



Date: 03/30/2015

John Loomis
Water Resource Program Manager
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Re: DNR Resource Assessment Letter – South Washington Watershed District

John:

This is an exciting time for South Washington Watershed District as work begins on the organization's next Watershed Management Plan (WMP). This process allows time to review and update past goals, strategies, and actions, and to think through watershed district plans for the next ten years. To aid in this process, DNR has compiled this resource assessment letter to provide up-to-date information on DNR's priority issues for the watershed, DNR's water management goals, DNR-Watershed District partnership opportunities, and useful data available through DNR that can help support watershed district planning, program management, and project development/design. The following narrative is divided into topics relevant to watershed resource management and included under each topic are DNR recommended actions.

I will be participating on the Technical Advisory Committee for South Washington Watershed District's WMP plan preparation process. If you have questions regarding the content of this letter or would like to discuss individual topics or recommendations further, please do not hesitate to contact me. I look forward to working with the Watershed District on your next generation WMP and on future public waters projects.

Sincerely,

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Tool to help integrate goals and strategies across a watershed

As South Washington Watershed District begins the watershed management plan (WMP) update process, it is important that water resource issues and goals be addressed not as independent prescriptions, but as integrated activities strategically applied toward the improvement of the entire watershed system. DNR's Watershed Health Assessment Framework approach uses a five component framework (hydrology, biology, connectivity, geomorphology, and water quality) to address the interdependent nature of ecological systems that operate within a watershed. Placing the goals and actions identified by the District into this framework may help to:

- Evaluate watershed district goals and actions in the context of the five aspects of watershed health
- Identify gaps between goals and actions
- Prioritize chosen actions effectively
- Examine the potential for unintended consequences

DNR Recommended Action: Use the Watershed Health Assessment Framework interactive online map (<http://www.dnr.state.mn.us/whaf/explore/index.html>) and downloadable data sets (<https://gisdata.mn.gov/dataset/env-watershed-health-assessment>) to help refine and organize the WMP within the context of a comprehensive watershed landscape.

Groundwater sustainability and opportunity for DNR-Watershed District partnerships

DNR continues to manage the state's groundwater resources to meet sustainability goals set out in statute. Through the establishment of the North & East Metro Groundwater Management Area (N&E Metro GWMA), DNR is prioritizing groundwater sustainability and expanding its resources dedicated to managing groundwater resources in Ramsey and Washington Counties and portions of Anoka and Hennepin. The Draft Plan of the N&E Metro GWMA (Draft Plan) is available online at: <http://www.dnr.state.mn.us/gwmp/area-ne.html>.

DNR Recommended Action: DNR recommends that South Washington Watershed District staff have a working knowledge of the Draft Plan and that the Watershed District's WMP reflect some of the key objectives in the current Draft Plan, including:

- Water conservation
- Maintaining and enhancing aquifer recharge
- Maintaining and enhancing quality of water recharging aquifers in the N&E Metro GWMA
- Increased coordination of monitoring activities between organizations with water management responsibilities
- Increased coordination of communication activities between organizations with water management responsibilities



The Draft Plan includes specific actions related to these key objectives and identifies actions that include coordination with watershed districts.

DNR Recommended Action: Incorporate some of the key actions in the current N&E Metro GWMA Draft Plan into the South Washington Watershed District WMP, including:

- *Increase communication about the risks of overuse and degradation of groundwater resources and conservation.* BWSR has a specific appropriation from the legislature to develop a communication plan around groundwater and surface water sustainability within the N&E Metro GWMA. South Washington Watershed District may be able to participate in this funding and these efforts.
- *Enhance emphasis on the wise use of groundwater and increase the focus on water conservation.* In Action II.1.d and Action II.1.e of the Draft Plan, DNR will be partnering with organizations such as watershed districts and others to develop conservation and water use goals for various users that can be measured and enforced.
- *Enhance the promotion of groundwater recharge.* Watershed districts play a primary role in protecting, maintaining and enhancing recharge of aquifers in the N&E Metro GWMA. In the Draft Plan, Action I.7 is explicit in the need for DNR to coordinate with organizations, such as watershed districts, to be partners in this effort.
- *Improve the understanding and management of water use by those not currently required to hold DNR appropriation permits (<10,000 GPD or 1M GPY).* Action I.1b of the Draft Plan calls for improved information about water use by private well owners. DNR would like to partner with the South Washington Watershed District to accomplish this action. Watershed Districts may find value in establishing a permitting program for wells that fall below the threshold where DNR appropriations permits are required.
- *Improve coordination on studies of specific trout streams in the N&E Metro GWMA.* DNR recommends that our organizations work together to complete studies of the effects of groundwater appropriations on trout streams. (Action I.2.b.i in the Draft Plan.)
- *Improve sharing and coordination of collected data.* DNR is improving the monitoring network for aquifers, basins, and streams in the N&E Metro GWMA. Action I.1 identifies DNR's specific plans for increased monitoring and identifies the need to coordinate those activities with watershed districts and other organizations. DNR encourages the inclusion of data collection and analysis collaboration efforts in the WMP update.

Governor's buffer initiative

Governor Mark Dayton recently proposed legislation that requires at least 50 feet of perennial vegetation around Minnesota's waters, prioritizing the establishment of buffers as a key water protection mechanism. Buffers help filter out phosphorus, nitrogen, and sediment by slowing runoff and trapping sediments. The Buffer Initiative is a joint project of DNR, MDH, MPCA, and BWSR. All perennial waters, statewide, will be subject to the requirements put forth in the Buffer Initiative. Perennial waters have a defined bed and





bank, and have flowing water during the majority of the growing season in most years. Under this initiative, buffers will need to be in place by September 1, 2016. Further specifics on the Buffer Initiative can be found online at: <http://www.dnr.state.mn.us/buffers/index.html>. The specific level of involvement that watershed districts will have in this initiative is not yet defined.

DNR water management goal and opportunity for DNR-Watershed District partnerships: stream and lake bank stabilization and restoration

DNR's underlying philosophy regarding stream management is that streams are self-forming and self-maintaining systems. When they are artificially manipulated (e.g. structures placed in-stream for various purposes), there can be negative impacts to channel stability. Channel stability is defined as a stream's ability to transport water and sediment from its watershed, while maintaining its dimension, pattern and profile, over time, without either aggrading or degrading. Alterations in pattern, dimension, or profile of a stream can lead to an increase in stream bank erosion, increased turbidity, embedded sediments, and a general reduction in biological productivity. DNR encourages South Washington Watershed District to consider these stream dynamics when planning stream maintenance or restoration projects.

DNR Recommended Action: Continue project partnership between South Washington Watershed District and DNR on stream restoration and bank stabilization projects on Trout Brook. DNR has completed a geomorphic (sediment distribution) survey of Trout Brook and the results of this survey are available from Nick Proulx, clean water legacy specialist (nick.proulx@state.mn.us; 651-259-5850).

DNR Recommended Action: DNR recommends that DNR and South Washington Watershed District outline a process for identifying when a public waters work permit will be necessary for stream bank stabilization and erosion control projects within the Watershed District and develop an early review process for projects to establish early and continued communication on stream restoration projects. Contact Jenifer Sorensen, area hydrologist (jenifer.sorensen@state.mn.us; 651-259-5754) for public waters permitting coordination. As potential stream bank stabilization and restoration projects arise, contact Nick Proulx for technical input on potential solutions and designs.

DNR's Restore Your Shore website (<http://www.dnr.state.mn.us/restoreyourshore/index.html>) provides information on implementing shoreland restoration and protection projects, including innovative approaches for solving lakeshore problems, creating plant lists suitable for your site area, and a step-by-step guide for implementing a lakeshore project. The Aquatic Habitat Restoration Grant Program offers opportunities for watershed districts to cost-share with DNR to restore shoreline habitat in ways that demonstrate good shoreland stewardship.

DNR Recommended Action: DNR recommends that South Washington Watershed District participate in the Aquatic Habitat Restoration Grant Program where possible. As potential shoreline projects arise, contact John Hiebert, DNR's lake habitat consultant (john.hiebert@state.mn.us; 651-259-5212) for technical input on potential solutions and designs. The DNR and South Washington Watershed District should outline a



process for identifying when a public waters work permit will be necessary for lakeshore restoration and stabilization projects within the Watershed District and develop an early review process for projects to establish early and continued communication on lakeshore projects. Contact Jenifer Sorensen, area hydrologist (jenifer.sorensen@state.mn.us; 651-259-5754) for public waters permitting coordination.

DNR water management goal: aquatic invasive species

Aquatic invasive species (AIS) pose a significant threat to Minnesota's lakes and rivers. Aquatic invasive plants such as Eurasian watermilfoil and curly-leaf pondweed form thick vegetative mats on the water surface, limiting recreational opportunities and often negatively affecting water quality. Both the control of existing AIS and the prevention of new infestations are important efforts in terms of AIS management.

In most cases, eradication of invasive aquatic plants is not an option. Therefore, herbicide treatments are generally used to target abundant beds of invasive plants that may create a recreational nuisance. In most cases, the use of herbicides on lakes classified as Natural Environment (NE) lakes is not appropriate, and mechanical means (e.g. commercial aquatic plant harvester) may be a management option.

DNR Recommended Action: The establishment of both aquatic and terrestrial invasive species is a major threat to the ecological functions of both wetland and upland plant communities. Include plans to combat invasive species and best management practices (BMPs) in watershed project plans and designs. Promote education of the public on the control and spread of invasive species – public awareness efforts targeting riparian property owners (lakeshore owners) are needed to increase overall compliance with AIS laws. DNR will continue to support local efforts to educate the public in AIS prevention and encourage local units of government to take a leadership role. For more information on the AIS Program, contact Keegan Lund (keegan.lund@state.mn.us; 651-259-5828), invasive species specialist.

DNR water management goal: minimum impact design standards for stormwater management

One of the primary drivers of degraded water quality and habitat in streams, lakes and wetlands is nutrient and sediment laden runoff from surrounding commercial, residential, and agricultural land uses. Minimum Impact Design Standards (MIDS) were developed by the Minnesota Pollution Control Agency to minimize stormwater runoff, minimize the amount of pollution reaching lakes, rivers, and streams, and to recharge groundwater. The development of MIDS is based on low impact development (LID), an approach to storm water management that mimics a site's natural hydrology as the landscape is developed.

DNR Recommended Action: Support the incorporation of MIDS (and the LID approach) into future development and redevelopment in the watershed and consider adopting MIDS standards.



DNR water management goal and opportunity for DNR-Watershed District partnerships: fisheries

Fishing is a key component of Minnesota's quality of life. There are 1.5 million licensed anglers in the state and fishing-related activities contribute \$2.8 billion annually in direct expenditures to the state's economy. DNR's acquisition of riparian shoreline parcels, called Aquatic Management Areas (AMAs) ensures that critical fish and wildlife habitat will be conserved, non-boat access to water resources will always be available, and habitat can be developed on previously disturbed areas. DNR is investigating the possibility of acquiring property in the St. Paul Park area, with the help of the Friends of the Mississippi River, for the establishment of an AMA within South Washington Watershed District. For updates on this potential AMA acquisition, contact TJ DeBates (timothy.debates@state.mn.us; 651-259-5770).

DNR is tracking carp and other fish in the Mississippi River and St. Croix River by installing radio transmitters into fish and using sonar receivers to collect information on their movement through sections of these river systems within the Metro area. If you are interested in learning more about this study and the data collected, contact Joel Stiras, (joel.stiras@state.mn.us; 651-259-5806), fish management specialist.

Shallow lakes and the shallow water (littoral) zone, characterized by aquatic plants and shallow depth (less than 15 feet) provide the most important wildlife habitat areas in lakes and wetlands. This habitat has been impacted over time by water quality degradation, altered watersheds, modified outlets, urban development, intensive agriculture, and exotic species. DNR's Shallow Lakes Program works to protect and enhance wildlife habitat on shallow lakes and provides DNR-Watershed District partnership opportunities on individual projects.

DNR Recommended Action: Participate in the Shallow Lakes Program where possible. Contact Peter Borash (peter.borash@state.mn.us; 320-223-7870), wildlife lake specialist, when considering a rough fish eradication project on a lake to improve native fish populations and restore native vegetation.

Opportunity for DNR-Watershed District partnerships: Conservation Partners Legacy Grant Program

The Conservation Partners Legacy (CPL) Grant Program funds conservation projects that restore, enhance, or protect forests, wetlands, prairies and habitat for fish, game, and wildlife. The types of projects funded under this grant program include prairie restoration, river restoration, lake habitat enhancement, wildlife habitat restoration, floodplain forest restoration, bluff prairie restoration, fish barrier installation, buckthorn removal, fish passage restoration, and others.

DNR Recommended Action: Participate in the Conservation Partners Legacy (CPL) Grant Program where possible. To learn more about this grant program, contact Jessica Lee (LSCPLGrants.DNR@state.mn.us; 651-259-5233), CPL Grant Program coordinator. Program information is located online at: <http://www.dnr.state.mn.us/grants/habitat/cpl/index.html>.



Consideration of plant communities, rare species, and special features

Information on the biology, distribution, ecology, habitat use, conservation, and management of rare species of interest is available in the DNR's Rare Species Guide, available at:

<http://www.dnr.state.mn.us/rsg/index.html>. The locations of state-listed species maintained in the Rare Features Database are considered sensitive information and is protected under the Minnesota Data Practices Act. This information is only available through a Natural Heritage Information System (NHIS) data request or by license agreement, and should be used for internal planning purposes only.

The NHIS is continually updated as new information becomes available and will include current records and surveys. An NHIS review is considered valid if performed within one year of project implementation. The NHIS data request form, used to obtain a NHIS review from DNR is available at:

<http://www.dnr.state.mn.us/eco/nhnrp/nhis.html>. The license agreement form to enter into a license agreement with DNR to receive the Rare Features Database as a GIS data file is located at: http://files.dnr.state.mn.us/eco/nhnrp/license_agreement_form.pdf. Questions regarding the NHIS should be directed to Lisa Joyal, endangered species review coordinator (lisa.joyal@state.mn.us, 651-259-5109).

DNR Recommended Action: DNR recommends using assessment data of watershed characteristics and natural resource features when completing long-range watershed planning efforts, such as South Washington Watershed District's 10-year WMP update. The assessment of watershed characteristics and natural resource features is valuable for evaluating landscape functions and guiding land management decisions. These assessments provide important information on a landscape's integrity and its ability to provide benefits to ecosystems. For example, assessment data can be used to examine how projects will improve or affect flora and fauna, determine the cumulative impacts of land use, make regional scale land use decisions, and to balance land use development and natural resource protection.

DNR Recommended Action: The presence of rare species can be an indication of the health of a watershed, and plant and animal diversity helps landscapes to maintain important watershed functions. DNR recommends that the South Washington Watershed District's WMP include goals and policies to address how rare species and habitat will be protected.

DNR data layers have been developed that are helpful in watershed planning. These are free and available to the public from the Minnesota Geospatial Commons at: <https://gisdata.mn.gov/>. Some key data layers include:

- DNR managed lands such as Scientific and Natural Areas, Wildlife Management Areas, and Aquatic Management Areas
- DNR native plant communities
- Trout waters
- Karst features
- Calcareous fens
- Sites of Biodiversity Significance



- Regionally Significant Ecological Areas

DNR Recommended Action: DNR encourages the use of site-appropriate native plants for shoreline stabilization, buffers, and erosion control for all watershed projects. These species provide important stabilization and erosion control functions, have the greatest chance of establishment success, and contribute to biodiversity of landscape vegetation. Query the DNR Restore Your Shore Native Plant Encyclopedia (<https://webapps8.dnr.state.mn.us/restoreyourshore/search?type=resetreturned>) for a list of plants tailored to specific site characteristics.

DNR Recommended Action: DNR recommends the establishment of native grassland and herbaceous plant communities in the place of mowed turf grasses on watershed and highway projects as a means to support native insect pollinator communities. Interest in pollinators has grown since the term Colony Collapse Disorder appeared in 2006. This phrase refers to the puzzling disappearance of honey bees from their hives. While this disorder does not affect native pollinators, many of the challenges that face honey bees also affect native insects, including pesticide use, habitat loss, pathogens, parasites, climate change, and invasive species. DNR has developed a Best Management Practices Guide for restoring and enhancing native plant community habitat for native insect pollinators, available at: http://files.dnr.state.mn.us/natural_resources/npc/2014_draft_pollinator_bmp_guidelines.pdf

Forest management considerations

Greenway corridors (linear open spaces connecting recreational, cultural, and natural areas) provide intrinsic environmental and recreational benefits. They also provide economic benefits to communities in which they are located and are important to the well-being of communities.

DNR Recommended Action: DNR recommends that South Washington Watershed District create a map showing greenways corridors to be included in the next generation WMP and use this mapping to prioritize land preservation efforts, vegetation management (such as buckthorn eradication), and vegetation restoration.

DNR Recommended Action: The Minnesota Forest Legacy Program protects environmentally important private forests threatened by conversion to nonforest uses. DNR recommends that South Washington Watershed District learn more about the program by exploring the program's website (<http://www.dnr.state.mn.us/forestlegacy/index.html>) and contacting Dick Peterson, program coordinator (Richard.f.peterson@state.mn.us; 507-333-2012). Forests within the active forest legacy area of the Lower St. Croix River (areas in Denmark and Afton Townships) are eligible for the program. Encourage private landowners with these environmentally important forests to participate in the program. If accepted to the program, federal and local matching funds can be used to purchase development rights and conservation easements to keep key forest areas intact and continuing to provide forest benefits.



DNR Recommended Action: Hire a staff person at the local government level to address forest management (including restoration), and whose job is dedicated to helping private forest landowners with maintaining forest cover (and the corresponding water quality benefits that forests provide).

Emerald Ash Borer (EAB) is a nonnative invasive insect that kills ash trees and is a serious invasive tree pest. In the Metro area, a quarantine has been placed on Ramsey and Hennepin Counties to help slow the spread of EAB to new areas. It is spread through transported firewood. Minnesota has the highest volume of ash trees in the United States.

DNR Recommended Action: DNR recommends that an inventory of ash forest resources in the South Washington Watershed District be completed and a plan developed for combating EAB. Contact Brian Schwingle, forest health specialist (brian.schwingle@state.mn.us; 651-259-5821) for more information on mitigating the impacts from this and other forest insects and diseases.