. The strategy focuses on preemptive mitigations to prevent population-level impacts on more than 900 listed species and their habitats. Many of these new label mitigations apply to all product applications, which should reduce pesticide exposure to non-listed species living near application sites. New insecticide labels will require pesticide applicators to follow a list of steps aimed at reducing drift and run-off/erosion exposures before using the product. Mitigations are tailored to individual use sites, considering wind directions, pesticide product runoff vulnerability, field characteristics (slope, soil type), and grower management practices (subsurface drainage, edge of field practices, etc.) New insecticide strategy requirements are being applied to product labels during EPA's active ingredient registration/reregistration (conducted every 15 years) process.

Applicators also will need to determine if they are applying a pesticide within a pesticide use limitation area (PULA). PULAs are areas known to be home to listed species or their habitat. Currently, Minnesota has several PULAs where pesticide applicators are required to follow additional requirements beyond the new label requirements noted above. Over the coming years, as the EPA continues to review and update pesticide registrations, we will see more pesticide product labels tailored toward keeping the animals and plants that call Minnesota home better protected from agricultural pesticide use.

# Call to action

The loss of pollinators is a complex problem that needs the collaboration and partnership between the different sectors of society to make significant progress. Through the interagency team, Minnesota has an official coordinated effort to protect pollinators, and the Framework provides a guide to take action, participate, and support programs and initiatives that will create a Minnesota with thriving and diverse pollinator populations.

Through this report, the interagency team extends the invitation to the public to take action to protect pollinators in Minnesota, our collective effort can make a difference!

# Appendix 1. Implementation matrix of the Minnesota Pollinator Action Framework

This implementation matrix covers those actions included in the Minnesota Pollinator Action Framework that state agencies can lead and encourage. Interagency team members used the following categories to indicate the status of each action or project led by their agency.

- *Sustained effort:* ongoing projects or actions that do not have an end date, or are part of the core duties of an agency
- *Completed:* projects or actions that have reached their goals and are no longer active
- *In progress:* ongoing projects or actions that have a specific end date
- *On hold:* projects or actions waiting to be initiated by the lead agency

The matrix is organized by each of the pollinator protection goals and the desired outcome.

## Goal 1. Lands throughout Minnesota support healthy, diverse and abundant pollinator populations

***Key outcome:*** More food sources, nesting, and overwintering sites for pollinators

**Table 1.** Implementation matrix of the Pollinator Action Framework for Goal 1, Category "Intentional land stewardship", Subcategory "Protect pollinator habitat".

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Work with public land managers, private landowners and land stewards to identify and protect existing pollinator habitat | Reinvest in Minnesota, Living Landscapes Priority Area Mapping effort, Lawns to Legumes, and Habitat Enhancement Landscape programs | BWSR | Lead and encourage | Metro Blooms, public and private landowners | Sustained effort |

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Work with public land managers, private landowners and land stewards to identify and protect existing pollinator habitat | This is a core duty of DNR. Management and reconstruction activities on state lands must abide by pollinator best management practices. | DNR | Lead and encourage | Varies by project | Sustained effort |
| Work with public land managers, private landowners and land stewards to identify and protect existing pollinator habitat | Developed working group representing pesticide applicator stakeholders. The goal of the working group is to coordinate outreach and education efforts to ensure all of Minnesota's pesticide applicators, including public, private landowners and stewards, are aware of and understand how to comply with new Endangered Species Act (ESA) pesticide label language. A primary focus of new ESA label language is to keep pesticides on their target site (i.e. minimize drift, runoff and erosion) and prevent pesticide exposure to lands where endangered species, like the Rusty Patch Bumble Bee, are known to have populations or habitat. | MDA | Lead and encourage | Agricultural commodity groups,<br>Pesticide industries,<br>Agricultural cooperatives,<br>University of Minnesota (UMN) extension<br>Pesticide Safety Environmental Educators<br>Crop advisors | In progress |
| Work with public land managers, private landowners and land stewards to identify and protect existing pollinator habitat | Encourage and incentivize agricultural land managers and owners to obtain wildlife endorsement through Minnesota Agricultural Water Quality Certification Program. Wildlife endorsement certification requires evaluation of land cover attributes including the land's ability to: preserve food sources, nesting cover, support species diversity, and the land managers ability to incorporate integrated pest management and minimizing land disturbance. | MDA | Lead and encourage | Soil Water Conservation Districts, National Resource Conservation Service, Monarch joint venture, Fish and Wildlife Services, The Nature Conservancy, Crop advisors, Private consultants, and the MN Department of Natural Resources. | Sustained effort |

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Work with public land managers, private landowners and land stewards to identify and protect existing pollinator habitat | Mapping and creating vegetation management plans for areas of right of way that contain native grasses and forbs | MnDOT | Lead and encourage | Counties, SWCD | In progress |
| Work with public land managers, private landowners and land stewards to identify and protect existing pollinator habitat | Highway Sponsorship Program that allows interested parties to manage native vegetation on MnDOT rights of way | MnDOT | Lead and encourage | Varies by project | Sustained Effort |
| Work with public land managers, private landowners and land stewards to identify and protect existing pollinator habitat | Install signage to help protect high quality habitats where needed | MnDOT | Lead and encourage | Varies by project | Sustained Effort |
| Expand and improve compensation rates for DNR's Prairie Bank Program | The Minnesota Legislature passed higher compensation rates passed in April 2024 | DNR | Lead | Not applicable | Completed |
| Revise lighting guidelines in state-administered facilities to reduce light pollution detrimental to pollinators | Revising ADMIN's guidelines and protocols | ADMIN | Lead | Not applicable | In progress |
| Revise lighting guidelines in state-administered facilities to reduce light pollution detrimental to pollinators | Approved product evaluation for lighting includes criteria for minimal impacts for light pollution | MnDOT | Lead | Not applicable | In progress |
| Revise lighting guidelines in state-administered facilities to reduce light pollution detrimental to pollinators | Participating in national research efforts to evaluate the effects of transportation lighting, which includes a wildlife component | MnDOT | Lead | Varies by project | In progress |

**Table 2.** Implementation matrix of the Pollinator Action Framework for Goal 1, Category "Intentional land stewardship", Subcategory "Restore and create pollinator habitat".

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Work with public land managers and land stewards to promote the installation and management of pollinator habitat in rights-of-way | Utility rights-of-way through Habitat Friendly Utilities. | BWSR | Encourage | Varies by project | Sustained effort |
| Work with public land managers and land stewards to promote the installation and management of pollinator habitat in rights-of-way | Highway Sponsorship Program that allows interested parties to manage native vegetation on MnDOT rights of way | MnDOT | Encourage | Local civil groups | Sustained effort |
| Work with public land managers and land stewards to promote the installation and management of pollinator habitat in rights-of-way | Planting pollinator habitat at State Entry Signs when possible, meeting the Monarch Waystation criteria when able | MnDOT | Encourage | Not applicable | In progress |
| Work with public land managers and land stewards to promote the installation and management of pollinator habitat in rights-of-way | Install native seeds following construction projects as identified in MnDOT's Sustainability Plan | MnDOT | Encourage | Varies by project | Sustained effort |
| Work with public land managers and land stewards to promote the installation and management of pollinator habitat in rights-of-way | Update MnDOT Seeding Manual to emphasize the use of native grasses and forbs | MnDOT | Encourage | BWSR and DNR part of the review team | Completed |

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Expand beneficial reuse at state-managed Closed Landfill Program sites and promote opportunities to partner with the Minnesota Pollution Control Agency to facilitate pollinator habitat creation on closed landfill sites | Installation of native plant seed mixes on 380 acres of land on 5 closed landfill sites. Maintenance is ongoing. | MPCA | Lead | Minnesota Native Landscapes, BWSR | In progress |
| Engage public land managers to convert lawn or unused spaces and new developments to pollinator habitat (e.g., expanding the capacity of the Lawns to Legumes (L2L) Program to include public lands) | Lawns to Legumes Program, Pollinator Pathways, Habitat Enhancement Landscape Program, Habitat Friendly Utilities | BWSR | Lead and encourage | Varies by project | In progress |
| Support and expand existing programs that provide incentives for farmers and foresters that implement pollinator-friendly land management practices (e.g., diversified crop production, no till, cover crops, prairie strips, forest thinning, wildlife openings, etc.) | Habitat Enhancement Landscape Program, Soil Health Cost-share Program, Watershed Based Implementation Funding, Alliance for Climate Smart Ag, Clean Water Funds Projects and Practices, Clean Water Fund Legacy Partners, RIM for Working Lands, Conservation Contracts, Farm Bill Assistance Partnership | BWSR | Lead | DNR, Pheasants Forever | Sustained effort |

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Support and expand existing programs that provide incentives for farmers and foresters that implement pollinator-friendly land management practices (e.g., diversified crop production, no till, cover crops, prairie strips, forest thinning, wildlife openings, etc.) | Minnesota Water Quality Certification Program endorsements (Wildlife, Integrated Pest Management, Climate Smart, Soil Health) have components that incentivize farmers to implement more pollinator-friendly land management practices including implementing filter strips, cover crops, modifying tillage practices, crop rotation, use integrated pest management, and choosing less toxic pesticide products when possible. | MDA | Lead and encourage | Soil Water Conservation Districts, National Resource Conservation Service, UMN Extension Crop advisors, Private consultants | Sustained effort |
| Promote the installation of a certain percentage of pollinator-friendly landscaping in new developments (e.g., provide rebates for pollinator garden installations) | Included in development guidelines | ADMIN | Lead and encourage | Not applicable | In progress |
| Promote the installation of a certain percentage of pollinator-friendly landscaping in new developments (e.g., provide rebates for pollinator garden installations) | Have developed and promoted technical resources | BWSR | Lead and encourage | Varies by project | Sustained effort |
| Update state building design guidelines to consider pollinator habitat for new buildings and major renovations | Revising ADMIN's guidelines | ADMIN | Lead | Not applicable | In progress |

**Table 3.** Implementation matrix of the Pollinator Action Framework for Goal 1, Category "Intentional land stewardship", Subcategory "Enhance the quality of existing pollinator habitat".

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Continue prioritizing the use of native plants in state-managed landscapes | Core practices of the agency | ADMIN | Lead and encourage | Not applicable | Sustained effort |
| Continue prioritizing the use of native plants in state-managed landscapes | Provide landscape design to state owned property, Habitat Enhancement Landscape Program, Reinvest in Minnesota, and Wetland Banking | BWSR | Lead and encourage | Varies by project | Sustained effort |
| Continue prioritizing the use of native plants in state-managed landscapes | Prioritizing native plants is standard practice on DNR-managed lands. | DNR | Lead and encourage | Not applicable | Sustained effort |
| Continue prioritizing the use of native plants in state-managed landscapes | See action "Work with public land managers and land stewards to promote the installation and management of pollinator habitat in rights-of-way" | MnDOT | Lead and encourage | See action "Work with public land managers and land stewards to promote the installation and management of pollinator habitat in rights-of-way" | Sustained effort |
| Continue prioritizing the use of non-chemical habitat management tools in state-managed landscapes | Part of the core duties of the agency | ADMIN | Lead and encourage | Not applicable | Sustained effort |
| Continue prioritizing the use of non-chemical habitat management tools in state-managed landscapes | Expand signage that highlights non-chemical management options (goats, fire, cutting). | DNR | Lead and encourage | Not applicable | On hold |
| Continue prioritizing the use of non-chemical habitat management tools in state-managed landscapes | Expand MnDOT's Prescribed Fire Program to Districts where prairie habitat exists | MnDOT | Lead and encourage | Varies by project, DNR | Sustained effort |

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Continue prioritizing the use of non-chemical habitat management tools in state-managed landscapes | Use of Integrated Roadside Vegetation Management including mowing and biological control | MnDOT | Lead and encourage | Varies by project | Sustained effort |
| Continue prioritizing the use of non-chemical habitat management tools in state-managed landscapes | Part of the core practices of the agency | Minnesota Zoo | Lead and encourage | Not applicable | Sustained effort |
| Promote the use of farming, forestry and other land management practices that provide multiple benefits to soil, water and wildlife | All BWSR Programing | BWSR | Lead and encourage | Varies by project | Sustained effort |
| Promote the use of farming, forestry and other land management practices that provide multiple benefits to soil, water and wildlife | This is standard practice for DNR-managed lands | DNR | Lead and encourage | Varies by project | Sustained effort |
| Promote the use of farming, forestry and other land management practices that provide multiple benefits to soil, water and wildlife | MN Ag. Water Quality Certification Program (Soil Health, Wildlife, IPM, Climate Smart, Irrigation Water Management Endorsements):<br>Each of these endorsements has a different emphasis but they all share the goal of improving management practices for agricultural lands. | MDA | Lead and encourage | Soil Water Conservation Districts, National Resource Conservation Service, UMN Extension Crop advisors, Private consultants | Sustained effort |

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Promote the use of farming, forestry and other land management practices that provide multiple benefits to soil, water and wildlife | Pesticide Management Plan (PMP) and associated actions:<br>The PMP outlines the MDA's approach to prevent, evaluate, and mitigate pesticides and their breakdown products in water. The MDA's approach involves developing and promoting best management practices that will protect water quality for wildlife and humans. Monitoring for pesticides in water is another key component of the PMP that guides the MDA in their management of pesticides. The MDA works to educate farmers and land managers about pesticide impacts (i.e. sharing monitoring data) and encourages the adoption of alternatives and practices that will minimize impacts to the environment. | MDA | Lead and encourage | Pesticide Management Plan Committee: Consists of representatives from MDH, MNDNR, MPCA, Pesticide Industry, Environmental Organization, Farm Organization, Farmers (2), UMN Extension (2), Public members (3), Tribal Representative, Urban Pesticide Specialist | Sustained effort |
| Promote the use of farming, forestry and other land management practices that provide multiple benefits to soil, water and wildlife | MDA's grant programs include, Agricultural Growth, Research, and Innovation (AGRI) Research, and Specialty Crop Block Program grants. Each of these programs overlaps with the goal to “promote the use of farming, forestry and other land management practices by provide multiple benefits to soil, water and wildlife” through supporting, developing and disseminating sustainability practices—such as cover crops, conservation tillage, nutrient and pest management—that enhance soil health, reduce runoff, and benefit ecosystem services. | MDA | Lead and encourage | Nonprofit organizations, Producer organizations, Government agencies, Universities, Tribal organizations, other agricultural groups, or other groups with agricultural research capabilities | Sustained effort |

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Encourage peer-to-peer workshops focused on incorporating and protecting pollinator habitat on working lands | Habitat friendly solar, Technical Training Certification Program, BWSR Academy, Watershed Implementation, Minnesota Wetland Professional Certification Program, Watershed Implementors monthly call, monthly Tech Talks | BWSR | Encourage | Varies by project | Sustained effort |
| Encourage peer-to-peer workshops focused on incorporating and protecting pollinator habitat on working lands | DNR staff lead and participate in occasional peer-to-peer events | DNR | Encourage | Varies by project | Sustained effort |
| Encourage peer-to-peer workshops focused on incorporating and protecting pollinator habitat on working lands | Webinars promoting pollinator friendly landscaping and landscape management | EQB | Encourage | Varies by project | In progress |
| Ensure guidance for long-term management of pollinator habitat is available to the public | Pollinator Toolbox, Wetland Restoration Guide, Vegetative Establishment Guide, Easement Vegetative Guide, What's Working guide | BWSR | Lead and encourage | Varies by project | Sustained effort |
| Ensure guidance for long-term management of pollinator habitat is available to the public | Pollinator best management practices document is currently undergoing revision | DNR | Lead and encourage | Not applicable | In progress |

**Table 4.** Implementation matrix of the Pollinator Action Framework for Goal 1, Category "Strategic policy and programs to protect, restore, create, and enhance pollinator habitat", Subcategory "Develop policy and programs to increase native plant supply".

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Create a state native seed program with an emphasis on early season species | Pending | DNR | Lead | Pending | On hold |
| Update the seed mixes and related guidance with emphasis on pollinator benefits | See action "Work with public land managers and land stewards to promote the installation and management of pollinator habitat in rights-of-way" | MnDOT | Lead | See action "Work with public land managers and land stewards to promote the installation and management of pollinator habitat in rights-of-way" | Completed |
| Collaborate with and support seed and native plant vendors and other partners to increase the production of plant species important to pollinators (including trees and shrubs) | BWSR Native Vegetation and Biodiversity Advisory Team | BWSR | Lead and encourage | Around 50 conservation organizations | In progress |
| Collaborate with and support seed and native plant vendors and other partners to increase the production of plant species important to pollinators (including trees and shrubs) | DNR maintains a list of native plant suppliers, and supports vendors as seed and plant sources for habitat restoration and enhancement projects | DNR | Lead and encourage | Native plant suppliers | Sustained effort |
| Support and expand the state forest nursery efforts to include a wide diversity of pollinator-friendly plants (e.g., flowering trees and shrubs) | Core operations of the state's forest nursery | DNR | Lead | Not applicable | Sustained effort |

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Provide funding to diversify seed mixes used in private land restorations | Habitat Enhancement Landscape Program, Habitat friendly utilities, Reinvest in Minnesota/Conservation Reserve Enhancement Program | BWSR | Lead | Varies by project | Sustained effort |
| Provide funding to diversify seed mixes used in private land restorations | Pending | DNR | Lead | Pending | On hold |

**Table 5.** Implementation matrix of the Pollinator Action Framework for Goal 1, Category "Strategic policy and programs to protect, restore, create, and enhance pollinator habitat", Subcategory "Design strategies to support pollinator habitat".

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Develop guidance about integrated habitat management approaches in public and private lands | Seed mixes, planting templates, Living Landscape Initiative programs | BWSR | Encourage | Varies by project | Sustained effort |
| Develop guidance about integrated habitat management approaches in public and private lands | Pollinator best management practices revision | DNR | Lead and encourage | Not applicable | In progress |
| Develop guidance about integrated habitat management approaches in public and private lands | The MDA formed three pollinator habitat working groups in 2016 to develop BMPs for Agricultural Lands, Yards and Gardens, and Rights of Way. The MDA followed up these efforts in 2025 to revise a shorter private land owners document titled "Make Your Yard Bee-Friendly". Both the Yards and Gardens and Make Your Yard Bee-Friendly documents have been translated into Hmong, Somali, and Spanish to better facilitate outreach efforts. The MDA continues to promote and distribute these BMPs throughout the year. | MDA | Lead and encourage | Varies by project | Completed |

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Develop guidance about integrated habitat management approaches in public and private lands | Update MnDOT Maintenance Manual to reflect habitat management methods | MnDOT | Encourage | Pending | On hold |
| Develop and implement strategies to increase connectivity of habitat in highly fragmented landscapes | Create map of areas of pollinator habitat opportunities to connect fragmented landscapes along MnDOT managed roads | BWSR | Lead and encourage | See Stories of Success<br>"A new interactive map for the Living Landscapes Initiative" | Sustained effort |
| Develop and implement strategies to increase connectivity of habitat in highly fragmented landscapes | Local technical teams, Conservation Focus Areas already exist to implement the Prairie Plan, Wildlife Action Network, etc. There is a need for highlighting and replicating conservation success stories from these efforts. | DNR | Lead and encourage | The Nature Conservancy, U.S. Fish & Wildlife Service, counties, private landowners, etc. | Sustained effort |
| Create a certification program for pollinator-friendly landscaping available to landscape and gardening companies | Pending | Pending | Lead and encourage | Pending | On hold |
| Develop state regulations to increase remnant prairie protections | Pending | DNR | Lead | Pending | On hold |
| Develop technical assistance and resources to increase pollinator habitat to support pollination from native pollinator species | Develop technical assistance and resources to increase pollinator habitat to support pollination for native pollinator species | All BWSR Programing | BWSR | Varies by project | Sustained effort |
| Develop technical assistance and resources to increase pollinator habitat to support pollination for native pollinator species | Developed new resources for landscaping with native plants:<br>Landscaping with native plants<br>Natural shorelines | DNR | Lead and encourage | BWSR | Sustained effort |

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Develop technical assistance and resources to increase pollinator habitat to support pollination for native pollinator species | See action "Develop guidance about integrated habitat management approaches in public and private lands".<br><br>Pollinator Habitat BMP documents developed by MDA. | MDA | Lead and encourage | Varies by project | Completed |
| Improve coordination and management of DNR rights-of-way to meet pollinator best management practices in alignment with existing goals and objectives | Utility rights-of-way licenses, leases, and easements that cross DNR lands go through an internal review process. Though this process is case-by-case, core vegetation standards have to be met before approval. | DNR | Lead | Not applicable | Sustained effort |

**Table 6.** Implementation matrix of the Pollinator Action Framework for Goal 1, Category "Comprehensive research and data collection related to pollinator habitat", Subcategory "Understand pollinator habitat needs".

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Research how habitat management practices affect pollinators populations | Current projects are bee species presence surveys in southwest Minnesota, comparing species assemblages at remnant vs restored prairies. | DNR | Lead and encourage | UMN | In progress |
| Support the development of resources to guide strategic prioritization of implement habitat conservation efforts | DNR has identified Conservation Focus Areas and Wildlife Action Network, published in the State Wildlife Action Plan and available as GIS layers. | DNR | Lead and encourage | Partners who helped develop Minnesota's Wildlife Action Plan | Completed |
| Increase capacity to evaluate the quality and success of habitat conservation projects | Pending | BWSR | Lead and encourage | Pending | On hold |

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Increase capacity to evaluate the quality and success of habitat conservation projects | DNR currently does this on a case-by-case basis but is working to standardize data collection methods through increased use of the Prairie Reconstruction Initiative (PRI) database. | DNR | Lead and encourage | PRI, U.S. Fish and Wildlife Service | In progress |
| Research the implications to pollinators of including adjacent-pollinator habitat in areas with intensive pesticide use (e.g. golf courses) | DNR wildlife researchers have studied this. See research paper "Tallgrass prairie wildlife exposure to spray drift from commonly used soybean insecticides in Midwestern USA". | DNR | Encourage | UMN | On hold |
| Research the implications to pollinators of including adjacent-pollinator habitat in areas with intensive pesticide use (e.g. golf courses) | The MDA collects this type of information when pesticide misuse is reported and when an incident investigation can be initiated. | MDA | Encourage | UMN | Sustained effort |
| Identify low native plant diversity areas on state lands that would be good candidates for prairie or forest restoration or enhancement | DNR does this at the property and unit level. | DNR | Lead | Varies by project | Sustained effort |

## Goal 2. Minnesotans use pesticides judiciously and only when necessary to reduce harm to pollinators while retaining economic strength

***Key outcome:*** reduced impacts to pollinators from pesticides through integrated pest management (IPM)

**Table 7.** Implementation matrix of the Pollinator Action Framework for Goal 2, Category "Judicious use of pesticides", Subcategory "Support integrated pest management on agricultural and non-agricultural lands".

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Develop IPM programs for crops and non-agricultural systems where they do not exist yet | Consults with and encourage University to conduct research | MDA | Encourage | UMN CFANS | Sustained effort |
| Develop and collect standardized methods to evaluate and analyze the adoption of IPM on Minnesota farms and in non-agricultural systems | Consults with and encourage University to conduct research | MDA | Encourage | UMN CFANS | Sustained effort |
| Continue funding for projects that include implementation of or research on IPM | Consulted with the UMN to fund research on IPM implementation and development using funding from the Pollinator Research Account (§18B.051). | MDA | Encourage | UMN College of Food Agricultural Natural Resources (CFANS), UMN Entomology Department | Sustained effort |
| Continue funding for projects that include implementation of or research on IPM | The MDA collaborated with the UMN on the Pollinator Research Account (§18B.051). Currently funded through June 2027. | MDA | Encourage | MN Legislature | Completed |

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Continue funding for projects that include implementation of or research on IPM | The MDA administers several grant programs for research that supports crop production, including IPM-related projects. The Agricultural Growth, Research, and Innovation (AGRI) Crop Research Grant generates university level applied crop research that will improve agricultural product quality, quantity, or value. The AGRI Sustainable Agriculture Demonstration Grant funds aims to increase competitiveness of Minnesota-grown specialty crops, including through researching and developing techniques that focus on pest and disease control and prevention. | MDA | Leads | Farmers, nonprofit organizations, producer organizations, government agencies, universities, Tribal organizations, other agricultural groups, or other groups with agricultural research capabilities | Sustained effort |
| Continue funding for projects that include implementation of or research on IPM | In 2025, the MDA collaborated with the UMN Department of Entomology to fund pesticide soil sample analysis to supplement IPM research projects. | MDA | Encourage | UMN Entomology Department | Completed |
| Continue to strengthen compliance assistance for pollinator and IPM language on pesticide labels | The MDA with support from the UMN Pesticide Safety and Environmental Education continues to educate pesticide applicators on the importance of using IPM and where pollinator specific language can be found on pesticide product labels. The MDA also has Agricultural Chemical Investigators that conduct pesticide use and misuse investigations where compliance assistances is a core component of their investigation. | MDA | Lead and encourage | UMN Pesticide Safety and Environmental Education | Sustained effort |

**Table 8.** Implementation matrix of the Pollinator Action Framework for Goal 2, Category "Judicious use of pesticides", Subcategory "Promote integrated pest management on agricultural and non-agricultural lands".

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Increase integrated pest management education for all pesticide users | All DNR pesticide users are required to do annual training with IPM as a core focus. New information can be distributed to training teams in each DNR division. | DNR | Lead and encourage | Not applicable | Sustained effort |
| Increase integrated pest management education for all pesticide users | Pesticide Recertification Workshops: Work with UMN Pesticide Safety and Environmental Educators to incorporate integrated pest management concepts and practices into pesticide applicator trainings. Training includes how to find / understand pollinator label warnings and application restrictions when crops are blooming. | MDA | Encourage | UMN Extension Pesticide Safety and Environmental Education | Sustained effort |
| Increase integrated pest management education for all pesticide users | Manual updates: Pesticide applicator training manuals are routinely updated to ensure current pesticide use concerns can be address. Integrated pest management and pollinator protection concerns are highlighted. | MDA | Encourage | UMN Extension Pesticide Safety and Environmental Education | Sustained effort |
| Collaborate to create and distribute signage about the use of integrated pest management and reducing risks to pollinators for different settings | Pending | ADMIN | Lead and encourage | Pending | On hold |
| Collaborate to create and distribute signage about the use of integrated pest management and reducing risks to pollinators for different settings | DNR has signage that focuses on pollinators and non-chemical management options (goats, fire, cutting) though not IPM explicitly. | DNR | Lead and encourage | Not applicable | On hold |

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Collaborate to create and distribute signage about the use of integrated pest management and reducing risks to pollinators for different settings | Minnesota Agriculture Water Quality Certification Program has developed a specific integrated pest management endorsement for farmers and land managers that record and incorporate sufficient alternative, non-pesticide, pest management practices in an effort to suppress, prevent, and avoid pest populations reaching levels that cause economic harm. | MDA | Lead and encourage | Minnesota farmers, crop advisors, private consultants, and land managers | Sustained effort |

**Table 9.** Implementation matrix of the Pollinator Action Framework for Goal 2, Category "Judicious use of pesticides", Subcategory "Support integrated pest management in managed pollinator colonies".

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Continue to fund projects that include research on or implementation of integrated pest management | Consults with and encourage University to conduct research | MDA | Encourage | UMN CFANS | Sustained effort |
| Continue to strengthen and support compliance assistance for legal pesticide use | Conduct outreach to Minnesota beekeepers. Focus messaging on issues around illegal in-hive pesticide use, signs and symptoms of honey bee exposure to non-beekeeper applied pesticides and available investigation and compensation options. | MDA | Encourage | Minnesota based beekeeping organizations including Minnesota Honey Producers Association and Minnesota Hobby Beekeepers Association | In progress |
| Continue to strengthen and support compliance assistance for legal pesticide use | Continue outreach through bee kill investigations. Compliance assistance is always a focus during bee kill investigations for both beekeepers (complainants) and non-beekeeper (alleged responsible parties) pesticide applicators working in the surrounding area. | MDA | Lead and encourage | UMN bee lab (outreach) | Sustained effort |

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Promote the use of existing integrated pest management programs | Encourage and promote regional recommendations | MDA | Encourage | UMN Bee Lab, MN Beekeeper associations | In progress |
| Provide education on integrated pest management for pollinator colony health | Encourage and promote regional and national best practices for honey bee colony health. | MDA | Encourage | UMN Bee Lab, Honey bee Health Coalition, MN Beekeeper associations | In progress |

**Table 10.** Implementation matrix of the Pollinator Action Framework for Goal 2, "Robust protections", Subcategory "Reduce off target movement of pesticides".

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Increase promotion of mitigation strategies to reduce pesticide movement off-site, including promoting reduction of dust-off from treated seed | Minnesota Agriculture Water Quality Certification Program focuses on implementation, and maintenance of conservation practices that protect Minnesota's water resources, including protections from nutrient and pesticide off-site movement through voluntary incentives and coordinated help from conservation professionals. | MDA | Lead and encourage | Soil Water Conservation Districts, National Resource Conservation Service, UMN Extension, Crop advisors, Private consultants | Sustained effort |
| Increase promotion of mitigation strategies to reduce pesticide movement off-site, including promoting reduction of dust-off from treated seed | Develop outreach materials and conduct outreach on the Environmental Protection Agencies new strategies for protecting endangered species from pesticides. | MDA | Lead and encourage | UMN Pesticide Safety and Environmental Education, USEPA, NRCS, UMN Extension | In progress |

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Increase promotion of mitigation strategies to reduce pesticide movement off-site, including promoting reduction of dust-off from treated seed | Minnesota Agriculture Water Quality Certification Program increased outreach to program participants on off-target movement and impacts from insecticide coated treated seed. | MDA | Lead and encourage | Crop advisors, Private consultants, Soil and Water Conservation Districts | In progress |
| Expand promotion of existing best management practices for using and disposing of treated seed | Expand outreach on Minnesota Pollution Control Agency (MPCA) treated seed disposal requirements to treated seed retailers and labelers. | MDA | Lead and encourage | Commodity groups, Seed retailers / labelers | In progress |
| Expand promotion of existing best management practices for using and disposing of treated seed | Continue promoting best management practice documents related to treated seed treatment, use, and disposal by incorporating training modules into category H: treated seed applicator certification training. | MDA | Lead and encourage | UMN Extension Pesticide Safety and Environmental Education | In progress |

**Table 11.** Implementation matrix of the Pollinator Action Framework for Goal 2, “Robust protections”, Subcategory “Report pesticide misuse”.

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Increase awareness about pesticide misuse reporting | Conduct more outreach to Minnesota beekeepers to make them aware of pesticide exposure symptoms, reporting, and state compensation options. | MDA | Lead and encourage | UMN Bee Lab, MN beekeeper associations | In progress |
| Strengthen capacity to investigate pesticide misuse reports | Backfill regional Agricultural Chemical Investigator positions and realign unit structure to better strengthen the MDA's capacity to investigate pesticide misuse reports. | MDA | Lead | Only MDA has compliance assistance authority | In progress |

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Strengthen capacity to investigate pesticide misuse reports | Strengthen technical expertise of bee kill investigation staff through professional network development and trainings held by the Apiary Inspectors of America. | MDA | Lead | Apiary Inspectors of America | Sustained effort |

**Table 12.** Implementation matrix of the Pollinator Action Framework for Goal 2, "Focused research", Subcategory "Study the effects of pesticides and pesticide inert ingredients on pollinators and their habitat".

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Conduct native pollinator species pesticide toxicity studies following EPA guidelines that can be used in risk analyses | Consults with and encourage University to conduct research | MDA | Encourage | UMN CFANS | Sustained effort |
| Conduct studies on the effects of pesticide inert ingredients on pollinators following EPA guidelines that can be used in risk analyses | Consults with and encourage University to conduct research | MDA | Encourage | UMN CFANS | Sustained effort |
| Conduct studies on how pesticides interact with each other and other stressors to affect pollinator health following EPA guidelines that can be used in risk analyses | Consults with and encourage University to conduct research | MDA | Encourage | UMN CFANS | Sustained effort |
| Create new or update outdated thresholds for common pests in Minnesota | Consults with and encourage University to conduct research | MDA | Encourage | UMN CFANS | Sustained effort |

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Research and document obstacles pest managers face to adopt IPM and what factors lead to increased adoption | Consults with and encourage University to conduct research | MDA | Encourage | UMN CFANS | Sustained effort |

## Goal 3. Minnesotans understand, value, and actively support pollinators

***Key outcome:*** More action through community commitments

**Table 13.** Implementation matrix of the Pollinator Action Framework for Goal 3, Category "Strong partnership and relationship building", Subcategory "Build intentional relationships with individuals and organizations for pollinator protection".

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Connect with communities that have adopted pollinator-friendly resolutions to learn from their experiences and strategize ways to engage cities that have not participated | Conversations with city staff | EQB | Lead and encourage | Varies by project | In progress |
| Strengthen relationships with non-profit and for-profit organizations that work to protect pollinators | Co-sponsoring the North American Monarch Summit | EQB | Lead | Monarch Joint Venture | Completed |
| Strengthen relationships with non-profit and for-profit organizations that work to protect pollinators | Participate in pollinator-related outreach events organized by different reputable organizations | EQB | Lead | Varies by project | Sustained effort |

**Table 14.** Implementation matrix of the Pollinator Action Framework for Goal 3, Category "Strong partnership and relationship building", Subcategory "Build strategic partnerships to advance pollinator protection goals".

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Collaborate with GreenSteps Cities program to increase education and promotion of pollinator-friendly practices | Organizing the City to city on pollinators webinar | EQB | Lead | GreenSteps Cities program (MPCA) | In progress |
| Collaborate with stores that sell retail pesticides and flowering plants to include information and resources about how to protect pollinators and their habitat | Developed and maintain a list of pollinator lethal pesticides for use by retailers and cities with ordinances prohibiting use of pollinator lethal insecticides. | MDA | Lead and encourage | Nurseries | Sustained effort |
| Collaborate with stores that sell retail pesticides and flowering plants to include information and resources about how to protect pollinators and their habitat | Provide treated seed retailers summarized best practice information for customers. This information is required to be posted in an accessible, visible location. | MDA | Lead and encourage | Treated seed labelers and retailers including big box stores | In progress |
| Create a process with Tribal Nations to work together on pollinator protection | Habitat Enhancement Landscape Program and Habitat Friendly Utilities, Lawns to Legumes Programs | BWSR | Lead | MNTEC, MNTEC Tribal Governments (varies by project) | Sustained effort |
| Create a process with Tribal Nations to work together on pollinator protection | Pending | EQB | Lead | MNTEC, state agencies' Tribal liaisons | On hold |

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Collaborate with the Minnesota Science Teachers Association to promote pollinator educational resources for use in K-12 classrooms | Pollinator Pathways | BWSR | Lead and encourage | MDE | In progress |
| Collaborate with the Minnesota Science Teachers Association to promote pollinator educational resources for use in K-12 classrooms | The School Forest Program has capacity to increase pollinator efforts, particularly around trees. Strong desire to continue distributing native seed packets to schools. | DNR | Lead and encourage | Schools and teachers | On hold |

**Table 15.** Implementation matrix of the Pollinator Action Framework for Goal 3, Category "Diverse and inclusive public participation", Subcategory "Increase participation in initiatives and programs".

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Assess which communities have not been involved in pollinator protection actions, reach out to them, and learn how to align this subject with their community priorities | Lawns to Legumes Program survey | BWSR | Lead and encourage | Blue Thumb, Audubon | Sustained effort |

**Table 16.** Implementation matrix of the Pollinator Action Framework for Goal 3, Category "Informed communities", Subcategory "Effective public access to information".

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Improve accessibility of pollinator protection resources (i.e., translations) | Lawns to Legumes Program | BWSR | Lead and encourage | Blue Thumb Washington SWCD | Sustained effort |
| Improve accessibility of pollinator protection resources (i.e., translations) | Work to translate MDA BMPs and outreach materials into multiple languages. | MDA | Lead and encourage | Enterprise Translations Office | Completed |

**Table 17.** Implementation matrix of the Pollinator Action Framework for Goal 3, Category "Informed communities", Subcategory "Increase public awareness about pollinator needs and ways to help them".

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Leverage Pollinator Week to raise awareness about pollinator protection through different strategies: pollinator costume contest, pollinator garden sign design contest, webinar series with pollinator experts, etc. | Social media campaign, but potential for organizing other events | EQB | Lead and encourage | Interagency team-member agencies, UMN Bee Lab, Xerces Society, Monarch Joint Venture, other pollinator-friendly non-profit organizations | In progress |
| Promote pollinator-related apps (i.e. Bumble Bee Watch, iNaturalist) at community events | Refer to them in Lawns to Legumes Program trainings and at tabling events | BWSR | Encourage | Varies by project | Sustained effort |
| Promote pollinator protection actions at the State Fair | Partnered with Blue Thumb and MPCA to host a table outside the Eco Experience building to promote pollinator conservation | BWSR | Lead and encourage | Blue Thumb | Sustained effort |

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Promote pollinator protection actions at the State Fair | Improve signage identifying plants in the DNR gardens. | DNR | Lead and encourage | Not applicable | In progress |
| Promote pollinator protection actions at the State Fair | Continue offering guided plant ID walks and/or tabling events for Pollinator Day at the State Fair | DNR | Lead and encourage | Interagency-member agencies, UMN Bee Lab, Xerces Society, Monarch Joint Venture, Pheasants Forever, other pollinator non-profit organizations | Sustained effort |
| Promote pollinator protection actions at the State Fair | Pollinator Day at the State Fair | EQB | Lead and encourage | Interagency-member agencies, UMN Bee Lab, Xerces Society, Monarch Joint Venture, other pollinator non-profit organizations | Sustained effort |
| Provide clear information about how to create and improve pollinator habitat (e.g. increase awareness about mitigating the negative effects of light pollution) | Presentation to special interest groups | BWSR | Lead and encourage | EQB | Sustained effort |
| Provide information about the benefits to wildlife of using native vs non-native plants | Presentation to special interest groups and program policies | BWSR | Lead and encourage | EQB | Sustained effort |
| Increase visibility of pollinator-friendly lawn alternatives (e.g., media campaign that shows what pollinator habitat looks like) | Pending | EQB | Lead and encourage | Interagency pollinator protection team | On hold |

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Review local ordinances and coordinate with municipalities to make those ordinances compatible with adopting pollinator friendly landscaping | Pending | EQB | Encourage | Pending | On hold |

**Table 18.** Implementation matrix of the Pollinator Action Framework for Goal 3, Category "Sustained education and training", Subcategory "Strengthen programs with pollinator protection resources and information".

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Develop an interagency communications plan to promote pollinator resources and programs | Featured Plants, Ecological Update | BWSR | Lead | Varies by project | Sustained effort |
| Develop an interagency communications plan to promote pollinator resources and programs | Developed an interagency communications plan for pollinator-related topics | EQB | Lead | Interagency team-member agencies | Completed |
| Include pollinator-related education and resources in current agency-led programs where appropriate (e.g., as done in Ag in the Classroom) | Minnesota Wetland Professional Certification Program | BWSR | Lead | SWCDs and Counties | In progress |
| Include pollinator-related education and resources in current agency-led programs where appropriate (e.g., as done in Ag in the Classroom) | DNR education programs that overlap with pollinator content: Bird by Bird, Project Wild (currently on hold), Scientific and Natural Area program outreach, Parks and Trails Interpretative Program. | DNR | Lead | Varies by project | Sustained effort |

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Include pollinator-related education and resources in current agency-led programs where appropriate (e.g., as done in Ag in the Classroom) | The Minnesota Agriculture in the Classroom provides academic standards-based lesson plans and companion resources to Minnesota K-12 educators through their Curriculum Matrix. This matrix includes over 50 pollinator themed lessons and supporting resources. Pollinator-themed hands-on activities are also embedded in educator professional development opportunities. | MDA | Lead and encourage | School districts, UMN Bee Lab, National Center for Agricultural Literacy, National Agriculture in the Classroom Organization | Sustained effort |
| Include pollinator-related education and resources in current agency-led programs where appropriate (e.g., as done in Ag in the Classroom) | Continue distributing and discussing pollinator concerns and best practices during outreach events. | MDA | Lead and encourage | Varies by project | Sustained effort |
| Develop programming in partnership with youth organizations like Girl Scouts, Boy Scouts, YMCA, etc. to educate and facilitate pollinator projects and participation in pollinator-related community science projects. | Pollinator Pathways/Habitat Enhancement Landscape Program | BWSR | Lead | Varies by project | Sustained effort |
| Develop programming in partnership with youth organizations like Girl Scouts, Boy Scouts, YMCA, etc. to educate and facilitate pollinator projects and participation in pollinator-related community science projects. | New regal fritillary monitoring effort using iNaturalist | DNR | Lead | Pending | On hold |

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Explore synergies with third-party certification programs that support pollinators and pollinator habitat | Pending | BWSR | Lead | Pending | On hold |
| Explore synergies with third-party certification programs that support pollinators and pollinator habitat | Keep up with changes in IPM practices required by forest certification organizations | DNR | Lead | Pending | On hold |
| Work with organizations with expertise to expand pollinator-related education and training for inmates at state-administered facilities (e.g. beekeeping, habitat restoration training) | Pending | MnDOC | Lead | Pending | On hold |

**Table 19.** Implementation matrix of the Pollinator Action Framework for Goal 3, Category "Sustained education and training", Subcategory "Make pollinator protection educational resources readily available for the public".

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Create a hub of pollinator-related curriculum/materials that makes it easy for educators to incorporate in their programs | Pollinator Toolkit | BWSR | Lead | Not applicable | Sustained effort |
| Encourage members of the Master Gardener's program to be a resource for schools who want to install pollinator habitat | Pending | BWSR | Lead and encourage | Pending | On hold |

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Work with SWCDs to increase pollinator guidance and resources (e.g. pollinator-friendly plants to mitigate flooding) | Tech Training Certification Program | BWSR | Lead | Varies by project | On hold |
| Increase awareness of programs to assist landowners, land stewards, and land managers in creating, managing, and maintaining pollinator habitat | Table events, public meetings etc. | BWSR | Lead and encourage | Varies by project | Sustained effort |

## Desired Outcome "Healthy, diverse pollinator populations that sustain and enhance Minnesota's environment, economy, and way of life"

**Table 20.** Implementation matrix of the Pollinator Action Framework for the Desired Outcome, Category "Informed decision-making", Subcategory "Long-term monitoring".

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Secure permanent funding to inventory and monitor pollinators | One potential source of funding is Reinvest in Minnesota | DNR | Lead | Pending | On hold |
| Explore and promote monitoring techniques that don't require lethal captures | Pending | Pending | Lead and encourage | Pending | On hold |

**Table 21.** Implementation matrix of the Pollinator Action Framework for the Desired Outcome, Category "Informed decision-making", Subcategory "Generate new information and create a framework for sharing information".

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Create a group to develop pollinator-specific research priority list and identify funding streams | DNR does this at project, division, and SWAP levels. New SWAP will be out 2025. | DNR | Lead and encourage | UMN | Sustained effort |
| Create a group to develop pollinator-specific research priority list and identify funding streams | Pending | EQB | Lead and encourage | Interagency team-member agencies, research institutions (TBD), pollinator-related non-governmental organizations (TBD) | On hold |
| Develop a framework to facilitate collaboration, data and information sharing about pollinators between organizations | Pending | EQB | Lead and encourage | Interagency team-member agencies | On hold |
| Research risk of environmental pollutants (e.g., salts and heavy metals) on pollinators | Pending | TBD | Encourage | Pending | On hold |
| Research the drivers behind changes of perception and behavior toward pollinator-friendly practices to inform state outreach and education efforts | Pending | EQB | Lead and encourage | Pending | On hold |

**Table 22.** Implementation matrix of the Pollinator Action Framework for the Desired Outcome, Category "Strategic protections", Subcategory "Develop effective policy to protect at-risk pollinator species".

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Include a question on the Environmental Assessment Worksheet form that provides information about potential reductions in pollinator habitat and identifies proposed mitigation that will offset those reductions | Pending | EQB | Lead | Pending | On hold |
| Increase capacity for status assessments of pollinator species (monitoring data) state listing at-risk species (including staffing, taxonomic expertise, and data gathering) | DNR is the lead on state listing at-risk species. | DNR | Lead | Pending | On hold |

**Table 23.** Implementation matrix of the Pollinator Action Framework for the Desired Outcome, Category "Long-term planning", Subcategory "Improve interagency coordination".

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Align state agencies' policies, practices and procedures to effectively protect pollinators and reduce inconsistencies | Ongoing conversations during interagency pollinator protection team meetings | EQB | Lead | Interagency team-member agencies | In progress |
| Create and maintain an inventory of passed and ongoing pollinator protection programs and initiatives | Pending | EQB | Lead | Interagency team-member agencies | On hold |

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Synergize strategies and priorities between the Pollinator and the Climate Action Framework (e.g. integrate pollinator-friendly plants in green infrastructure projects) | Pending | EQB | Lead | Interagency team-member agencies | On hold |

**Table 24.** Implementation matrix of the Pollinator Action Framework for the Desired Outcome, Category "Long-term planning", Subcategory "Improve intra-agency coordination".

| Action | Projects | Lead agency | Agency role (Lead/Encourage) | Partners | Status |
|---|---|---|---|---|---|
| Clarify internal pollinator policies and streamline their implementation across agency actions. | DNR: Pollinator Op Order and Pollinator BMPs and grazing guidelines - revision in progress | DNR | Lead | Not applicable | In progress |
| Clarify internal pollinator policies and streamline their implementation across agency actions. | Pending | Interagency team-member agencies | Lead | Pending | On hold |
| Update pollinator-related state policies, standard operating procedures, protocols, and guidelines in light of new scientific information | Pending | Interagency team-member agencies | Lead | Interagency team-member agencies | On hold |