



**BOARD OF WATER
AND SOIL RESOURCES**

HABITAT FRIENDLY SOLAR

2020



PRESENTATION TOPICS



- I. Agency Involvement
- II. Goals
- III. How it Works
- IV. Trends
- V. Next Steps





Agency Involvement



Habitat Friendly Solar Initiated from 2016 Legislation Stating:

- “an owner of a solar site implementing solar site
- management practices may claim that the site provides
- benefits to gamebirds, songbirds and pollinators only if
- the site adheres to guidance set forth by the pollinator
- plan provided by the Board of Water and Soil
- Resources”.



Agency Involvement



STATE OF MINNESOTA Executive Department



Governor Tim Walz

Executive Order 19-28; Rescinding Executive Order 16-07

Restoring Healthy, Diverse Pollinator Populations that Sustain and Enhance Minnesota's Environment, Economy, and Way of Life

I, Tim Walz, Governor of the State of Minnesota, by the authority vested in me by the Constitution and applicable statutes, issue the following Executive Order:

Honey bees and a number of native pollinator species have experienced declines in Minnesota and across the country due to a variety of pressures including habitat loss, pesticides, climate change, diseases, and parasites. Some of our native bee and butterfly species are now in danger of extinction, and these declines suggest that other pollinators are also at risk. Because pollinators enable wild plants and many domestic crops to reproduce, they are essential to the health of our environment, economy, and way of life.

Our State acknowledges that:



Plant Archive

Executive Order led to “Interagency Pollinator Protection Team” and
“Governor’s Committee on Pollinator Protection”



Agency Involvement



Response to Declining Pollinator Populations



Photos: Heather Holm, Laurie Schneider, Rich Harrison



Agency Involvement



Response to Declining Pollinator Populations

More than 40% of insect species are declining



Photos: Heather Holm, Laurie Schneider, Rich Harrison



Agency Involvement



MINNESOTA STATE AGENCY POLLINATOR REPORT

2019 | Annual Report

Protecting pollinators in Minnesota: How are we doing?



LAND	MEASURE	STATUS	TREND	SUMMARY
Public lands	Restoration on state-managed protected lands	OKAY	↔	The Department of Natural Resources annually restores habitat at a steady pace, but continues to explore ways to increase the number of forbs (flowering plants) in restorations.
	Restoration on state-managed highway rights-of-way	OKAY	↗	The Department of Transportation is increasing use of native seed and prescribed fire along state road rights-of-way and developing performance measures for vegetation management to better guide maintenance practices.
Private lands	Restoration on state private land easements	GOOD	↗	The restoration of pollinator habitat through Conservation Reserve Enhancement Program and Reinvest in Minnesota is increasing on private lands.
	Restoration on federal private land easements	FAIR	↔	The number of acres enrolled in the Conservation Reserve Program (CRP) is 692,200 acres below peak enrollment in 2007. The 2018 Farm Bill provides only a modest increase in this program over the next 5 years.
	Restoration on urban and developed lands	?	↗	Many urban and suburban landowners are establishing pollinator habitat on their property. The new Lawns to Legumes program will help build on this trend and begin to address demand for residential pollinator habitat.

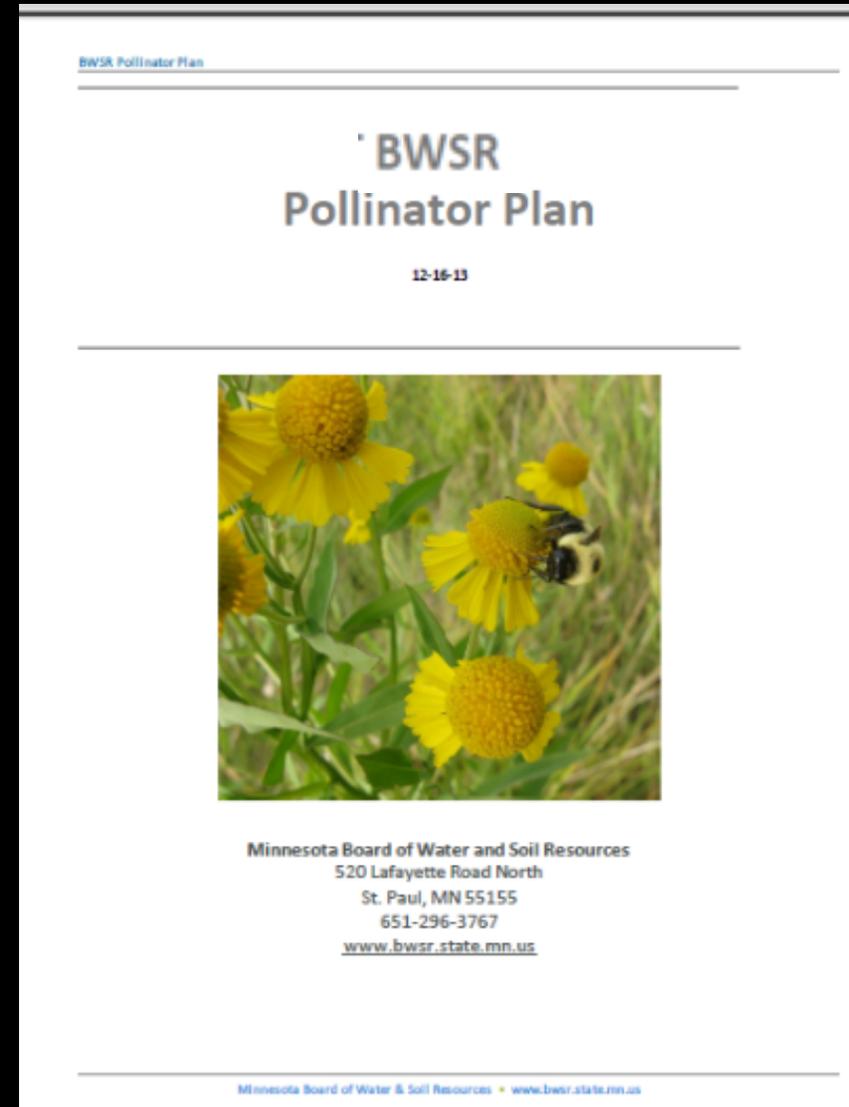
Executive Order led to “Interagency Pollinator Protection Team” and “Governor’s Committee on Pollinator Protection”



Agency Involvement



- BWSR Pollinator Plan developed in 2013
- Recently updated with “Action Steps”

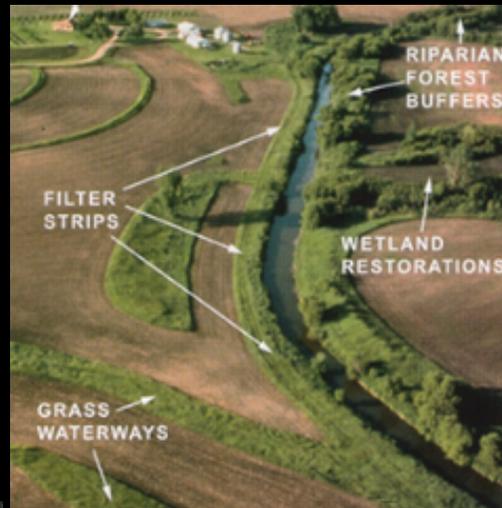




Agency Involvement



We are finding ways to incorporate pollinator habitat into as many project types as possible





Agency Involvement



Working on update of state seed mixes with a focus on pollinators, resiliency, etc.





Agency Involvement



Working on update of state seed mixes with a focus on pollinators, resiliency, etc.

Reviewing State Solar Mixes

- Low Growing Solar Array South and West
- Low Growing Solar Array Northeast
- Low Growing Solar Array Moist Soils South and West



Agency Involvement



Pollinator Toolbox Updated

Minnesota Board of Water & Soil Resources

A to Z Topics Contact Search

Home Exemptions Grants Resource Management and Planning Conservation Implementation Wetlands

BWSR Pollinator Initiative

BWSR Pollinator Toolbox

Part of BWSR's Pollinator Initiative, this toolbox provides our partners with resources and guidance to support their pollinator habitat restoration efforts.

BWSR Pollinator Initiative

The BWSR Pollinator Initiative provides resource and guidance to our conservation partners for incorporating pollinator habitat into their programs.

- Initiative Summary (PDF - 443KB)
- FACs (PDF - 473KB)
- BWSR Pollinator Plan (PDF)

Peer-to-Peer Resources

- Shared Pollinator Presentation from Scott SWCD (power point - 25.5MB)
 - Presentation/Workshop Details (PDF - 317KB)
- "Pollinator Proud" Projects
 - Reemerald in Minnesota
 - Clean Water Fund
 - Wetland Mitigation
- "Protecting Minnesota's Pollinators" Brochure
- BWSR "What's Working" Information
- Featured Farms
- Solar Project Habitat Assessment
- Community Outreach Resources
 - U.S. Fish & Wildlife Service template outreach and education materials
 - Smithsonian Institution Partners in Pollination Lesson Plans
 - University of Minnesota Monarchs in the Classroom materials
 - Pollinator Live outreach materials

Other Resources

- Xerces Society for Invertebrate Conservation
- Minnesota Natural Resources Conservation Service
- Department of Natural Resources
- Minnesota Department of Agriculture
- USFWS
- Pollinator Partnership



Pollinator Plan

April 4, 2014



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 St. Paul, MN 55155
 651-296-5787
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Habitat Friendly Solar Goals



Goals:

- Meet legislative requirement
- Assist local governments
- Provide flexibility in design (species, layout, etc)
- Maximize the benefits of projects
- Create consistency across the state
- Ensure the success of projects



How it Works



Key Steps:

- 1) Filling out the Project Planning Assessment Form
- 2) Review by local government or BWSR
- 3) Adding to state list of projects
- 4) Inspections to ensure that projects stay on track
- 5) Submitting established Project Form for review



How it Works



Key Steps:

1) Filling out the Project Planning Assessment Form

mn BWSR

Solar Site Pollinator Habitat Assessment Form for Project Planning

For solar companies and local governments to meet pollinator/wildlife habitat certification

1. PERCENT OF PROPOSED SITE VEGETATION COVER TO BE DOMINATED BY WILDFLOWERS

- 31-45 % +5 points
- 46-60 % +10 points
- 61+ % +15 points

Total points

Note: Projects may have "array" mixes and diverse border mixes; forb dominance should be averaged across the entire site. The dominance should be calculated from total numbers of forb seeds vs. grass seeds (from all seed mixes) to be planted.

2. PLANNED % OF SITE DOMINATED BY NATIVE SPECIES COVER

- 26-50% +5 points
- 51-75% +10 points
- 76-100% +15 points

Total points

3. PLANNED COVER DIVERSITY (# of species in seed mixes; numbers from upland and wetland mixes can be combined)

- 10-19 species +5 points
- 20-25 species +10 points

6. SITE PLANNING AND MANAGEMENT

- Detailed establishment and management plan developed (see [example plan](#)) with funding/contract to implement +15 points
- Signage legible at forty or more feet stating pollinator friendly solar habitat (at least 1 every 20ac.) +5 points

Total points

7. SEED MIXES

- Mixes are composed of at least 40 seeds per square foot +5 points
- All seed genetic origin within 175 miles of site ([pg.7-8 of Guidance](#)) +5 points
- At least 2% milkweed cover to be established from seed/plants +10 points

Total points

8. INSECTICIDE RISK

- Planned on-site insecticide use or pre-planting seed/plant treatment (excluding buildings/electrical boxes, etc.) -40 points



How it Works



Filling out the Project Planning Assessment Form

- %Dominance of Native Vegetation
- %Dominance of Wildflowers
- Plant Diversity
- 3 Season with Blooming Plants
- Habitat components
- Site Planning
- Seed Mixes
- Insecticide Risk



How it Works



Key Steps:

2) Review by local government or BWSR

-Review includes ensuring that plans will lead to successful Establishment and Management of Vegetation





How it Works



New Sample Specifications

Sample Specifications for the Establishment of Native Vegetation as Part of Habitat Friendly Solar Projects

5-9-19

Developed by the Minnesota Board of Water and Soil Resources and the Minnesota Department of Natural Resources

Note: these specifications are suggestions for projects and should be adapted to meet specific site conditions and project goals.

CONTRACTOR QUALIFICATIONS

1. Seeding contractors must have at least three years of experience installing native seed and installing or maintaining prairie restoration projects or other similar types of projects.

PROPOSED CHANGES TO PROJECT SPECIFICATIONS

1. Once project specifications are approved by the local government unit (LGU) that is reviewing it



How it Works



-DNR Guidance

Prairie Establishment & Maintenance Technical Guidance for Solar Projects

Minnesota Department of Natural Resources

Revised June 2018





How it Works



Key Steps:

- 3) Adding to state list of projects to be posted on BWSR website



How it Works



Key Steps:

- 4) Inspections each year to ensure that projects stay on track





How it Works



Key Steps:

5) Submitting established Project Form for review at year 3 and every three years



Solar Site Pollinator Habitat Assessment Form for Established Plantings (after yr.3)

For solar companies and local governments to meet pollinator/wildlife habitat certifica

1. PERCENT OF SITE DOMINATED BY WILDFLOWERS

<input type="checkbox"/> 1-10 %	+10 points
<input type="checkbox"/> 11-20 %	+15 points
<input type="checkbox"/> 21-30 %	+20 points
<input type="checkbox"/> 31-40 %	+25 points
<input type="checkbox"/> 41+	+30 points

Total points

Note: Project may have "array" mixes and diverse border mixes; forb dominance should be averaged across the entire site. Forb dominance should exclude native ragweeds.

2. % OF SITE DOMINATED BY NATIVE SPECIES COVER

<input type="checkbox"/> 1-25%	+5 points
<input type="checkbox"/> 26-50%	+15 points
<input type="checkbox"/> 51-75%	+20 points
<input type="checkbox"/> 76-100%	+25 points

Total points

3. COVER DIVERSITY (# of plant species with >1% cover)

<input type="checkbox"/> 1-9 species	+5 points
<input type="checkbox"/> 10-19 species	+15 points

6. AVAILABLE HABITAT COMPONENTS ON-SITE (check/add all that apply)

<input type="checkbox"/> At least 2% milkweed cover	+5 points
<input type="checkbox"/> Detailed mgmt. plan developed (see notes) with funding/contract to implement	+15 points
<input type="checkbox"/> Signage legible at forty or more feet stating pollinator friendly solar habitat (at least 1 every 20ac.)	+5 points
<input type="checkbox"/> Constructed nesting habitat feature/s (bee blocks, etc.)	+5 points

Total points

7. INSECTICIDE RISK

<input type="checkbox"/> Planned on-site insecticide use. (excluding buildings/ electrical boxes, etc.)	-25 points
<input type="checkbox"/> Communication/registration with local chemical	+10 points



How it Works



Filling out the Established Project Form

- % Dominance of Native Vegetation
- % Dominance of Wildflowers
- Plant Diversity
- 3 Season with Blooming Plants
- Habitat components within .25 miles
- Habitat components on-site
- Insecticide Risk



Trends



-Partners are experimenting with site design, seed mixes and management methods



Image by Minnesota Native
Landscapes
Enel Green Power (EGP) Site



Image by Natural Resource Services



Image by Prairie
Restorations Inc.



Research Efforts

- Vegetation Establishment (NREL)(WSB)(Hennepin Co.)
- Habitat Benefits (IonE)(Henn.Co.)
- Ag Benefits (Argonne Nat. Lab.)
- Permitting Needs (IonE)
- Hydrology (IonE)





Trends



Protecting Conservation Plantings from Pesticides

Guiding Principles for Project Planning and Implementation



Minnesota Board
of Water & Soil
Resources

www.bwsr.state.mn.us



Protecting the Life
that Sustains Us

www.xerces.org

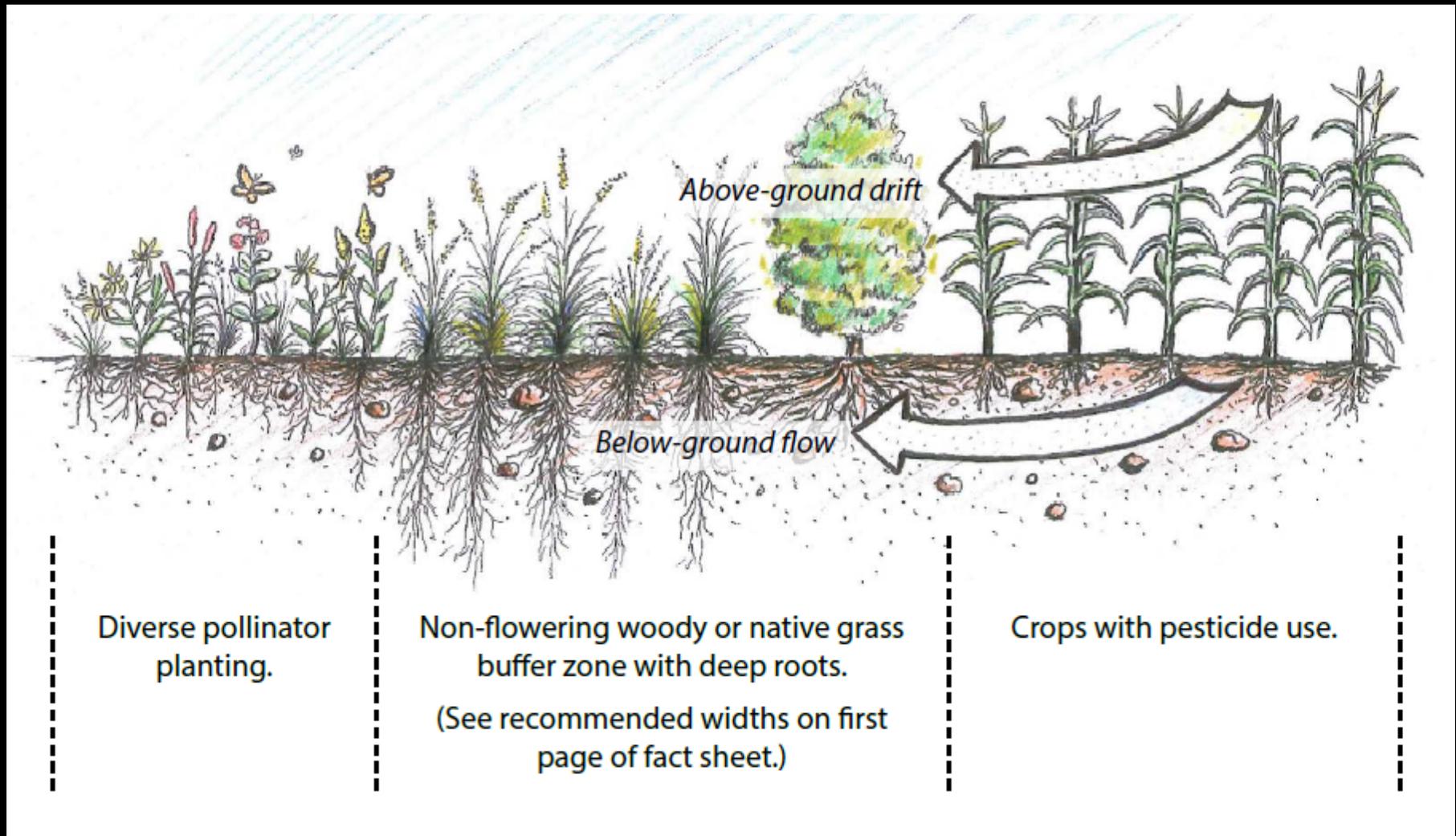
There is growing concern about the potential effects of pesticides (including insecticides, fungicides, and herbicides as well as their adjuvants) on pollinators and habitat plantings. The following key principles for project planning and implementation can help address concerns. Solutions that have the greatest impact will depend on the type of project and landscape setting. The Xerces Society publication [*Guidance to Protect Habitat from Pesticide Contamination*](#) provides additional information and resources on this topic.

Guiding Principles

1. Place pollinator plantings in areas that have the least risk of pesticide drift. Avoid planting habitat immediately downwind of (or draining from) pesticide-treated landscapes. Connect projects to larger habitat corridors and complexes to the greatest extent possible, to decrease the amount of habitat edges



A variety of strategies can help protect plantings from pesticides, including spatial buffers, changes in cropping systems, and reductions in pesticide





Trends



Evolving Policies and Partnerships

- Ordinance Requirements

- Long-term Care Requirements

- SWCD staff are providing a key role in supporting county staff through reviewing plans and site inspections



Trends



“What’s Working” information compiled from practitioners

A screenshot of a web browser displaying the BWSR website. The browser window title is "BWSR - What's Working - Mozilla Firefox". The address bar shows the URL "http://www.bwsr.state.mn.us/grants/whatsWorking.html". The page content includes the BWSR logo, navigation links (Home, Easements, Grants, Resource Management and Planning, Conservation Implementation, Wetlands), and a section titled "What's Working". This section contains introductory text, a list of sections (Conservation Project Planning and Promotion, Vegetation Establishment and Maintenance, Invasive Species Control), and a sub-section titled "What's Working for Conservation Project Planning and Promotion". This sub-section includes a list of categories (Site Selection, Project Design, Partnering, Project Promotion) and a detailed section on "Site Selection" with two paragraphs of text. An image of a tractor in a field is also visible on the right side of the page. The Windows taskbar at the bottom shows the Start button and several open applications, including Microsoft Outlook, Presentations, and Microsoft PowerPoint.

www.bwsr.state.mn.us/native_vegetation/



Next Steps



Next Steps

- Encourage counties to use the standard to help increase consistency

- Update/review forms

- Further discuss consistency and maintenance needs of projects

- Increase site inspections

- Update list of projects





THANK YOU!

