MINNESOTA STATE AGENCY POLLINATOR REPORT

2020 | Annual Report

Monarch caterpillar on milkweed at the Minnesota Zoo.
Photo by Erik Runquist

On the cover:
Dakota Skipper butterflies in the wild.
Photo by Erik Runquist

CONTENTS

OVERVIEW

Pollinators face multiple threats including habitat loss, diseases, parasites, climate change, pesticides and more. Protecting pollinators requires a multipronged approach to address these stressors. There is no simple "silver bullet," and collaboration across sectors, regions, and communities is essential for progress.

Despite these challenges, Minnesota is making progress toward three pollinator protection goals:

- Lands throughout Minnesota support healthy, diverse and abundant pollinator populations.
- Minnesotans use pesticides judiciously and only when necessary.
- Minnesotans understand, value, and actively support pollinators.

The Interagency Pollinator Protection Team (IPPT) works collaboratively across state agencies and with external partners to strategically align resources to achieve measurable outcomes. Highlights from 2020 include:

- The Minnesota Zoo's Dakota Skipper breeding program found new Dakota skippers in reintroduction sites, first signs of potential recovery of this endangered species.
- The Lawns to Legumes Pilot Program is engaging the public across the state to increase pollinator habitat, and promote pollinator protection on private lands.
- Recent pollinator surveys and community science projects have begun to address the pollinator information gap.

Limited resources and knowledge of the thousands of pollinator species in Minnesota complicate the development of comprehensive pollinator protection strategies. Key actions to move progress forward include protecting remnant prairie, increasing conservation land holdings, promoting integrated pest management, and increasing funding for pollinator research and conservation.

It takes all of us

Supporting healthy and diverse pollinator populations in the state requires the continued participation of every Minnesotan. Here are a few ways to take action:

- Plant Minnesota-native plants around our homes, neighborhoods, and businesses that provide floral resources through spring, summer and fall.
- Schools, cities and towns can participate in sustainable community commitments that promote pollinator-friendly policies and initiatives.
- Use an integrated pest management approach to limit pollinator exposure to pesticides.
- Participate in community science activities to help further research efforts.
- Help spread the message about pollinator protection within your circles of influence.

We can all contribute to create a brighter future for pollinators in Minnesota! Let's do it!

INTRODUCTION

The 2020 pollinator annual report contains scorecards that help us identify challenges and recommendations to move progress forward toward pollinator protection in Minnesota. In each section, the report highlights key programs and actions that have been instrumental for progress during this year.

Interagency Pollinator Protection Team

Executive Order 19-28 directs the Environmental Quality Board (EQB) to convene the IPPT and coordinate interagency efforts for pollinator protection, develop cross-agency policies and programs, and report on progress toward pollinator protection goals in a report to the EQB by December 1 of each year. Members of ten state agencies form the IPPT: Minnesota Department of Administration (ADMIN), Agriculture (MDA), Corrections (DOC), Education (MDE), Health (MDH), Natural Resources (DNR), Transportation (MnDOT), Pollution Control Agency (MPCA), Minnesota Board of Water and Soil Resources (BWSR), and the Minnesota Zoological Garden (MNZOO).

Hummingbird sphinx moth feeding on a wild bergamot flower.
Photo by Erik Runquist

SCORECARD

Key to Status

GOOD	Ahead of goals and expectations
OKAY	Meets goals and expectations
FAIR	Behind goals and expectations
POOR	Well behind goals and expectations
?	Not enough data or too variable

Key to Trend

↗	Getting better
↔	About the same
↘	Getting worse
?	Not enough data or too variable

The IPPT chose metrics and indicators based on available and reliable data. Additionally, the IPPT consulted with external subject matter experts to determine status and trends that reflect, as accurately as possible, the progress toward each of the state's pollinator protection goals. The IPPT recognizes that painting an accurate picture of the status of pollinators in Minnesota is challenging, especially considering the limited resources available to understand the complexities of this work. Consequently, each year, the IPPT evaluates the functionality of the scorecards and seeks feedback from key subject matter experts that can help improve this process.

Monitoring for rusty patched bumble bee. Researcher from the University of Minnesota Native Lab processing samples from a rusty patched bumble bee nest found under a house in Red Wing, Minnesota.
Photo by Michelle Boone

DESIRED OUTCOME

Healthy, diverse pollinator populations that sustain and enhance Minnesota's environment, economy, and quality of life

GROUP	INDICATOR	STATUS	TREND	SUMMARY
Imperiled Pollinators	Rusty patched bumble bee	POOR	?	The status of this federally endangered species in Minnesota remains poor. While the U.S. Fish and Wildlife Service (USFWS) reports more sightings, this could be due to more people participating in the surveys.
	Monarch butterfly	POOR	↘	The 2019-2020 overwintering monarch population in Mexico was about half the size of the 2018-2019 population. The population remains at-risk and small relative to 20 years ago.
	Dakota skipper	POOR	↔	The Minnesota Zoo's reintroduction of this endangered butterfly saw early positive evidence of successful re-establishment in 2020. The wild population monitored by the DNR remains stable.
Common Pollinators	Common bumble bees	FAIR	?	The Bee Atlas bumble bee survey produced the contemporary distribution and abundance data for common bumble bees across the state. Additionally, park surveys in the Twin Cities from 2008-2019 suggest the abundance of common bumble bees in the Metro has remained relatively constant over the past decade. It is uncertain how well this trend holds statewide.
	Bumble bee communities	OKAY	?	The Bee Atlas bumble bee survey has produced baseline distribution and species abundance data that could inform a baseline estimate for this metric in the future. Park surveys in the Twin Cities from 2011-2019 suggest the diversity of bumble bees in the Metro has remained relatively constant over the past decade. It is uncertain how well this trend holds statewide.
Managed Pollinators	European honey bee	FAIR	↔	Honey produced per colony, a measure of honey bee health, remains steady, but is still ~20% lower than the previous decade.

Status and trend rankings are not related across species or species group.

Progress

Recent investments into pollinator surveys have begun to address the pollinator information gap. The Minnesota Environment and Natural Resources Trust Fund (ENRTF) supported statewide baseline bee surveys conducted by the DNR. The project to date has contributed essential data for creating effective monitoring programs.

ENRTF funded the Minnesota Bee Atlas from 2015-2019. This project built a community science network to survey Minnesota's native bumble bees and cavity-nesting solitary bees statewide. Information from statewide community science and biodiversity atlas projects can provide baseline estimates of the abundance and distribution of common species, as well as estimates of biodiversity.

In 2020, MNZOO biologists recorded new wild adults of the Dakota skipper butterfly at the reintroduction site where they have been conducting releases since 2017. Supported by the ENRTF, the MNZOO has established the world's only managed rearing and breeding program for this species. This state-endangered and U.S.-threatened butterfly was once widespread across our prairies and now only one wild population may remain in the state. These encouraging sightings indicate that efforts to re-establish this and other lost populations in Minnesota are possible, and represent a key step toward successful recovery of this prairie butterfly.

A newly released Dakota skipper butterfly, reared and marked by Minnesota Zoo biologists to differentiate it from wild adults at the reintroduction site.
Photo by Erik Runquist

BEE SURVEY BY THE DEPARTMENT OF NATURAL RESOURCES

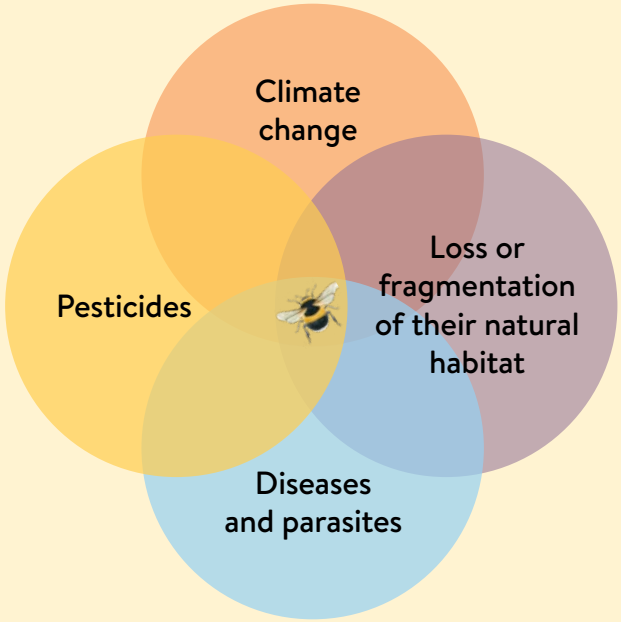
The Minnesota Department of Natural Resources (DNR), and specifically the Minnesota Biological Survey (MBS), has taken the crucial first steps to document the diversity of native bees in Minnesota through the Minnesota Native Bee Surveys. The MBS, in conjunction with the University of Minnesota Insect Collection and Bee Lab, and with investments by the ENRTF, are working towards understanding how to protect Minnesota's native bees by investigating: 1) which bee species reside in Minnesota and 2) their distribution within the state. **The project to-date has established a state list of approximately 450 bee species.** These surveys have expanded our understanding of the distributions of many bee species and contributed two new species to the state list. Surveys will continue in the Laurentian Mixed Forest area, completing the initial statewide bee survey in 2022. However, stable funding for ongoing monitoring will be critical to understand which bee species are in decline or at-risk.

Bee survey netting action shot.
Photo by Nicole Gerjets

Challenges

Limited knowledge of the hundreds, if not thousands of pollinator species that call Minnesota home complicate the development of comprehensive pollinator protection strategies. The overwhelming majority of Minnesota's pollinators are insects, the most diverse group of animals on the planet. Native bees, butterflies, moths, flies (including some mosquitoes!), and beetles constitute the major pollinator groups in our state. Each of these groups are composed of hundreds of species that vary in their biology and habitat requirements. This can also lead to species responding differently to stressors. For example, the 23 species of bumble bee native to Minnesota visit a wide variety of flowering plants for pollen and nectar. On the other hand, many species of native bees only feed their larvae the pollen of one or a few plant species.

The main stressors affecting pollinators



These four factors can interact and even amplify the effect of the others. For instance, the lack of quality habitat decreases the food available to pollinators, making them more susceptible to diseases, parasites, and the effects of pesticides.

Monarch butterflies mating on Minnesota prairie.

Photo by Erik Runquist

Monarch butterflies continue to face challenges. The overwintering monarch butterfly population in Mexico dropped in 2020 to about half its 2019 size. Although Minnesota is an important breeding ground for the generation of monarchs that migrates to Mexico, progress toward conserving this iconic species needs a sustained and coordinated effort throughout the regions comprising its breeding range.

Balancing the needs of managed and wild pollinator populations. Managed and wild bees have both intersecting and differing habitat needs, which means that they can compete for food resources. Additionally, managed bees have the potential to introduce diseases into wild bee communities that can have catastrophic effects, especially for imperiled pollinators.

Recommendations

- **Invest in long-term monitoring and staff.** Both baseline surveys and long-term monitoring are necessary to understand the abundance and identities of pollinators throughout Minnesota. For this, Minnesota also needs to provide stable funding for well-trained professionals to lead and staff pollinator protection programs.
- **Support grassroots efforts throughout the state to create optimal conditions for the recovery of the monarch butterfly.**
- **Increase promotion of best practices for managed pollinators.** Create training opportunities and resources for Minnesota beekeepers to help reduce negative impacts to native pollinators.

Rusty patched bumble bee at the Minnesota Zoo.
Photo by Erik Runquist

GOAL 1

Lands throughout Minnesota support healthy, diverse, and abundant pollinator populations

Key output: more food sources for pollinators

GROUP	INDICATOR	STATUS	TREND	SUMMARY
Public Lands	Restoration on state-managed protected lands	GOOD	⟷	Restorations by the DNR have improved substantially in the past decades, and support for creating high quality restorations will continue in the long term.
	Restoration on state-managed highway rights-of-way	OKAY	↗	MnDOT continues to increase use of native seed and prescribed fire along state managed road rights-of-way.
Private Lands	Restoration on state private lands	GOOD	⟷	Restoration of pollinator habitat through Conservation Reserve Enhancement Program and other Board of Water and Soil Resources easement programs has remained steady over the past two fiscal years.
	Restoration on federal private lands	FAIR	⟷	The number of acres enrolled in the Conservation Reserve Program (CRP) is similar to 2018 and 2019. The 2018 Farm Bill provided only a modest increase in this program over the next five years.
	Restoration on urban and developed lands	FAIR	↗	The BWSR's Lawns to Legumes Pilot Program assisted interested residents with establishing pollinator habitat at their homes across the state.

Progress

Public Lands

While restoration acres remain steady, the diversity of plants seeded in these areas continue to increase slowly. The DNR's pollinator best management practices (BMPs) and habitat restoration guidelines instruct managers to use native plant species that bloom across growing seasons, providing floral resources to pollinators through their active foraging seasons.

The DNR also continues to improve conditions for pollinators across the state through partnerships with federal agencies and conservation non-governmental organizations (NGOs). These cross-institutional collaborations benefit pollinator health by overcoming challenges to ecosystem restoration, such as improving seed availability and diversity.

MnDOT continues to implement adjusted mowing practices, prescribed fire, and restoration of roadsides to increase native vegetation for pollinators on state highway rights-of-way. MnDOT has steadily increased the number of acres managed for pollinators over the past decade through partnerships and internal efforts.

MnDOT has provided funding and staff time to facilitate the development of the Monarch Candidate Conservation Agreement with Assurances (CCAA), the first nationwide CCAA, and MnDOT representatives currently serve on the CCAA advisory committee. The CCAA promotes habitat management for monarch butterflies and other pollinators in transportation and energy rights-of-way through an agreement with many state transportation agencies, energy companies, and the USFWS. MnDOT has applied to enroll over 250,000 acres of state highways in the agreement for conservation of monarch habitat.

Private Lands

Enrollment in some state and federal private land conservation easement programs continued to grow in 2019. The BWSR Minnesota Conservation Reserve Easement Program (CREP) continues to make progress towards its goal of restoring and protecting up to 60,000 acres over five years. In addition, BWSR's Pollinator Initiative focuses on strengthening partnerships and incorporating habitat across all conservation programs. Enrollment has also increased for NRCS's Environmental Quality Incentives Program (EQIP) and Conservation Stewardship Program (CSP) pollinator practices. Minnesota currently ranks fifth in the U.S. in terms of Pollinator Habitat Initiative acres (CP-42) enrolled through CRP.

Minnesota continues to lead the way in creating novel pollinator habitat, such as the legislatively created Lawns to Legumes Pilot Program, and Habitat Friendly Solar initiatives. Both programs, now part of Minnesota Statute, play an essential role in aiding at-risk pollinators by increasing flowering habitats, while also engaging the public and businesses in conservation efforts. Other long-standing programs, such as Restore Your Shore and Native Prairie Bank, also support pollinator habitat on private land. Programs such as the Minnesota Agricultural Water Quality Certification Program (MAWQCP) also encourage participation in private land easement programs and conservation practices that can benefit pollinators, such as no mowing or haying during peak pollinator activity. These programs can also provide other ecological benefits such as climate adaptation, carbon sequestration, water management, creating areas free from pesticides and fertilizer, as well as building community and the wellbeing of residents.

Challenges

Public Lands

Acquiring ecologically appropriate native seed, high management workloads, and limited funding for pollinator and restoration monitoring are some of the challenges for habitat restoration in public lands. Nevertheless, the overall rate and quality of restoration is greater than a decade ago, and best management practices have been adopted across state-managed lands.

Private Lands

The high cost of native seed, limited capacity for habitat management, and reliance on federal funding impose challenges to restoring habitats and ecosystems for pollinators on private lands. While recent sign-ups for CRP have included new Pollinator Habitat Initiative acres (CP-42), this practice represents a small proportion of total CRP acreage in Minnesota (1.5%). For both CRP and other programs, conservation practices targeting other ecosystem services may provide incidental habitat for pollinators.

Expenses associated with installing diverse seed mixes and maintaining habitats for pollinators may deter landowner participation. Designing cost-effective seed mixes that target and balance multiple ecological benefits is an area of active research.

WHAT IS HABITAT FOR POLLINATORS?

Habitat is any place that provides resources a pollinator needs, plants that provide pollen and nectar, nesting and overwintering habitat. Some pollinators have more specific resource requirements than others, and these can vary across their life cycles. For instance, monarch caterpillars can only develop on milkweeds, but adult monarch butterflies visit a wide variety of flowers for nectar to fuel their flight, so both milkweeds and nectar sources are needed to provide habitat.

How can we help?

One way to help is to increase the number and diversity of plants that provide pollen and nectar across the growing season in an area. For example, BWSR's Lawns to Legumes Pilot Program is teaching Minnesota residents across the state how to install pollinator habitat. The DNR's Wildlife Management Areas (WMA) and Scientific and Natural Areas (SNA) programs restore natural ecosystems by recreating pre-settlement native plant communities and natural ecosystem disturbances like fires in prairies.

Pollinator habitat in restored wetland areas in Minnesota.
Photo by BWSR

Recommendations

- **Support evaluations of habitat quality.** Support is needed for habitat quality assessments on both public and private lands that evaluate benefits to pollinators. Increasing capacity or funding for follow-up habitat data collection will help inform adaptive management for pollinators, ensuring investments into pollinator conservation are successful in the face of continued climate and land-use change.
- **Support for land, water, and wildlife conservation programs is essential for preserving and restoring pollinator habitats in Minnesota.** Most pollinator habitat in Minnesota exists within the mosaic of public and private conservation lands maintained or created by state and federal programs. Through broadly conserving Minnesota's wildlife and ecosystems, these programs protect and restore pollinator food and nesting resources. Examples of these programs are administered by the DNR, BWSR, USFWS, and NRCS, and supported through partnerships with NGOs such as The Nature Conservancy, Pheasants Forever, and Ducks Unlimited.
- **Support for the creation of a state native seed program.** Diverse seed mixes are critical to recreating ecosystems that both protect our soil and water, and provide habitat for a diversity of pollinators and other wildlife. Support for a state native seed program where local ecotype native seed is grown on state lands would improve seed mix diversity for public land restoration projects. Incorporating seed mix data into existing state habitat or management databases would also improve our ability to analyze restoration outcomes, cost-effectiveness, and pollinator benefits.
- **Grow workforce for maintaining lands for pollinators.** State land managers have a limited capacity and workforce for managing habitats and restorations they administer. Funding or support for additional seasonal staff, roving crews, and contractors to assist in habitat maintenance is needed to ensure state-managed lands continue to provide adequate nectar and pollen resources for pollinators over time.
- **Seek ways to accelerate progress in the creation of pollinator habitat.** For example, by promoting pollinator habitat on any solar developments (meeting Habitat Friendly Solar guidelines) or supporting pollinator habitat plantings on the State's Closed Landfill Program sites.

Habitat Friendly Solar installation.
Photo by the National Renewable Energy Lab

GOAL 2

Minnesotans use pesticides judiciously and only when necessary, to avoid harm to pollinators while retaining economic strength

Key output: Reduced pesticide impacts to pollinators through integrated pest management (IPM)

INDICATOR	STATUS	TREND	SUMMARY
IPM development	OKAY	⟷	The number of Minnesota-specific IPM-related grants that were funded has remained relatively consistent for the past four years. For example, LCCMR funded four IPM-related grants in 2019.
IPM promotion	OKAY	↗	Promotion of IPM has increased for a third year in a row. Innovative education and outreach ideas have been implemented.
IPM adoption	?	?	Consistent methodology in reports from state and national agencies about IPM adoption is not available. Additional data is needed to fully understand the level of adoption on state and private lands. The MDA has begun collecting data on adoption of IPM on farm land. State agencies such as the DNR, and MnDOT use IPM on public lands.

Pesticides can harm pollinator populations. However, they can be important tools for homeowners, growers, land managers, public health officials, and beekeepers to produce food, protect human health, and to control invasive species. Using an IPM approach can reduce the exposure of bees and other pollinators to pesticides.

State agencies are implementing and promoting IPM to protect pollinators. Minnesota Statute 18B.063 requires IPM to be used on all state-managed public lands. Some examples include prescribed burns, brush management, and conservation grazing for weed management.

Progress

Staff from EQB and MDA participate in a national-level Managed Pollinator Protection Working Group. This group collaborates to develop and implement managed pollinator protection plans. In 2020, the group developed comprehensive and interactive presentations for different audiences including pesticide applicators and growers. These presentations are suited for both in person and remote formats.

The MDA and the University of Minnesota Extension used forward-thinking approaches to promote IPM through education and outreach. With COVID-19 safety in mind, new materials were

developed to provide IPM educational materials, and targeted outreach in areas with endangered and threatened species. Additionally, the MDA promoted FieldWatch to pesticide applicators and beekeepers.

MDA reviewed all recommendations made by the Governor's Committee on Pollinator Protection (GCPP) published in November 2018. Out of 39 recommendations, 22 were related to pesticides, however, the GCPP did not find consensus on any of the pesticide-related recommendations. The MDA evaluated these recommendations based on the MDA's statutory authority and availability of resources. Thirteen recommendations required legislative action. Some of these recommendations overlapped with recommendations from the MDA's special registration review of neonicotinoids.

The MDA brought forward two of them but did not get enough legislative support. The MDA acted on five recommendations based on current authority and available resources.

The Office of the Legislative Auditor (OLA) published a report in 2020 which evaluated pesticide regulation and found that "in response to its own review of neonicotinoids, the MDA has taken a number of actions to mitigate the impact of pesticides on pollinators." Examples include the development of Minnesota-specific pollinator stewardship material, BMPs for guidance when using neonicotinoids, the proposal of a treated seed program and a dedicated pollinator protection account to the Minnesota Legislature, review of top-selling neonicotinoid pesticide products, and increased pesticide use/post-use inspections.

Pest management approaches that can be used in an IPM program

Key components of IPM include preventing pests from becoming a problem, using a variety of non-chemical management tools, counting, and identifying pests, and in specific contexts, using economic thresholds to determine when pesticides are warranted.

Host-Plant Resistance

Use of plant varieties that can withstand certain amounts of pest damage or are less desirable for pests

Physical/Mechanical Control

Use of physical barriers, sanitation, or mulches

Chemical Control

Use of pesticides

Cultural Control

Use of crop rotation, irrigation, and fertilization

Biological Control

Use of living organisms such as predators, pathogens, and parasites

The examples listed are not all inclusive.

Challenges

IPM is a complex approach. Implementation of IPM varies and depends on the pest, location (e.g. farms, gardens, and schools), and individual circumstances. In some situations, research on management tools is limited to chemical control. Additionally, predicting pest pressure is challenging, especially due to climate change.

Adoption of IPM may involve more time and/or effort compared to pesticide applications alone, and benefits may not be apparent initially. However, this approach can save money when managing pests.

Data on the level of adoption of IPM in Minnesota is not available for each crop or use location on a consistent basis across years. Additionally, IPM adoption is measured in many different ways, making it difficult to compare datasets.

Recommendations

- **Explore where pest management frameworks that prioritize pollinators (e.g. integrated pest and pollinator management) could be implemented.** The IPPT can facilitate an action group of experts to discuss potential ways to incorporate pollinator protection to a greater level in pest management.
- **Expand and continue educational efforts on IPM to diverse groups of stakeholders.** Since educational efforts regarding land and pest management are performed by many groups, collaboration to unify educational messages and reach more stakeholders will potentially increase understanding and adoption of IPM.
- **Increase support for Minnesota-specific research and IPM-based strategies.** These may include effective non-chemical methods and pest modeling, supporting development of pest resistant varieties, biological control, and economic thresholds.
- **The Legislature should revisit the recommendations made in recent state reviews of pollinator health.** Echoing the recommendation made by the OLA, the IPPT asks the Legislature to consider "taking further legislative action to protect pollinators."

MDA INVESTIGATES PROPERLY REPORTED PESTICIDE MISUSE, INCLUDING BEE AND MONARCH KILLS

The MDA receives approximately 270 pesticide-related misuse complaints per year. **The MDA's pesticide misuse complaint line** is 651-201-6333.

Beekeeper inspecting a honey bee colony frame. Photo: iStock

GOAL 3

Minnesotans understand, value, and actively support pollinators

Key output: More action through community commitments

INDICATOR	STATUS	TREND	SUMMARY
Pollinator resolutions	OKAY	↗	Resolutions through Pollinate Minnesota have increased consistently each year from 2018 to 2020. The majority of resolutions during the 2018-2019 period were made by municipalities. For 2020, the majority of the new resolutions were made by educational institutions.
Community science	OKAY	↗	The number of participants in the Bumble Bee Watch increased to 147 in 2019. This is the highest participation registered since 2016. The IPPT is exploring additional community science programs that reflect participation more broadly.
Pollinator pledges	OKAY	↗	Pollinator pledges through the Xerces Society have increased from 2015 to 2019.

Creative Lego® display showcasing pollinator habitat and solar panels at the first Habitat Friendly Solar Summit, February 19, 2020.
Photo by Paul Erdmann

Progress

Minnesotans continue to be interested in pollinators and finding new ways to help them. Organizations continue to commit to pollinator resolutions and pollinator pledges around the state. Additionally, Minnesotans have continued to participate in community science projects that provide critical information about native pollinators in the state.

Agencies and organizations were able to adapt to online education and outreach, to make information available to Minnesotans despite COVID-19 mitigation strategies. Although several events that promote pollinators statewide were canceled, organizations adapted their events to be held remotely. In this way, Minnesotans were able to access webinars, workshops, and conferences regardless of their location.

Minnesota held the first Habitat Friendly Solar Summit. The event was a collaboration between BWSR, the DNR, Fresh Energy, the Great Plains Institute, and the University of Minnesota Institute on the Environment. The goal was to inform city planning staff, solar developers, Soil and Water Conservation District staff and other stakeholders about how the Habitat Friendly Solar Program works.

First Habitat Friendly Solar Summit, February 19, 2020. Photo by Paul Erdmann

The IPPT through the EQB started a collaboration with the Minnesota Lottery to design a pollinator-themed lottery ticket. The ticket will have the rusty patched bumble bee, the official state bee, as the ambassador for imperiled pollinators in Minnesota. This collaboration presents a unique opportunity to reach new audiences with the pollinator protection message. Furthermore, 40% of the proceeds from the ticket sales will go to the Minnesota Environment and Natural Resources Trust Fund. The ticket is scheduled to launch in April 2021.

A new pollinator-themed license plate will be released in 2021. In partnership with Driver and Vehicle Services, MINNCOR Industries (MINNCOR) is ramping up its production. DOC's license plate production program is one of a variety of employment programs offered by MINNCOR that provide job skills training to support positive inmate behavior and successful re-entry into the community. The pollinator license plate is the 10th design in the DNR's Critical Habitat Series. Sales contribute to the Reinvest in Minnesota Fund, helping enhance habitat across the state.

Challenges

COVID-19 precautions can make engagement activities challenging.

State agencies have limited resources and personnel for focused engagement work on pollinator protection.

Pollinator resolutions are variable and it is difficult to assess their strength. Additionally, there is no assessments of the effectiveness of the ongoing efforts.

Recommendations

- **Develop new strategies to increase public participation with COVID-19 safety in mind.**
- **Look for opportunities to increase coordination and collaboration with the different organizations working to help pollinators in Minnesota.** The IPPT will seek to create opportunities for meaningful engagement with Minnesotans, supporting pollinator friendly initiatives, and community actions to advance pollinator protection in the state.
- **Continue support for innovative projects and explore creative ways to promote pollinator protection and conservation throughout the state.**

Urban Roots interns collect seeds from Minnesota native plants to support their restoration program in public and private spaces.
Photo by Urban Roots

LAWNS TO LEGUMES (L2L) PILOT PROGRAM

The statewide L2L Pilot Program administered by BWSR, started in June 2019 and assists residential landowners and renters with establishing pollinator habitat at their homes. The program has received significant attention in Minnesota and nationally as an effective model for supporting declining pollinator populations on residential landscapes. A combination of the program's three components: demonstration neighborhoods, individual support, and public outreach, helped maximize benefits for pollinators by providing cost share incentives and free technical resources available online. Having this structure and public awareness in place creates a well-timed opportunity to further engage and assist Minnesota's communities and residents to create pollinator habitat. Due to the high demand and interest in the program, additional funding sources are being pursued.

L2L sign in a newly completed rain garden installed by the City of Brooklyn Park, a Demonstration Neighborhood L2L grantee.
Photo by Metro Blooms

Highlights from the Lawns to Legumes Pilot Program

June 2019 to June 2020

- **126** articles published about L2L Pilot Program. Including a feature in *Oprah magazine.*
- Over **33,000** people have accessed the program's website, which offers materials for technical assistance.
- Over **7,500** people applied for the Individual Support grant.
- Over **2,000** people attended L2L design workshops.
- Over **100** volunteer coaches signed up around the state providing one-on-one assistance to new gardeners.

Leafcutter bee (Family Megachilidae) on vervain (*Verbena* sp).

Photo by Laura Marti

EWR_0005_21