

BWSR Pollinator Protection Efforts



Presentation Topics

- Context of the Problem
- BWSR Programs
- Identified Needs/Actions



BWSR Pollinator Plan

DRAFT BWSR Pollinator Plan

12-16-13



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Context of the Problem

Pollinators are an integral part of our environmental and agricultural systems – producing seeds and fruit (70-80% of plants) that sustain a wide range of wildlife.

Widely known problem – significant public concern



Context of The Problem

Honey Bees – Average hive mortality of 30% each year.

Causes: Losses from interacting factors including pathogens and parasites, pesticides, and poor nutrition



Context of The Problem

Native Bees – Once common bumblebees are now rare. They are effective agricultural pollinators.

Causes: Disease, pesticide use, climate variation and habitat loss/degradation.



Bombus pensylvanicus
American bumble bee



Bombus affinis
rusty patched bumble bee



Bombus terricola
yellowbanded bumble bee



Bombus borealis
boreal bumble bee



Bombus sandersoni
Sanderson's bumble bee



Bombus perplexus
confusing bumble bee

RARE MN BUMBLE BEES

We need more **surveys and monitoring** of the 350-400 MN bee species.

Context of the Problem

Butterflies and Other Species – Monarchs and many other species are at all time lows

Causes: Habitat loss, pesticides, loss of larval host plants (milkweeds, lupine, etc.)



BWSR Programs

Wetland Protection – Protection and restoration of wetland across Minnesota (around 16,000 acres restored to replace losses)

RIM Conservation Easements – Over 250,000 acres restored and protected (prairies, wetlands and forests)

Soil and Water Conservation Grants – 23,000 acres grassland and 6,500 acres of trees and shrubs planted



Identified Needs

How do we address the problems...

Topics to focus on –

- 1) Key Partnerships and Habitat Programs
- 2) How to Focus all BWSR Programs
- 3) Effective Practices for Minnesota
- 4) How to Benefit Honey Bees
- 5) Effective Outreach and Education Efforts



Identified Needs/Actions

1) Key Partnerships and Habitat Programs

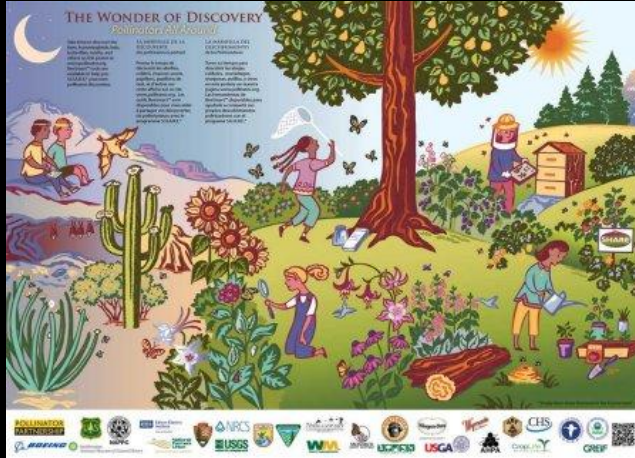
- Soil and Water Conservation Districts
- Watershed Districts
- Conservation Groups
- DNR
- NRCS
- USFWS
- MDA
- MPCA
- Universities
- Cities
- Counties
- Etc.



Identified Needs/Actions



Celebrate National Pollinator Week, June 16 - 22, 2014!



How NRCS Is Helping Pollinators



View the Pollinator E-Book



Pollinator Publications



THE XERCES SOCIETY
FOR INVERTEBRATE CONSERVATION



Healing the Earth one yard at a time.



Bee Lab

Identified Needs/Actions

1) Key Partnerships and Habitat Programs

Incorporating Pollinator Habitat into Minnesota Conservation Projects				
<p>The following information summarizes ways to incorporate pollinator habitat in Minnesota conservation projects, including state and federal programs (note: there may be changes to some federal programs with implementation of the new 2014 Farm Bill)</p>				
Program Categories	Program	Program Goals	How to Incorporate Pollinator Habitat	Contacts
State Soil and Water Conservation Programs	<i>Clean Water Fund (BWSR)</i>	<i>Protect, enhance, and restore lakes, rivers, streams, and groundwater.</i>	Projects need to address water quality issues but plantings done as part of projects, such as rain gardens, can include species beneficial to pollinators. Visit the following website to view current application periods. http://www.bwsr.state.mn.us/cleanwaterfund/	Your Local Soil and Water Conservation District Office http://www.bwsr.state.mn.us/directories/SWC_D_Dir.pdf
	<i>State Cost-Share (BWSR)</i>	To provide grants for installing conservation practices that protect and improve water quality by controlling soil erosion and reducing sedimentation.	A one-time cost share payment covering up to 75% of the eligible costs. This program is focused on soil stabilization and water quality but plantings done as part of projects can include species beneficial to pollinators. Website: http://www.bwsr.state.mn.us/grantscostshare/	Your Local Soil and Water Conservation District Office http://www.bwsr.state.mn.us/directories/SWC_D_Dir.pdf
Federal Soil and Water Conservation Programs	<i>Conservation Reserve Program CRP and Conservation Reserve Enhancement Program CREP (NRCS)</i>	Land retirement programs to convert highly erodible cropland and other environmentally sensitive acreage to vegetative cover.	A one-time cost-share payment covers 50% of the cost of eligible products and services necessary to establish and maintain the practice, such as seed purchase and site preparation. Pollinator projects (using practice standard CP42) require 3 species from each bloom period (9 minimum) and a minimum 75% forbs.	Your Local USDA Service Center www.mn.nrcs.usda.gov

Identified Needs/Actions

2) How to Focus all BWSR Programs

-Targeted habitat protection and restoration
(developing habitat assessment calculator)



Identified Needs/Actions

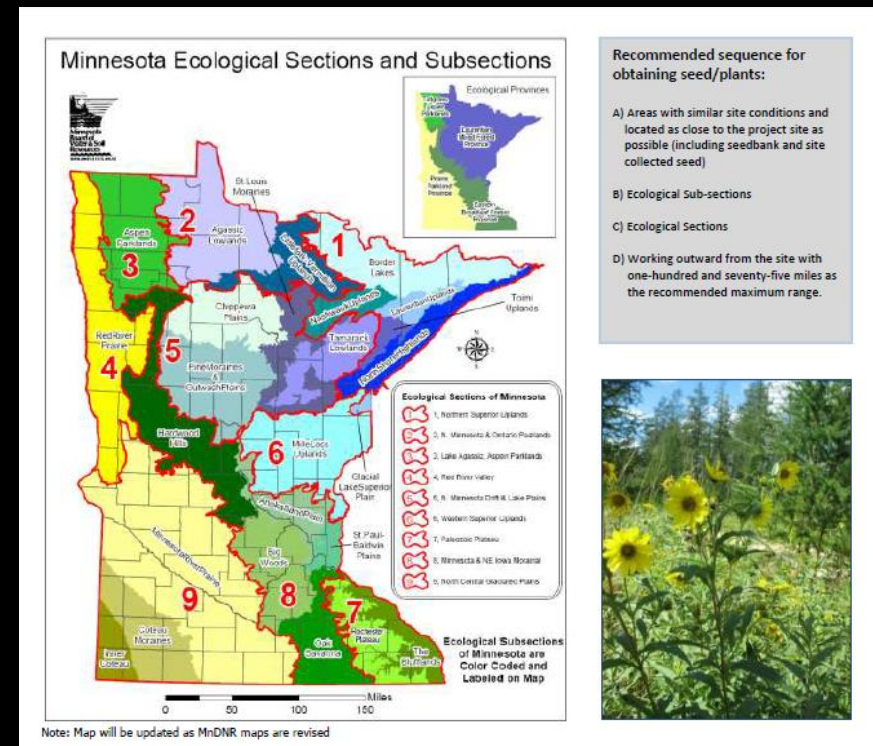
2) How to Focus all BWSR Programs

-Floral rich plantings in smaller plots that are buffered from impacts



Identified Needs/Actions

2) How to Focus all BWSR Programs



Recommended sequence for obtaining seed/plants:

- A) Areas with similar site conditions and located as close to the project site as possible (including seedbank and site collected seed)
- B) Ecological Sub-sections
- C) Ecological Sections
- D) Working outward from the site with one-hundred and seventy-five miles as the recommended maximum range.



Identified Needs/Actions

2) How to Focus all BWSR Programs

-Promoting projects that provide multiple landscape services (carbon sequestration, water quality, wildlife habitat. etc.)



Identified Needs/Actions

2) How to Focus all BWSR Programs

-Promoting planting and maintenance methods that maintain diversity



Identified Needs/Actions

3) How to Benefit Honey Bees

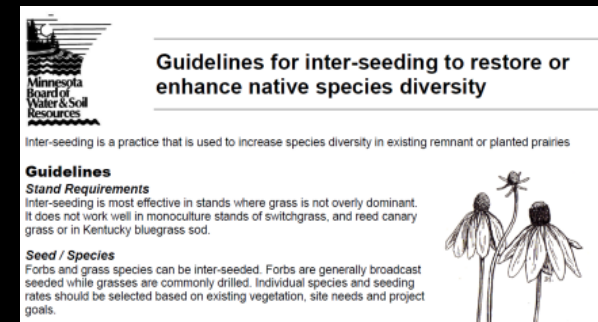
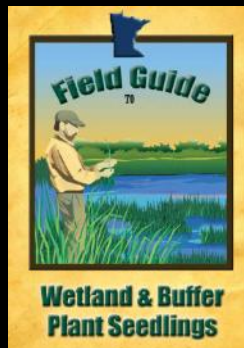
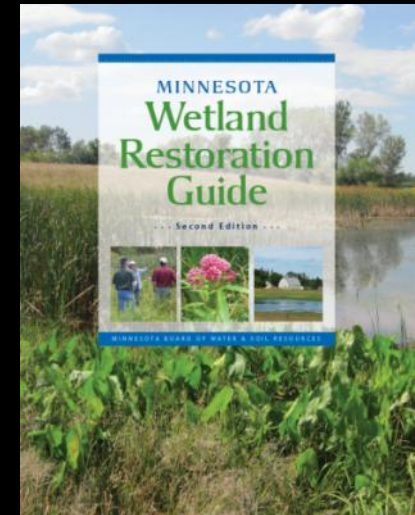
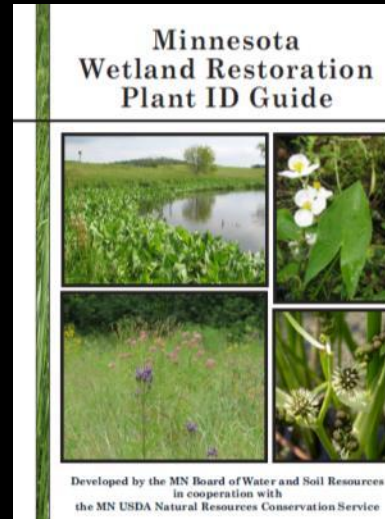
-Focusing honey bee habitat on conservation easements



Identified Needs/Actions

4) Effective Practices for Minnesota

Continual process of updating resources as we learn more



Identified Needs/Actions

4) Effective Practices for Minnesota

-State Seed Mixes



35-621 Dry Prairie Southeast		Rate (kg/ha)	Rate (lb/ac)	% of Mix (% by wt)	Seeds/ sq ft
Common Name	Scientific Name				
side-oats grama	<i>Bouteloua curtipendula</i>	1.27	1.13	10.23%	2.48
blue grama	<i>Bouteloua gracilis</i>	0.76	0.68	6.19%	10.00
kalm's brome	<i>Bromus kalmii</i>	0.35	0.31	2.78%	0.90
nodding wild rye	<i>Elymus canadensis</i>	1.68	1.50	13.61%	2.86
slender wheatgrass	<i>Elymus trachycaulus</i>	1.32	1.18	10.76%	3.00
junegrass	<i>Koeleria macrantha</i>	0.46	0.41	3.71%	30.00
little bluestem	<i>Schizachyrium scoparium</i>	1.69	1.51	13.70%	8.30
sand dropseed	<i>Sporobolus cryptandrus</i>	0.25	0.22	1.98%	16.00
prairie dropseed	<i>Sporobolus heterolepis</i>	0.29	0.26	2.32%	1.50
Total Grasses		8.07	7.20	65.28%	75.04
butterfly milkweed	<i>Asclepias tuberosa</i>	0.07	0.06	0.52%	0.09
whorled milkweed	<i>Asclepias verticillata</i>	0.01	0.01	0.11%	0.05
bird's foot coreopsis	<i>Coreopsis palmata</i>	0.06	0.05	0.50%	0.20
white prairie clover	<i>Dalea candida</i>	0.10	0.09	0.78%	0.60
purple prairie clover	<i>Dalea purpurea</i>	0.17	0.15	1.32%	0.80
ox-eye	<i>Heliopsis helianthoides</i>	0.07	0.06	0.51%	0.13
round-headed bush clover	<i>Lespedeza capitata</i>	0.03	0.03	0.31%	0.10
rough blazing star	<i>Liatris aspera</i>	0.02	0.02	0.17%	0.11
dotted blazing star	<i>Liatris punctata</i>	0.02	0.02	0.23%	0.06
wild bergamot	<i>Monarda fistulosa</i>	0.03	0.03	0.30%	0.85
horsemint	<i>Monarda punctata</i>	0.02	0.02	0.22%	0.80
stiff goldenrod	<i>Oligoneuron rigidum</i>	0.07	0.06	0.59%	0.98
large-flowered beard tongue	<i>Penstemon grandiflorus</i>	0.04	0.04	0.35%	0.20
black-eyed susan	<i>Rudbeckia hirta</i>	0.10	0.09	0.86%	3.20
gray goldenrod	<i>Solidago nemoralis</i>	0.01	0.01	0.14%	1.65
skyblue aster	<i>Symphotrichum oolentangiense</i>	0.01	0.01	0.06%	0.20
silky aster	<i>Symphotrichum sericeum</i>	0.02	0.02	0.19%	0.20
bracted spiderwort	<i>Tradescantia bracteata</i>	0.01	0.01	0.12%	0.05
heart-leaved alexanders	<i>Zizia aptera</i>	0.02	0.02	0.21%	0.10
Total Forbs		0.90	0.80	7.49%	10.37
Oats or winter wheat (see note at beginning of list for recommended dates)		3.36	3.00	27.23%	1.33
Total Cover Crop		3.36	3.00	27.23%	1.33
Totals:		12.33	11.00	100.00%	86.75
Purpose:	Regional dry prairie reconstruction for wetland mitigation, ecological restoration, or conservation program plantings.				
Planting Area:	Eastern Broadleaf Forest Province excluding Hardwood Hills subsection. Mn/DOT Districts Metro & 6.				

Identified Needs/Actions

5) Effective Outreach and Education Efforts



“MN Pollinator Proud”

- Featuring “model” projects
- Promoting effective techniques
- Highlighting key partnerships

Identified Needs/Actions




5) Effective Outreach and Education Efforts

Native Vegetation / Seed Mixes

BWSR Policy

- [BWSR Native Vegetation Establishment and Enhancement Guidelines](#)  (updated draft for review)
- [Best Value Calculator](#) (posted December 26, 2012)
- [Vegetative Management and Enhancement of Conservation Easement Lands](#)  (Dec. 17, 2008)

Seed Mixes

- [Summary of Seed Mixes](#)  (Index of names and numbers - Posted March 18, 2010)
- [State Seed Mixes](#)  (Includes mixes used by Minn. Dept. of Transportation-Posted February 10, 2011)
- [Substitution Table](#)  (List of species that may be substituted in state seed mixes - Posted March 18, 2010)

Pollinators

- [BWSR Pollinator Plan](#) (draft for comment)
- [Pollinator Fact Sheet](#)
- [Incorporating Pollinator Habitat into Conservation Projects](#)

Climate Change

- [BWSR Climate Change Trend and Action Report](#)
- [Strategies for Resilient Landscapes](#)

BWSR Establishment and Management Resources

BWSR Featured Plant

Each month, BWSR posts a featured plant on this page. To sign up for monthly "Featured Plant" messages that include updates on current restoration and native vegetation topics go to the "BWSR Media Center" section of the [BWSR Home page](#).

Current Plant:



Virginia Mountain Mint

February 2014- State agency pollinator conservation efforts continue to make progress in Minnesota. With abundant nectar and dense clusters of flowers

Thank You!



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