MINNESOTA POLLUTION CONTROL AGENCY

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June 25, 2020

South St. Louis Soil and Water Conservation District
c/o Kate Kubiak, 1W1P
215 N. 1st Ave. E., Rm. 301
Duluth, MN 55802

RE: St. Louis River Watershed One Watershed, One Plan – Priority Resource Concerns

Dear Ms. Kubiak:

The Minnesota Pollution Control Agency (MPCA) is pleased to provide priority concerns information for your consideration in developing the St. Louis River Watershed One Watershed, One Plan (1W1P). The 1W1P planning boundary includes the St. Louis River Watershed, Cloquet River Watershed and Duluth-frontal Sub-watersheds (the southern portion of the Lake Superior South Watershed, which was not included in the Lake Superior North 1W1P).

In coordination and cooperation with local, state, federal and tribal agencies, the MPCA has contributed significant time and resources assisting our partners in evaluating water quality issues in the St. Louis River, Cloquet River and Duluth-frontal Watersheds. The products of these efforts are included in a series of reports and studies on the MPCA's web site and are available for consideration during 1W1P development. This information includes: results from monitoring the lakes, streams and wetlands and an analysis of the data to determine if water quality goals are being met, evaluations of stresses to impaired streams, modeling and calculations to determine the total maximum daily load (TMDL) of pollutant sources, and Watershed Protection and Restoration Strategies (WRAPS), including a discussion of priorities and actions that could be implemented to aid in restoration and protection of watershed resources. The documents can be found at the following links:

- St. Louis River Watershed
- Cloquet River Watershed
- Lake Superior South Watershed
- Duluth Urban Area Streams Watershed

Protection and restoration of water resources

The MPCA employs a watershed approach to restoring and protecting Minnesota's rivers, lakes, and wetlands. Money to accelerate efforts to monitor, assess, and restore impaired waters, and to protect unimpaired waters was funded by the Minnesota's Clean Water Legacy Act (CWLA). The purpose of the CWLA is to protect, enhance, and restore water quality in lakes, rivers, and streams and to protect groundwater from degradation, by providing authority, direction, and resources to achieve and maintain water quality standards for groundwater and surface waters, including the standards required by section 303(d) of the federal Clean Water Act, United States Code, title 33, section 1313(d), and other applicable state and federal regulations.

In addition to the CWLA, The Federal Clean Water Act (CWA) requires states and authorized tribes to adopt water quality standards to protect the nation's waters. These standards define how much of a pollutant can be in a surface water and/or groundwater while still allowing it to meet its designated uses, such as for drinking water, fishing, swimming, irrigation or industrial purposes. Every two years, MPCA creates a list of waters that do not meet water quality standards and submits to the U.S. Environmental Protection Agency (EPA) for approval. Minnesota's current list can be found on Minnesota's Impaired Waters web page. For this 1W1P planning boundary, there are 78 water quality impairments. The following table summarizes these impairments and a full list of impairments is attached to this letter (Attachment 1):

Impaired Waters in the St. Louis River 1W1P Planning Area *

Impairment Type	Number of Listings	Beneficial Use
Turbidity; Total Suspended Solids	7	Aquatic Life
Escherichia. Coli (E. coli)	24	Aquatic Recreation
Benthic macro-invertebrate bio-assessment	21	Aquatic Life
Fishes bio-assessment	15	Aquatic Life
Lake; Nutrient/eutrophication	7	Aquatic Recreation
Dissolved Oxygen	1	Aquatic Life
Chloride	1	Aquatic Life
Lack of Coldwater Assemblage	1	Aquatic Life
Temperature	1	Aquatic Life

* Source: Draft 2020 Impaired Waters List, summarized for planning purposes. . Note that this information does not include impairments due to toxic pollutants.

Priority Concerns in the St. Louis River 1W1P planning boundary

Based on the above impaired waters information and the priority issues identified in watershed reports, the following priority concerns should be included 1W1P development.

Septic Systems

Other than the more densely developed portions of the 1W1P planning area, a majority of waste collection and treatment systems are septic systems. If not functioning properly, septic systems can contribute pollutants, such as bacteria and nutrients from human waste to nearby waters. Septic systems can fail from a variety of causes including excessive water use, poor design, physical damage, and lack of maintenance. Untreated sewage from septic systems to the land surface or directly to streams are considered imminent threats to public health and safety and can contribute pollutants to surface waters. Funding opportunities include loan monies from state programs to assist counties and landowners with septic system upgrades. An example of priority areas for septic system improvements in the Cloquet River Watershed includes the areas surrounding Grand Lake, Caribou Lake, Island Lake Reservoir, and Pequaywan Lakes. Actionable items to consider include:

- Inventory and assess the potential for septic systems/private wastewater systems to be sources of *E. coli* in nearby waters

- Replace all systems determined to be an Imminent Threat to Public Health.
- Consider sewering around developed lakes; identify opportunities for clustered wastewater treatment systems and work with landowners to implement.
- Provide landowner-focused education and outreach on septic system maintenance and compliance.
- Support increased compliance inspections (in addition to point of sale inspections).
- Implement additional setbacks from sensitive areas (e.g., lakeshore).

Forest Management

The land cover in the 1W1P planning area is predominantly forest and wetlands, with a majority of the area being rural and undeveloped. Protection strategies specific to forestry management are important to maintaining and protecting water resources. Current forest management activities in the region, especially on public lands, have successfully protected waterbodies and should be maintained. Focus areas could include black ash forests and forests dominated by balsam fir. Potentially actionable items for the 1W1P on forest management include:

- Expand forestry programs to include management at small scales (e.g., properties under 20 acres).
- Promote and periodically revise forest stewardship plans.
- Develop public/private partnerships to promote forest stewardship.
- Continue forestry education, outreach and training efforts.
- Promote use of easements, restrictive covenants, low impact development, tax incentives, purchasing of development rights, and other conservation tools.
- Support actions to counteract forest impacts from invasive species and climate change.

Habitat and stream connectivity management

The 1W1P planning area supports a wide variety of flora & fauna, including numerous rare and vulnerable species (wild rice, wood turtle, trout species, others) that require high quality habitat conditions. Maintaining and preserving the longitudinal connectivity (upstream and downstream) and lateral connectivity (the stream to the floodplain) of stream and the connectivity of habitat types that support these populations is important to protection activities in the watershed. Habitat quality varies considerably throughout the 1W1P planning area, from exceptional to poor habitat conditions. Problem areas identified in the Lake Superior South WRAPS report include altered hydrology in the Talmadge River watershed and eroding banks in the French River watershed. Actionable items to consider in maintaining stream connectivity and habitat quality include:

- Identify/prioritize the rehabilitation of problematic road or trail and stream intersections.
- Coordinate with transportation departments to ensure bridge or culvert replacements are designed and constructed to eliminate fish passage and erosion problems.
- Develop feasibility studies and direct restoration work on unstable streams
- Restore ditched stream segments
- Proper construction of roads; provide adequate road drainage; maintain active roads; decommission inactive & unneeded roads

Streambank, bluff, and ravine protection

Sediment movement in a stream is a natural process in healthy stream systems; however, unstable streambanks, bluffs and ravines can contribute large amounts of sediment to a system and can degrade water quality. Alterations to natural stream channels, such as through ditching or diversion, can lead to increased water velocity and increase rates of stream flow, which can trigger soil erosion and unstable streambanks. Evaluating unstable stream reaches is important to determine if actions are necessary to prevent degradation of stream stability and water quality. For example, studies on sediment loading in North Shore watersheds identified eroding bluffs as a major source of sediment in many of the streams. This includes Big Sucker Creek, French River, and Talmadge River (Lake Superior South), in which bluff erosion accounts for large portion of near channel sediment sources. Potential actions include:

- Conduct geomorphic analysis to determine high priority restoration sites and feasibility for restoration opportunities.
- Restore channelized reaches (re-meander, re-connect to floodplains)
- Restore natural meanders and complexity

Lake Management

Northeastern Minnesota is privileged to hold an abundance and diversity of lakes. The lake resources support diverse habitats for plant and animal species that are important to aquatic life, have strong cultural significance, and provide recreational opportunities. They also support lakeshore residents, tourism, businesses and industry.

Through an effort by state resource agencies, tools for prioritizing lakes (and streams) for protection have been developed and have been incorporated into the WRAPS process and reports. This effort developed goals for lakes that meet water quality standards, identified unimpaired lakes that are at greatest risk, and developed a preliminary priority ranking for protection efforts. Water quality risk is determined by each lake's sensitivity to increased phosphorus loading, proximity to the water quality standard, the percent of disturbed land use in the watershed, lake size, existing phosphorus levels, and whether the lake shows a declining trend in water clarity. Phosphorus is a nutrient that plants and algae need to grow, and chlorophyll is a measure of the amount of algae in the water. The primary sources of phosphorus to many impaired lakes are from watershed runoff and internal loading. With the exception of the seven impaired lakes, the water quality in most lakes in the 1W1P planning area are in good shape. It is important to note that the seven impaired lakes are considered shallow lakes, and there is not a water quality standard for shallow lakes within the Northern Lakes and Forests Ecoregion. Sediment Cores were taken from two of the impaired lakes in 2019, Long & Strand (St. Louis River). The study results will be available in late summer 2020 and will be useful for future lake management activities.

Seasonal and year-round residential development exists around many lakes in the 1W1P planning area. Fortunately there are still large areas of forest and wetlands that still exist help to sustain good water quality. Actions to consider include:

- Promoting efforts to protect and restore shoreline vegetation

- Promote formation of Lake Associations
- Promote volunteer water monitoring
- Evaluate zoning controls and building set-backs

Drinking water protection

Sources of drinking water within the 1W1P planning area include groundwater, lakes, and rivers. The delivery mechanism for drinking water includes community public drinking water supplies, community and non-community public drinking water supplies, and from private wells. Community public water supplies provide year round service to at least 25 persons or 15 service connections. Non-community public water supplies provide water to the public in places other than their homes, such as businesses, community centers, churches, and parks. While public water systems are highly regulated, private well owners are largely responsible for maintaining the quality of their own drinking water.

The Minnesota Department of Health (MDH) works with communities to protect the sources of their drinking water. In turn, communities work to identify risks and measures to eliminate or reduce those risks. Examples of risks include: unused and unsealed wells; urban pollutants, agricultural and lawn care nutrients & chemicals, hazardous wastes and storage tanks; and uncontrolled alteration of land through development. Public water supplies within the 1W1P planning area include groundwater and surface water sources.

The Minnesota Department of Health (MDH) is developing groundwater restoration and protection strategies (GRAPS) reports for each watershed in Minnesota. This is a collaborative effort, much like WRAPS, in that multiple agencies work together to gather data and identify strategies that can be incorporated into water management plans.

A primary source of drinking water for many rural residents in the planning area is from groundwater through private wells. Because of this, clean groundwater is essential to the health of the area residents. Many factors can contribute to groundwater susceptibility to contamination, including composition of aquifer surrounding the well, well maintenance, and land uses in proximity to the well and recharge area (e.g., failing septic systems, nearby livestock operations, storage of chemicals and potentially hazardous materials). Potential actions to consider for drinking water protection include:

- Inventory all wells in the planning area.
- Work with landowners to properly seal unused wells.
- Support well testing and well education programs.
- Conduct education and awareness activities with homeowners, including maintaining the well system, along with managing activities that could potentially contaminate the well and groundwater.
- Educate seasonal property owners on policies and importance of properly opening and closing wells.

Stormwater runoff control

When an area of land is developed, natural drainage patterns are modified as runoff is channeled into road ditches and storm sewers. Increased amounts of impervious surfaces that typically results from development can restrict that amount of precipitation that can infiltrate into the soil, which increases the volume of runoff from the watershed. Stormwater runoff can act as a delivery mechanism for pollutants from land sources to surface waters. In addition, stormwater runoff from impervious surfaces travels faster and in larger quantities, which can result in damage to rivers, streams, wetlands, and degrade aquatic habitats. Impervious surfaces also prevent stormwater from soaking into the ground and recharging groundwater.

There are three management programs of stormwater regulated by MPCA: municipal stormwater, construction stormwater, and industrial stormwater. Information on these programs can be found at: https://www.pca.state.mn.us/water/stormwater

Actions to consider include:

- Implement a program to disconnect impervious surfaces from conveyances or direct drainage.
- Education and outreach with homeowners on managing their stormwater within their property (disconnecting impervious surfaces, redirecting runoff, detention and retention, such a through rain barrels and rain gardens).
- Develop or update existing stormwater management plans.
- Develop and implement new guidance on ditch (public and private) maintenance activities that will minimize un-vegetated channels and associated erosion.
- Assess the state of existing roadside ditches and identify priority locations for ditch management (e.g., re-vegetation, armoring).
- Institutionalize operation and maintenance procedures for road ditches.

Mining lands management

Mining of natural resources is a common practice throughout the northeast region of Minnesota. Within the 1W1P planning area, mining of gravel and aggregate mining occurs throughout, while iron mining is focused along the Iron Range, and mining of peat materials occurs mainly in portions of the St. Louis River watershed. With demands for these and other minerals increasing, protecting and maintaining the water quality nearby resources is key.

Gravel and aggregate mining typically occurs in areas that also function as recharge areas for groundwater, which can play an important role in providing water (baseflow) to nearby streams and in replenishing local and regional aquifers. Wetland ditching and drained wetlands for peat mining have altered hydrology in areas of the 1W1P planning area and may be affecting water quality. As discussed in the St. Louis River WRAPS report, mining of iron ore in the Iron Range has dramatically altered natural hydrology (surface and subsurface) in the area, most significantly in several of the headwater watersheds.

Looking forward, future mining pressures will continue to exist and potentially increase for the natural resources throughout the focus area. Potential actions for the 1W1P include:

- Evaluate sand and gravel mining resources, including existing operations, to determine if additional protections (setbacks, ordinances, operational controls/restrictions) are needed to protect baseflow conditions for nearby streams.
- Support studies to better understand the potential and actual impacts mining on groundwater and surface waters, including the conditions most likely to have negative impacts on water resources.
- Promote mine pit reclamation through reducing steep slopes and establishing native vegetation, including tree cover.

St. Louis River Area of Concern (AOC)

Work continues on clean up and restoration of legacy pollution and degraded conditions in the St. Louis River Estuary. The area surrounding the Estuary was designated an Area of Concern (AOC) in 1987 due to significant environmental damage and the degradation of beneficial uses. Nine beneficial use impairments (BUIs) were identified in the St. Louis River AOC. After much work, three BUIs have been removed (or submitted for removal), with a target date of 2025 to address the remaining BUIs. Looking forward, the 1W1P should continue to support ongoing monitoring, research & collaboration with local, state, federal and tribal partners on the St. Louis River Estuary. It is important to note that past, current and future restoration and protection projects within the AOC watershed contribute to restoring and maintaining the overall health of the Estuary. The work to date on the AOC has generated a wealth of data and information, including potential ecological deficiencies in the Estuary, along with areas and projects that could be undertaken. This information can be found at:
https://www.pca.state.mn.us/waste/st-louis-river-area-concern-resources

Other topics and issues

The following topics and issues should also be considered for incorporation into the 1W1P:

- Agricultural lands and livestock management
- Education and outreach
- Emerging issues, such as chloride and polyfluoroalkyl substances (PFAS)
- Land use planning and ordinances
- Monitoring and focused research
- Terrestrial and aquatic species control/management
- Wetlands protection and restoration

Thank you for the opportunity to provide comments as we begin the planning process for the St. Louis 1W1P planning area. MPCA staff look forward to contributing throughout the process. If we may be of further assistance, please contact me at 218-302-6608.

Sincerely,

Tom Estabrooks

This document has been electronically signed.

Tom Estabrooks
Project Manager
Duluth Office
Watershed Division

Attachment 1 MPCA priority concerns 303d waters. xlsx (separate attachment to email)