DEPARTMENT OF NATURAL RESOURCES

Ecological and Water Resources
1200 Warner Road
St. Paul, MN 55106

June 14, 2022

Bassett Creek Watershed Management Commission
Laura Jester, Administrator

via email: laura.jester@keystonewaters.com

Greetings Ms. Jester,

This letter is in response to your notification on April 14, 2022 soliciting input on Bassett Creek Watershed Management Commission's (BCWMC) Watershed Management Plan Update. This is an exciting time for BCWMC as work begins on the 10-year update of the commissions Watershed Management Plan(s) (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 and useful data available through DNR that can help support watershed management organization 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. Continue to utilize information from State studies developed for the Watersheds including TMDLs and WRAPS to drive implementation programs and targeting.

Wes Saunders-Pearce, the recently appointed DNR North Metro Area Hydrologist, will be participating on the Technical Advisory Committee for BCWMC Watershed Management 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 him (wes.saunders-pearce@state.mn.us; 651-259-5822). The DNR looks forward to working with BCWMC on your next generation Watershed Management Plan and on future public waters projects.

Sincerely,

Megan JC Moore

Megan Moore
Central Region EWR District Manager

CC: Steve Christopher, BWSR
Karen Galles, Hennepin County (via email)
Dan Lais, DNR (via email)
Jack Gleason, DNR (via email)

Wes Saunders-Pearce, DNR (via email)
John Freitag, MDH (via email)
Jeff Berg, MDA (via email)
Judy Sventek, Metropolitan Council (via email)
Jeff Risberg, MPCA (via email)
Beth Neuendorf, MnDOT (via email)

General Watershed Management Strategies

DNR recommends that the following general watershed management strategies be a part of your watershed management plan (WMP):

- Keep water where it falls by protecting and restoring wetlands, ensuring water courses are connected to their floodplains, and managing stormwater runoff with rate control and volume reduction standards.
- Protect and create buffers of native perennial vegetation along watercourses and water bodies.
- Reduce the flow of water volume and nutrients through drainage systems.
- Design culverts and bridges to retain floodplain functions and bank stability on natural channels and other drainage systems.
- Support land use planning and practices that protect, restore, and enhance priority ecological resources.
- Maintain and enhance perennial vegetation including protection of working forest lands.
- Use water efficiently and implement conservation measures that further reduce water demand.

Integrated Water Resource Management

As the Bassett Creek Watershed Management Commission begins the WMP update process, it's important that water resource issues and goals be addressed not as independent prescriptions, but as integrated activities strategically applied toward the improvementof 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 Commission into this framework may help to:

- Evaluate watershed 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.

Use the Watershed Health Assessment Framework interactive online map and downloadable data sets to help refine and organize the WMP within the context of a comprehensive watershed landscape.

Groundwater Sustainability

DNR continues to manage the state's groundwater resources to meet sustainability goals set out in statute.
DNR recommends the BCWMC's WMP contain some key objectives and actions in the plan, including:

- Increase communication about the risks of overuse and degradation of groundwater resources and promote water conservation.
- Maintain and enhance aquifer recharge
- Maintain and enhance quality of water recharging aquifers
- Increase coordination of monitoring activities between organizations with water management responsibilities, including monitoring water level trends using water level measurements from Crystal, Golden Valley, Minneapolis, Minnetonka, Medicine Lake, New Hope, Plymouth, Robbinsdale, and St. Louis Park.
- Increase coordination of communication activities between organizations with water management responsibilities

Stormwater Management

The BCWMC's area is largely developed, and its landscape is dominated by impervious surfaces. To reduce the resultant impact of increased runoff and pollutant loading to water bodies requires improvements to existing urban stormwater management infrastructure.

BCWMC plays an important role in urban stormwater management and DNR encourages the BCWMC to continue to work with its partners to:

- Monitor and protect the water quality of the BCWMC's water resources
- Implement best management practices to reduce stormwater runoff
- Investigate new stormwater management techniques
- Promote green infrastructure
- Address storm sewer infrastructure capacity and corresponding flooding problems

One of the primary drivers of degraded water quality and habitat in rivers, 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. Continue to support the incorporation of MIDS (and the LID approach) into future development and redevelopment in the watershed

Septic Systems

Consider promoting homeowner education on the proper use and maintenance of septic systems to preserve their function. The University of Minnesota's Onsite Sewage Treatment Program designed a homeowner tool that allows users to create a custom guide for their septic system. The tool can be found at https://h2oandm.com/.

Chloride

Chloride released into local lakes and streams does not break down, and instead accumulates in the environment, potentially reaching levels that are toxic to aquatic wildlife and plants. Consider promoting local business and city applicator participation in the Smart Salting Training offered through the Minnesota Pollution Control Agency. More information and resources can be found at this website: https://www.pca.state.mn.us/water/salt-applicators. Many winter maintenance staff who have attended the Smart Salting training — both from cities and counties and from private companies — have used their knowledge to reduce salt use and save money for their organizations.

In-Lake Water Quality Treatment Considerations

In-lake lakewide chemical treatment should be attempted only after external sources of nutrients are reduced. Alum treatment, an in-lake nutrient management technique, is designed in general to be used one time to manage historical internal reservoirs of nutrients in a lake once external sources of nutrients are reduced. This treatment method is not meant to be applied repeatedly as a method to meet water quality goals because of the potential to negatively affect aquatic communities.

Before deciding to attempt alum treatment, please consider using the framework developed by the Prior Lake – Spring Lake Watershed District for evaluating whether and when alum treatment of a lake is appropriate. The framework is a series of questions with parameters for evaluation, that relate to internal and external phosphorus loading, rough fish, aquatic vegetation, cost, and water quality. Additional DNR recommendations include:

- Alum treatment should be considered to address the historical internal reservoirs of nutrients only after external sources of nutrients have been addressed.
- Alum treatments need to be timed to minimize fish management impacts as well as other non-target organisms such as benthic invertebrates.
- Complete pre- and post-treatment assessments to document the amount and duration of the alum treatment response.
- Due to potential non-target impacts, consider completing pre- and post-treatment assessments of benthic invertebrates and amphibians.
- Take into consideration factors that could disrupt the alum layer, thus reducing the length of time you would

expect water quality benefits, such as wind fetch, carp and/or other benthic feeding fish species, recreational activities, and shallow basins in general.

- When considering alum treatment on a lake, coordinate with MPCA and DNR's area fisheries supervisor, TJ Debates (651-259-5770; timothy.debates@dnr.state.mn.us).
- Refer to the Minnesota State and Regional Government Review of Internal Phosphorus Load Control Lake management guide for additional information.

Aquatic Invasive Species

Aquatic invasive species (AIS) pose a significant threat to Minnesota's lakes and rivers and continue to be a high priority issue for DNR. 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.

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.

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.

Participate in the Conservation Partners Legacy (CPL) Grant Program where possible. To learn more about this grant program, contact the CPL Grant Program coordinator (LSCPLGrants.DNR@state.mn.us; 651-259-5233).

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. 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, and the license agreement form to enter into a license agreement with DNR to receive the Rare Features Database as a GIS data file are both available online. Questions regarding the NHIS should be directed to endangered species review coordinator Lisa Joyal (lisa.joyal@state.mn.us; 651-259-5109).

DNR recommends using assessment data of watershed characteristics and natural resource features when completing long-range watershed planning efforts. 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.

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 BCWMC'sWMP 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. 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
- Karst features
- Minnesota Biological Survey (MBS) Sites of Biodiversity Significance
- Central Region Regionally Significant Ecological Areas (CRRSEA) – The purpose of this data is to inform regional scale land use decisions, especially as it relates to balancing development and natural resource protection.
- Regionally Significant Ecological Areas and Regional Ecological Corridors – Identifies potential habitat movement corridors that may be important for wildlife connections.

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's Restore Your Shore Native Plant Encyclopedia for a list of plants tailored to specific site characteristics.

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.

Forest Management Considerations

Importance of forested riparian areas to water resources cannot be understated. Forested riparian areas provide an array of goods and services for plant diversity, wildlife and fish habitat, nutrient, sediment, and water interception, storage, and transformation and recreational opportunities. Keeping riparian areas intact so that the functions and roles of terrestrial and aquatic ecosystems can continue to provide these services is imperative. We recommend keeping forested riparian areas forested, which does not necessarily preclude forest management activities. If riparian forests are managed in the BCWMC's area, we highly recommend consulting and using the Minnesota Forest Resource Council's *Voluntary Site-Level Forest Management Guidelines for Landowners, Loggers, and Resource Managers* to protect these valuable ecosystems into the future.

Emerald ash borer (EAB) will continue to impact communities in the BCWMC area within the next 10 year watershed plan cycle. Communities should be planning for EABs impacts and take action now to reduce the sudden financial burden that comes with EAB. One can find information at this website. You can visit this interactive website to see the status of EAB in Minnesota. The BCWMC area is within the "Generally Infested Area" and all of Hennepin County is within the quarantine area. To minimize pesticide exposure in the environment and to save people's money, we would not recommend applying insecticides to save ash trees until symptoms of EAB infestation are within about ¼ - ½ mile of any given location. Note that ash trees can still be saved from EAB if they are lightly infested (they must still have over 50% of their normal number of leaves that are normally sized). Ideally ash trees should be treated when they are 100% healthy and not infested at all, so there is some risk of waiting until EAB infestation symptoms are visible within a ½ mile. In natural areas, forested wetlands with ash dominant in the canopy will experience a more drastic change in plant community composition and hydrology than upland communities with a minor ash component.

The Forest Stewardship Program at the DNR provides private landowners with at least 20 acres of forested land (or land that will have trees) professional forest management advice from a qualified DNR forester or private land forestry consultant. For a fee, landowners will consult with a forester to talk about their goals for forest management. The forester will write a forest management plan and the land will be eligible for property tax relief programs and state cost-share assistance for management work. For more information on the DNR's professional forest management assistance for private landowners, please visit our webpage.

Communities interested in caring for and managing their urban and community forests can find helpful information at the DNR's website on the Community Forestry webpage. Information and links about grant programs, DNR Arbor Month, and best management practices for preventing spreading invasive species and conserving wooded areas can be at this website.