



Minnesota Habitat Friendly Solar Program Summary and Next Steps

October 10, 2021





Presentation Topics

- I. Context
- II. Program Goals
- III. Collaboration for Successful Projects
- IV. Standards
- V. Next Steps





Minnesota Board of Water and Soil Resources

BWSR Mission: Improve and protect Minnesota's water and soil resources by working in **partnership** with local organizations and private landowners



Conservation Co-benefits

Recent research shows significant declines in insects across the world – raising alarms



Conservation Co-benefits

Recent research shows significant declines in insects across the world – raising alarms

More than 40% of insect species are declining



Response to Declining Pollinator Populations



Response to Declining Pollinator Populations

The Rusty Patched Bumblebee
Has declined more than 80% in
20 years



Conservation Co-benefits

Recent research shows significant declines in insects across the world – raising alarms



Bird species are also in significant decline with 3 billion less birds in North America since 1970

Rosenberg et al.
2019



Conservation Co-benefits

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



BWSR's Living Landscapes Initiative

Combining BWSR Programs to Support Wildlife Species, Build Corridors & Increase Resiliency

Habitat Enhancement Landscape Pilot



Lawns to Legumes



Cost-share Projects



Connecting to DNR, USFWS, USDA & Other Conservation Lands



Habitat Friendly Solar



Weed Mgmt Program



Easement & Wetland Programs Over 300,000 acres

Habitat Friendly Solar Program Goals

- 1) Promote Conservation Co-Benefits
- 2) Collaborate with the Larger Conservation Community to Help Ensure Project Success
- 3) Provide a Standard and Assessments to Meet State Legislation

Co-benefits

- Pollinator Habitat
- Habitat for Other Species
- Surface water Quality
- Groundwater Quality
- Soil Health
- Plant Diversity
- Conservation Grazing





Collaboration



State Agencies

Volunteers

Legislators

Universities

Seed Vendors

Governor

Non-profits

Local Governments

Conservation

Consultants

Community

Federal Agencies

SWCDs

Tribes

Foundations

Nurseries

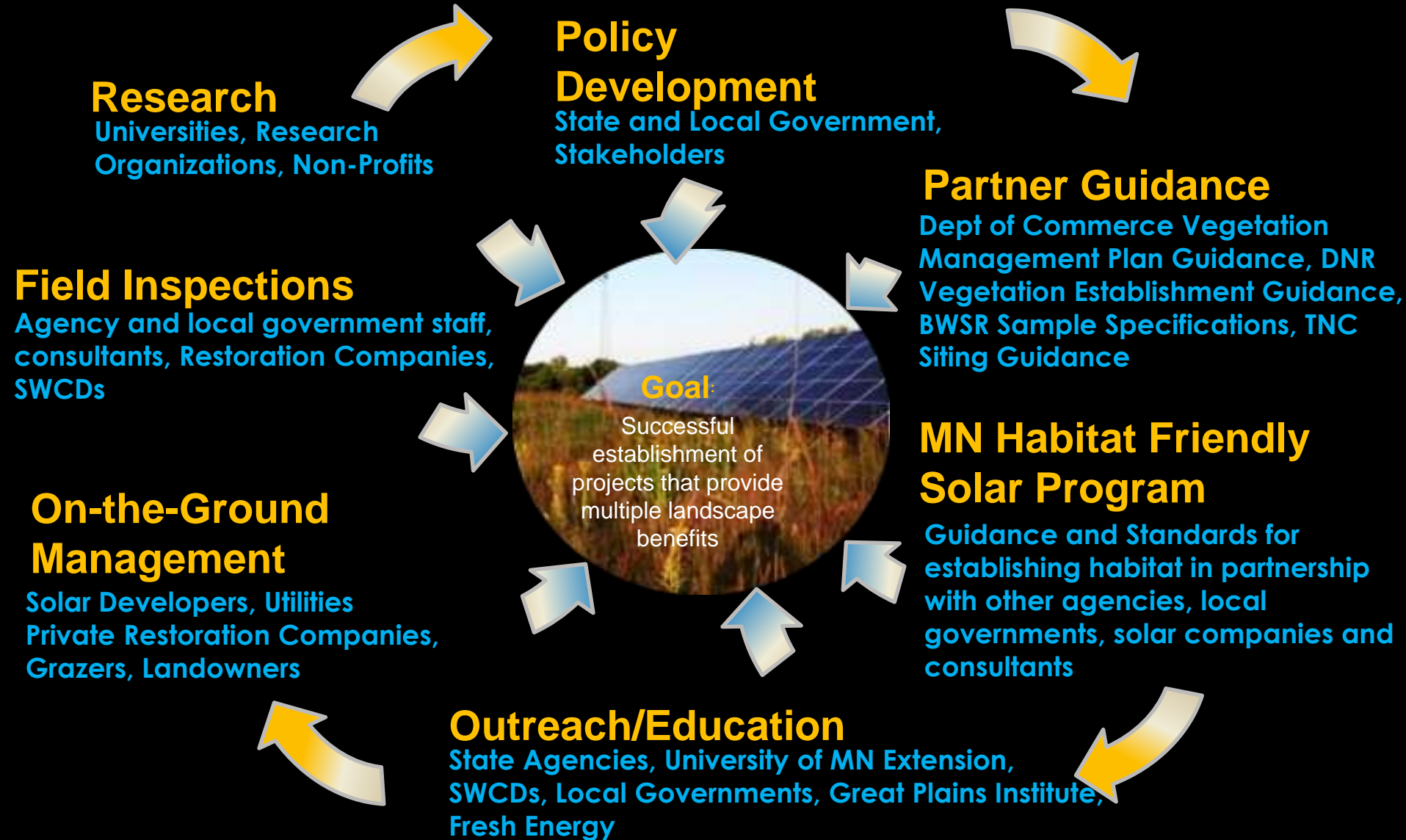
Residents/Landowners

News

Organizations

Habitat & Co-benefit Solar in MN

A Collaborative Approach Involving Minnesota's Conservation Community





Collaboration

-DNR Guidance

Aligns with the Habitat
Friendly Solar Standard

Prairie Establishment & Maintenance Technical Guidance for Solar Projects

Minnesota Department of Natural Resources

Revised June 2018



New Vegetation Management Plan Guidance for Utility Scale Solar

Guidance for Developing a Vegetation Establishment and Management Plan for Solar Facilities



Minnesota Department of Commerce
Division of Energy Resources
Energy Environmental Review and Analysis

March 2021

- Led by Dept. Commerce w/Interagency collaboration
- Creates consistent expectations for utility scale solar
- Aligns with Habitat Friendly Solar requirement for MN PUC permit conditions

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.

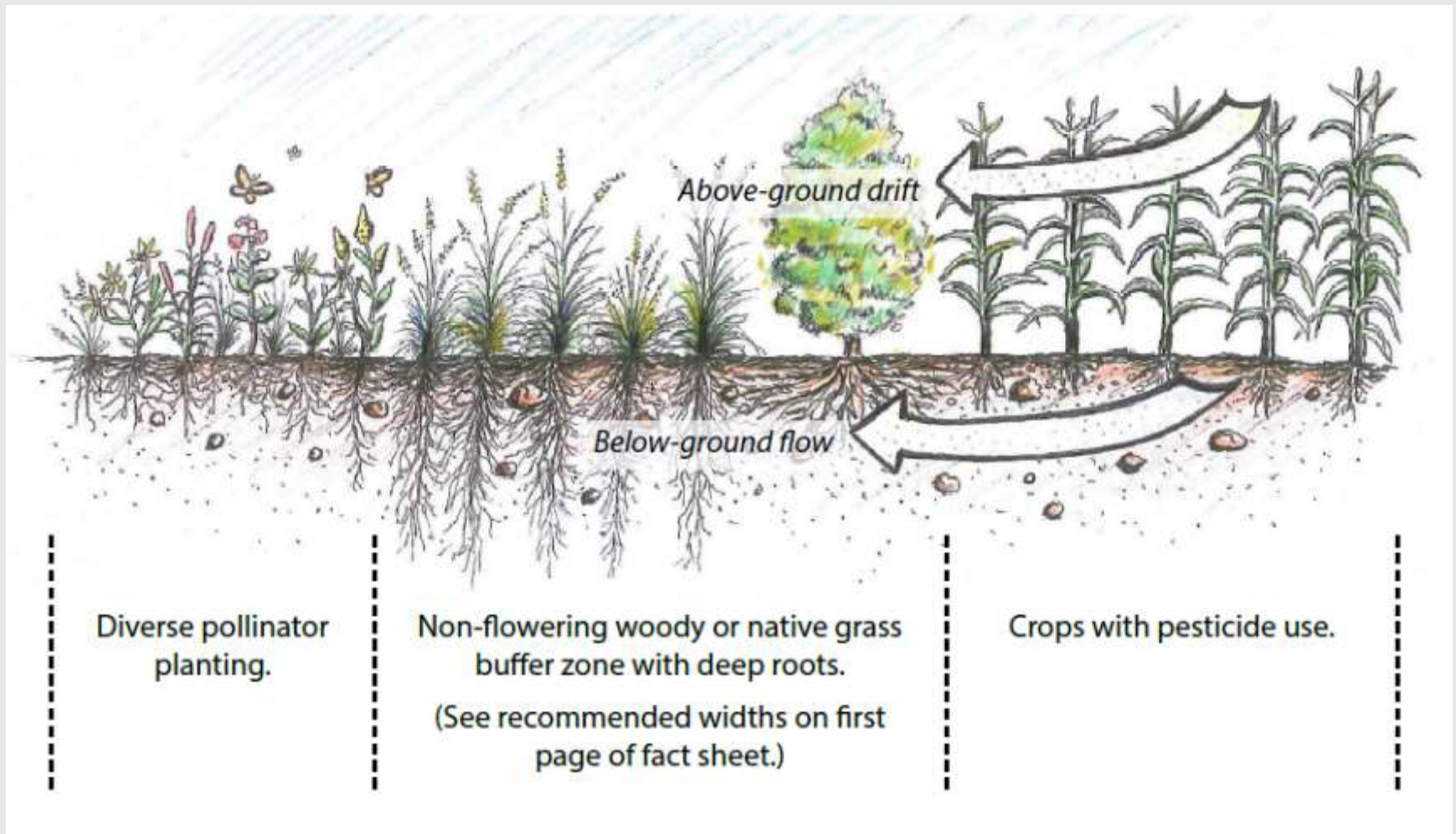
Guiding Principles

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

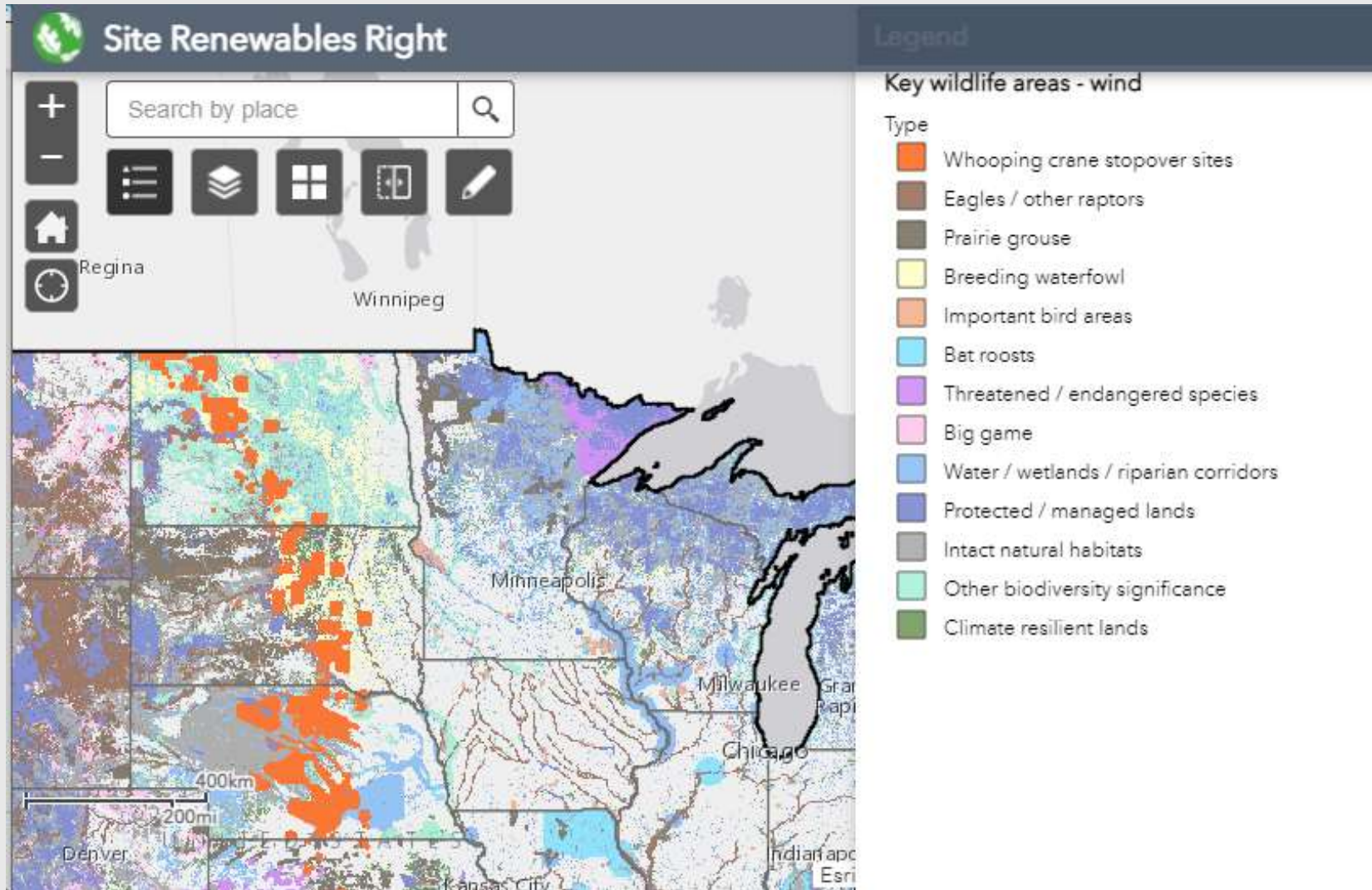


A variety of strategies can help protect plantings from pesticides, including spatial buffers, changes in cropping systems, and reductions in pesticide

Collaboration



The Nature Conservancy Solar Siting Guidance



State Seed Mixes:

Over 100 stakeholders involved in the update of state seed mixes with a focus on pollinators, resiliency, and other landscape benefits

State Solar Mixes

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





Standards

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”.

Now around 17 states with standards



Standards

Goals of the standard:

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

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BWSR

Habitat Friendly Solar Site Assessment Form for Project Planning

For solar companies and local governments to meet Habitat Friendly standards
5-26-2020

1) PLANNED % OF SITE DOMINATED BY NATIVE SPECIES COVER (wildflowers, grasses, sedges, shrubs, trees)

<input type="checkbox"/> 26-50%	+5 points
<input type="checkbox"/> 51-75%	+10 points
<input type="checkbox"/> 76% and above	+15 points

Total points

2) PERCENT OF PROPOSED SITE VEGETATION COVER TO BE DOMINATED BY WILDFLOWERS (not grasses and sedges)

<input type="checkbox"/> 10-20 %	+5 points
<input type="checkbox"/> 21-30 %	+10 points
<input type="checkbox"/> 31% and above	+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 based on seeds per square foot (from all seed mixes to be planted).

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

<input type="checkbox"/> 10-19 species	+5 points
<input type="checkbox"/> 20-25 species	+10 points
<input type="checkbox"/> 26 or more species	+15 points

Total points

4) PLANNED SEASONS WITH AT LEAST 3 BLOOMING SPECIES PRESENT (check/add all that apply)

<input type="checkbox"/> Spring (April - May)	+10 points
<input type="checkbox"/> Summer (June - August)	+5 points
<input type="checkbox"/> Fall (September - October)	+5 points

Total points

See BWSR [Pollinator Toolbox](#) about bloom season.

5) AVAILABLE HABITAT COMPONENTS WITHIN SITE OR WITHIN .25 MILES (check/add all that apply)

<input type="checkbox"/> Native bunch grasses for nesting	+3 points
<input type="checkbox"/> Native flowering shrubs	+4 points
<input type="checkbox"/> Clean, perennial water sources	+3 points
<input type="checkbox"/> Created nesting feature/s (bee blocks, etc.)	+4 points

Total points

6) SITE PLANNING AND MANAGEMENT

<input type="checkbox"/> Detailed establishment and management plan (see notes) developed with funding/contract to implement.	+15 points
<input type="checkbox"/> Signage legible at forty or more feet stating pollinator friendly solar habitat (see notes for number of signs).	+5 points

Total points

7) SEED MIXES

<input type="checkbox"/> Mixes are composed of at least 40 seeds per square foot.	+5 points
<input type="checkbox"/> All seed genetic origin within 175 of site (see notes).	+8 points
<input type="checkbox"/> At least 1% milkweed cover to be established from seed/plants.	+10 points

Total points

8) INSECTICIDE RISK

<input type="checkbox"/> Planned on-site insecticide use or pre-planting seed/plant treatment (excluding buildings/electrical boxes, etc.).	+40 points
<input type="checkbox"/> Communication with local chemical applicators/neighbors about need to prevent drift from adjacent areas (see notes).	+10 points

Total points

Grand Total

Gold Standard - Provides Exceptional Habitat 85+

Meets Pollinator Standards 70

Project Name: _____
Vegetation Consultant: _____
Project County: _____
Project Size: _____
Projected Seeding Date: _____

See notes related to the question on the back side of this form.

Pg. 1



Standards

Key Steps for Minnesota's Process:

- 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

Minnesota Habitat Friendly Solar Program **List of Projects that Meet the Standards**
March 2022

The following projects have met the standards of Minnesota's Habitat Friendly Solar Program administered by the Minnesota Board of Water and Soil Resources. Projects on this list can be promoted as meeting Minnesota's Habitat Friendly Solar Standard and declare that they provide benefits to gamebirds, songbirds and pollinators.

To continue meeting the standard, project owners or managers must submit an assessment form for established projects at the end of the third year of vegetation establishment (by December 31st), and after every 3 subsequent years.

List of Habitat Friendly Solar Projects:

Project Name	County	Acres	Yr. Planted
• Alliant Community Solar Garden	Stearns	7.62 ac.	2020
• Aurora Albany	Stearns	120 ac.	2017
• Aurora Annandale	Wright	66 ac.	2017
• Aurora Athwater	Kandiyohi	35 ac.	2017
• Aurora Chicago	Chicago	53 ac.	2017
• Aurora Dodge Center	Dodge	59 ac.	2017



Standards



Minnesota Habitat
Friendly Solar
Program

Certificate of Designation

In Recognition of the _____ Solar Project

This designation by the Minnesota Board of Water and Soil Resources recognizes that this solar generation facility provides benefits to gamebirds, songbirds, pollinators, and other wildlife by adhering to the standards of Minnesota's Habitat Friendly Solar Program. This project plays an important role in addressing pollinator declines while also improving soil health, water management and providing many ecosystem benefits.

This designation is effective on _____

John Jaschke
BWSR Executive Director

Dan Shaw
BWSR Senior Ecologist and Vegetation Specialist



Next Steps

Challenges

- Inconsistency of requirements across the state (essentially different for every county)
- No state funding available to run the Habitat Friendly Solar Program
- Relatively low number of assessments being submitted
- Increased collaboration needed between partners



Next Steps

Next Steps

- Seek input about the update/review of the HFS process and program (goal of upcoming workshop)
- Increase public/private partnership (through stakeholder group)
- Seek program funding
- Collaborate/assist counties working with the MN standard

Thank You!



Closing



-Thanks to the audience, sponsors, presenters and advisory team!

-Next Steps

- **Building Collaboration - Continuing the discussion with stakeholders**
- **Workshops and Field Visit/s**



**Minnesota Habitat
Friendly Solar
Program**



- 1) State Guidance for Vegetation Management Plans for Utility Scale Solar Project** (Jamie MacAlister, Department of Commerce, Energy Environmental Review and Analysis, Megan Benage, Minnesota Department of Natural Resources)
- 2) BWSR's Habitat Friendly Solar Program;** Program updates and the process of meeting and sustaining state Habitat Friendly Solar standards and collaboration opportunities for landscape co-benefits (Dan Shaw, Board of Water and Soil Resources)
- 3) Solar Site Visit to a Habitat Friendly Solar Project - Location TBD**

Thank You!

Summit Sponsors





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Minnesota Department of Agriculture

Minnesota Department of Commerce

University of Minnesota Extension

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