



# Ecology Update

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

Summer 2016

## Updates on BWSR Programs and Resources

### Action on Pollinators

Governor Dayton issued a new [Executive Order \(16-07\)](#) in August requiring the state to take specific action to reverse the decline of bees and other pollinators. The executive order makes Minnesota a national leader in efforts to alleviate the known risks to pollinators. Among the action steps included, it requires:

- the Department of Agriculture to immediately initiate action steps which include requiring verification that the application of neonicotinoid pesticides is made due to an imminent threat of significant crop loss, reviewing pesticide product labels and implementing appropriate Minnesota-specific restrictions on their use, increasing enforcement of label requirements for pesticides that are acutely toxic to pollinators, and to continue developing and promoting best management practices designed to protect and enhance pollinator health in Minnesota.
- the Department of Natural Resources to develop strategies to minimize pesticide use, maximize restoration, and improve management of pollinator habitat on land administered by the agency.
- the Board of Water and Soil Resources to incorporate pollinator habitat into wetland protection and restoration programs, agricultural conservation practices, and urban water quality project.
- the Department of Transportation to restore, protect, and enhance pollinator habitat on state-owned transportation properties and rights of way.



*BWSR Executive Director John Jaschke joined Governor Dayton and other state agency leaders to announce the Pollinator Executive Order at the Minnesota State Fair.*

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## Solar Guidance

There is a large increase in the amount of solar installations planned for Minnesota. During the last legislative session, new legislation was passed to allow permit owners of large, ground-mounted solar sites to publicly declare them beneficial habitat for pollinating insects. Solar developers need to meet standards on a new [pollinator assessment form](#) developed by BWSR to claim pollinator benefits. [DNR guidance](#) for solar projects has also been developed to guide the restoration of prairie vegetation as part of these projects.

## Monarch Conservation

This past May, the Minnesota Department of Transportation joined with five other state departments of transportation to sign Memorandum of Understanding Agreement Contract #1003329 which supports integrating Interstate 35 as a Monarch Highway. This [Memorandum](#) identifies I-35 as a key migratory corridor for Monarch butterflies and encourages planning for pollinator habitat. Additional information can be found at: <http://www.dot.state.mn.us/newsrels/16/05/26pollinator.html>.

## Monarch Population Update

The University of Minnesota's Monarch Lab provided new information last month on the status of monarch populations for 2016. With multiple volatile storms, butterflies have had an unpredictable year. Read more at: <http://monarchlab.org/resources-links/blog/where-are-all-the-monarchs>.

## Buffers

BWSR has developed a [Buffer Establishment and Management Toolbox](#) to help guide efforts to establish buffers and consider efforts to combine ecological functions and other landscape opportunities. New policy documents continue to be posted related to the statewide Buffer Initiative. Updated information can be found on the Buffer Program [website](#).

## Native Seed Mixes

New BWSR draft "pilot seed mixes" are in a review process. They are for a variety of specialty uses but have an emphasis on providing pollinator habitat to the greatest extent possible. Please contact [dan.shaw@state.mn.us](mailto:dan.shaw@state.mn.us) if you are interested in reviewing the new mixes. After the review process is completed, new mixes will be posted on BWSR's Native Vegetation Webpage. 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](#) and revised as needed.



Pilot Mixes: *Beneficial Insects South & West, Biofuels Northwest, Biofuels Southeast, Biofuels Southwest, Compacted Trail General, Conservation Grazing South & West, Dry Short Urban Buffer General, Early Successional Floodplain, Eroding Bank Stabilization Northeast, Eroding Bank Stabilization Northwest & South, Forest Groundcover Northeast & East, Honey Bee Plot Native & Non-native General, Impoundment General, Inundated Swale South & West, Landfill Pollinator Dry Northeast, Landfill Pollinator Dry South & West, Landfill Pollinator Mesic Northeast, Landfill Pollinator Mesic South & West, Low Diversity Buffer General, Low Growing Solar Array Mix Northeast, Low Growing Solar Array Mix South & West, Mesic Short Urban Buffer Northeast, Mesic Short Urban Buffer South & West, Mid Diversity Mesic to Dry Buffer South & West, Mid Diversity Moist Buffer Northeast, Mid Diversity Moist Buffer South & West, Native Forage Buffer Mix South & West, Native Grass Waterway General, Pollinator Plot Northwest, Pollinator Plot Urban General, Pollinator Plots Northeast, Pollinator Plots*

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*Southeast, Pollinator Plots Southwest, Sand Mine Reclamation South & West, Shallow Rooted BMP Mix General, Silvopasture Southeast, Stormwater Pond Pollinator Northeast, Wet Meadow Forb/Sedge/Rush Southwest, Wetland Construction General and Wetland Seedbank Release Northeast.*

## Vegetation Guidance

BWSR's [Native Vegetation Establishment and Enhancement Guidelines](#) have been updated with new content on buffers, pollinators, and other emerging issues. They also clarify situations where non-native vegetation can be approved for specialty uses (grass waterways, cover crops, etc.) and who can approve the use. To protect pollinators on BWSR funded projects, new language has also been added stating that, "to protect pollinator populations, any native seed and plants supplied for projects must not be treated (seed coatings or foliar application) with insecticides including but not limited to neonicotinoid insecticides (such as imidacloprid, clothianidin, thiamethoxam, dinotefuran and acetamiprid) that can harm pollinators."

## Wetland Restoration

The [Minnesota Wetland Restoration Guide](#) has a new website. This site will continue to evolve in the future based on user feedback and as new information becomes available.

BWSR has developed a [Wetland Resiliency Calculator](#) to help guide decision making for wetland restoration site selection, planning and design and long-term management. The calculator is currently a draft for review. Please send comments to [dan.shaw@state.mn.us](mailto:dan.shaw@state.mn.us).

## Interagency Performance Standards

The St. Paul District Regulatory Branch and BWSR jointly issued [guidance](#) regarding the development of performance standards and credit release schedules associated with compensatory mitigation proposals in Minnesota.

## Cattail Management

A [new publication](#) is available from the University of Minnesota's Northwest Research and Outreach Center that describes the natural history, biology, and control methods of cattails in the Northern Great Plains.

## Featured Plants

BWSR's monthly [featured plant](#) articles have continued focusing on high quality pollinator species (44 pollinator species in the archive) and will continue to focus on this topic through next spring.

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## What's Working

The BWSR's [What's Working](#) webpage that summarizes effective conservation/restoration techniques has been updated for 2016. New content is always welcome (send information to [dan.shaw@state.mn.us](mailto:dan.shaw@state.mn.us)).

Featured Information from the topic of "Shoreline Projects and Streambank Restoration"

*A combination of seeding and planting plugs brings a buffer to life and full of growth quickly. When we first start projects, we concentrate on planting plugs at 12 to 18 inch spacing. As a project evolves, we backed off to planting plugs at either 24 or 36 inch spacing and added seeding the site. This has resulted in better outcomes as well as a more economical approach (Greg Berg)*



## Other News You Can Use

### Invasive Species

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. This website contains multiple in-depth fact sheets on State Prohibited, Restricted, and Regulated Noxious Weeds for quick identification, information, and management recommendations. These new facts sheets can be found as links on the [noxious weed page](#).

For a quick on-the-go identification guide, try downloading or printing the [Keep a Lookout for New Invasive Plants in Minnesota](#) handout. For invasive species mapping needs and easy reporting, use the extensive [EDDMapS Midwest/GLEDN website/app](#).

The 2016 Upper Midwest Invasive Species Conference will be held October 16 – 19<sup>th</sup> at the La Crosse Center in La Crosse, Wisconsin. Early registration is open through September 1<sup>st</sup>, or Late/On-site registration is available until seats are sold out. More details can be found at the [UMISC Webpage](#).



A new [Japanese Barberry video](#) by University of Minnesota Extension and MDA is now available.

### Climate Adaptation

BWSR is in the process of updating climate planning information. As part of the process around ten "Action Steps" are being developed; a few of the draft action steps include:

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- 1) Further guide the implementation of plan content requirements for One Watershed, One Plan to address more extreme weather events and their implications for the water and land resources of the watershed.
  - 2) Targeted conservation practice selection and restoration in habitat complexes and corridors informed by the Minnesota Prairie Conservation Plan and other key plans to promote resiliency to landscape stressors and to provide refuge for wildlife species.
  - 3) Further promote practices that provide year-long cover on agricultural fields such as no-till farming, cover crops, and perennial vegetation in agricultural areas to promote soil health and the ability of soils to capture and store rainfall, store carbon, and decrease heat absorption from tilled ground.

## Cover Crops

### Non-structural practices

To further increase the use of cover crops to improve soil health and aid adaptation to large storms, the BWSR Board has approved new “non-structural” [policy](#) to allow the use of cover crops as state cost share projects.

### Cropping Systems Calculator

A new cropping systems calculator has been introduced by the Land Stewardship Project (LSP) as part of the Chippewa 10% Project initiative, a collaboration of LSP, the Chippewa River Watershed Project, and other groups and agencies. As a part of the greater initiative working to help farmers and other landowners develop profitable methods for protecting water quality in the Chippewa River watershed in west-central Minnesota, this Excel-based tool has many features including comparison of two crop rotations, each up to six years in length. With average yearly returns as well as a year-by-year breakdown for each rotation, and a comparison of various grazing systems on a per-acre basis, a producer can compare types of cattle (cow/calf, stocker, feeder-to-finish, custom grazing) as well as grazing management style (continuous, basic rotational, managed intensive rotational, mob).

Additionally, according to LSP's Rebecca Wasserman-Olin, the calculator's developer, it can compare row-cropping to various grazing systems on a per-acre basis. Backed by figures that were gathered from the University of Minnesota's farm financial and production benchmark database —otherwise known as FINBIN— that covers a 10-county area encompassing the Chippewa River watershed region, the tool is a unique and powerful addition to public resources. To read more, visit: <http://landstewardshipproject.org/posts/862>.

## Biofuels

The legislature appropriated funds for BWSR to develop a program plan and feasibility study to determine how a program could be designed and implemented to incent the establishment and maintenance of perennial crops for use in biomass processing facilities. The study and stakeholder work will determine how to efficiently implement a pilot program to match perennial and cover cropping biomass establishment and harvest for use in processing facilities producing advanced biofuels, biobased chemicals, or thermal and electrical energy. Visit <http://www.betterenergy.org/blog/biomass-bright-spot-2016-minnesota-legislative-session> to learn more details.