



Ecology Update

News you can use from BWSR's staff about the ecological health of Minnesota's landscapes.

Summer 2015

Updates on BWSR Programs and Resources

Buffers

Looking for more information on the new buffer legislation? Bookmark the new Buffers page on the BWSR website: <http://bwsr.state.mn.us/buffers/>.

Pollinators

New resources have been added to our [Pollinator Webpage](#) including a Toolbox, designed to provide useful tools to guide pollinator projects.

Coming in October: a [BWSR Academy](#) pollinator session focused on assessing and designing high quality pollinator habitat.



Conservation, Restoration, and Stormwater Seed Mixes

BWSR is developing new seed mixes to help guide conservation/restoration projects. These mixes will be considered "pilot mixes" for two to three years, after which they will be added to the list of [state seed mixes](#). Listed below are the mixes currently in development. If you are interested in collaborating on this project, please contact Dan Shaw at dan.shaw@state.mn.us.

Mixes: *One Species Agricultural Cover Crop, Three Species Agricultural Cover Crop, Seven Species Agricultural Cover Crop, Native Hayable Buffer, Shallow Rooted BMP (for over tile), Eroding Bank Stabilization, Woodland Grazing NE, Inundated Swale Mix, Wetland Seedbank Release, Wet Meadow Forb-Sedge-Rush Mix (for use with grass specific herbicides), Urban Pollinator, Pollinator Plot SE, Pollinator Plot SW, Pollinator Plot NE, Conservation Wet Meadow, Conservation Prairie NW, Conservation Prairie SW, Conservation Prairie SE, Conservation Grazing SE, Conservation Grazing SW, Native Biofuels SE, Native Biofuels NW, Native Biofuels SW, Forest Regeneration.*

Vegetation Guidance

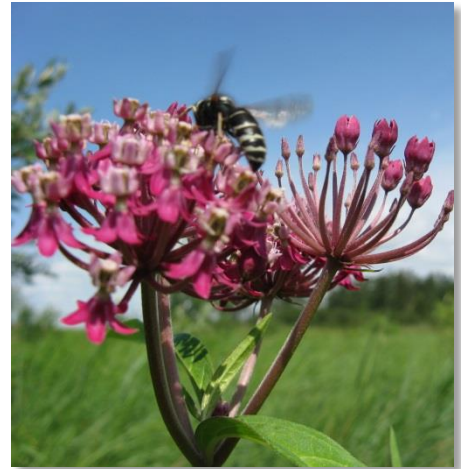
BWSR's "[Native Vegetation Establishment and Enhancement Guidelines](#)" have been updated with new content on buffers and other emerging issues.

Minnesota Wetland Restoration Guide

The [Minnesota Wetland Restoration Guide](#) will debut this fall at the BWSR Academy. This document is continually evolving, and we welcome your input in that process.

Featured Plants

BWSR's monthly [featured plant](#) articles have continued their focus on high quality pollinator species and will continue to do so for several more months, highlighting native shrubs and trees used by pollinators.



Restoration Monitoring and Evaluation

New BWSR tools are under development to guide restoration monitoring and evaluation including a “Wetland Resiliency Calculator” and monitoring guidance for mitigation and wetland banking projects.

What's Working

The BWSR's [What's Working](#) webpage has been updated with a new format. New content is always welcome (send information to dan.shaw@state.mn.us).

Featured Information:

“A pilot grazing study on a wetland banking site in Clay County has provided useful information to guide grazing efforts in wet meadow plant communities. Cattle at the site tend to focus on reed canary grass throughout the grazing season. They have also set-back cattails when concentrated in wet areas. Rotation timing, stocking rates, and duration are critical to success. Altering the “starting cell” from year to year also appears to produce more effective suppression (Lynn Foss, Clay SWCD).”



Other News You Can Use

Invasive Species

The BWSR [Cooperative Weed Management Area \(CWMA\) Program](#) was allocated \$200,000 (FY2016/2017) in the recent legislative session. Those funds will be distributed through an RFP released this fall in conjunction with other BWSR grants. The RFP will focus both on development of new CWMA's as well as sustaining existing groups. Minnesota Department of Agriculture (MDA) has an updated [webpage](#) for noxious and invasive weeds that includes information about the state noxious weed law, updated noxious weed lists and control efforts.

Climate Adaptation

Multiple agencies have been working on climate planning including [BWSR](#), [Minnesota Environmental Quality Board](#), [Minnesota Department of Health](#), [DNR](#), and [PCA](#).

A [webinar](#), sponsored by MASCWD and the University of Minnesota Water Resources Center and presented by Dr. Lee Frelich, summarizes climate change impacts on forest resources (in the future, elms, bur oak, basswood, bitternut hickory, hackberry and Kentucky coffee tree may have an advantage in northern forests over most evergreens).

A [BWSR Academy](#) climate adaptation session is being planned that will focus on adapting to extreme storm events.

BWSR's [Landscape Resiliency Toolbox](#) has been developed to help guide decision-making for conservation and restoration projects trying to adapt to climate change and other landscape stressors.



Soil Ecology

One tablespoon of soil contains billions of microorganisms including bacteria, fungi, protozoa, nematodes and arthropods. The organisms living in the soil are critical to providing ecosystem services and maintaining healthy soils. Generally the greater the diversity of organisms in the soil, the healthier the soil is, and the greater ecosystem services it can provide. Benefits of diverse soil organism populations are: nutrient cycling, nutrient retention, improved soil structure, infiltration and increased water holding capacity, disease suppression, and degradation of pollutants. Land management practices impact soil ecology, organism diversity and complexity. Practices that increase soil organism diversity include reducing soil disturbance, keeping the soil covered as much as possible, using high diversity plant and crop mixes, and keeping plants growing throughout the year to feed the soil.

[Soil Food Web and Soil Health](#) explains basic tenants of soil ecology and how they contribute to healthy and functioning soils.

[Soil Biology Primer](#) is an introduction to the living component of the soil and how it contributes to agricultural productivity and air and water quality.

Pollinators

Monarch conservation has been receiving increased nationwide attention. The USFS recently released the following publication, [Conservation and Management of Monarch Butterflies: A Strategic Framework](#) and multiple partners are working together on the [Monarch Joint Venture \(MJV\)](#).

Educational Opportunities

- MASWCD and DNR are offering free groundwater workshops for SWCD Supervisors and other local officials. The information session will provide a better understanding about local groundwater quality and quantity issues, better clarify roles around groundwater management, and stimulate discussion about how we might better manage groundwater resources together. The [workshops](#) will be held at the following locations:
 - Thursday, August 13, 2015, Cascade Meadow Wetlands & Science Center, Rochester, Minnesota
 - Wednesday, August 19, 2015 Stearns County Service Center (not the Stearns SWCD office), Waite Park, Minnesota
- “Designing for Pollinators: Enhancing our Communities” - a “[Pollinator Summit](#)” focusing on urban landscapes - will be held on Thursday, August 13 at the Minnesota Landscape Arboretum.
- Check out “The Bees’ Plight and Prospects: Helping to be Part of the Solution,” a pollinator [webinar](#) presented by Dr. Marla Spivak. The webinar provides a great overview of current information on pollinator habitat.
- Fall 2015 and Spring 2016 [Restoring Minnesota ecological restoration online courses](#) are now open for registration. A certificate program for restoration practitioners has been added as part of the program.
- A Minnesota Erosion Control Association (MECA) [Workshop](#) focusing on Species Selection and Maintenance of Stormwater BMPs will be held September 9th in St.Cloud.
- 2015 Trainings planned through the Wetland Delineators Certification Program can be found at the following [website](#).