



Protecting, Maintaining and Improving the Health of All Minnesotans

June 25, 2020

Kate Kubiak
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Subject: Initial Comment Letter – St. Louis River Watershed Planning Project

Dear Ms. Kubiak,

Thank you for the opportunity to submit comments regarding water management issues for consideration in the One Watershed One Plan (1W1P) planning process for the St. Louis River Watershed Planning Area. Our agency looks forward to working closely with the local government units, stakeholders, and other agency partners on this watershed planning initiative.

The Minnesota Department of Health's (MDH) mission is to protect, maintain, and improve the health of all Minnesotans. An important aspect to protecting citizens' health is the protection of drinking water sources. MDH is the agency responsible for implementing programs under the federal Safe Drinking Water Act (SDWA).

Source Water Protection (SWP) is the framework MDH uses to protect drinking water sources. The broad goal of SWP in Minnesota is to protect and prevent contamination of public and private sources of groundwater and surface water sources of drinking water using best management practices and local planning. Core MDH programs relevant to watershed planning are the State Well Code (MR 4725), Wellhead Protection (MR 4720) and surface water / intake protection planning resulting in a strong focus in groundwater management and protecting surface water drinking water sources.

One of the three high level state priorities in Minnesota's Nonpoint Priority Funding Plan is to "Restore and protect water resources for public use and public health, including drinking water" which aligns with our agency's mission and recommendations to your planning process.

MDH Priority Concerns:

Prioritize Drinking Water Supply Management Areas (DWSMA) in the St. Louis River Watershed 1W1P.

DWSMA boundaries establish a protection area through an extensive evaluation that determines the contribution area of a public water supply well, aquifer vulnerability and provides an opportunity to prioritize specific geographic areas for drinking water protection purposes. DWSMA boundaries that extend beyond city jurisdictional limits, or are established in Wellhead Protection (WHP) Action Plans for nonmunicipal public water supplies, like mobile home parks, can be a special focus for local partners prioritizing drinking water protection activities.

Aquifer vulnerability determines the level of management required to protect a drinking water supply and provides an opportunity to target implementation practices in accordance with the level of risk different land uses pose. The attached Public Water Supply Summary Spreadsheet highlights the primary drinking water protection concerns for many DWSMAs in the watershed.

Prioritize Surface Water Appropriating Public Water Suppliers by supporting the development and implementation of comprehensive source water protection plans for the public water supply systems using surface water in the watershed.

Surface water-based drinking water systems are highly susceptible to potential contamination. Recognizing those surface water bodies that are sources of drinking water in the watershed is very important. Six Public Water Supplies in the watershed obtain their drinking water from lakes or mine pits. Prioritize management activities to protect and maintain surface water drinking water sources.

Prioritize Protecting Noncommunity Public Water Supplies

Noncommunity public water supplies provide drinking water to people at their places of work or play (schools, offices, campgrounds, etc.). Land use and management activities (maintaining/upgrading SSTS, well sealing, etc.) should consider effects on these public water systems. Find information regarding noncommunity public water supplies in the watershed in reports titled Source Water Assessments (SWA) at:

<https://www.health.state.mn.us/communities/environment/water/swp/swa.html>

Source Water Assessments provide a concise description of the water source - such as a well, lake, river, or mine pit - used by a public water system and discusses how susceptible that source may be to contamination.

Prioritize Sealing Abandoned Wells

Unused, unsealed wells can provide a conduit for contaminants from the land surface to reach the groundwater sources of drinking water. This activity is particularly important for abandoned wells that penetrate a confining layer above a source aquifer.

Sealing wells is a central practice in protecting groundwater quality. However, when resource dollars are limited, it is important to evaluate private well density to identify the populations most at risk from a contaminated aquifer.

Prioritize Protection of Private Wells

Many residents of the St. Louis River Watershed rely on a private well for the water they drink. However, no public entity is responsible for water testing or management of a private well after construction is completed. Local governments are best equipped to assist private landowners through land use management and ordinance development, which can have the greatest impact on protecting private wells. Other suggested activities to protect private wells include: hosting well testing or screening clinics, providing water testing kits, working with landowners to better manage nutrient loss, promoting household hazardous waste collection, managing storm water runoff, managing septic systems, and providing best practices information to private well owners.

Targeting Groundwater & Drinking Water Activities in the 1W1P Planning Process

Limitation of Existing Tools –

Watershed models used for prioritizing and targeting implementation scenarios in the 1W1P, whether PTMapp, HSPF-Scenario Application Manager (SAM) or others, leverage GIS information and/or digital terrain analysis to determine where concentrated flow reaches surface water features. While this is an effective approach for targeting surface water contaminants, it does not transfer to groundwater concerns because it only accounts for the movement of water on the land's surface. Unfortunately, targeting tools are not currently available to model the impact on groundwater resources. The Minnesota Department of Health suggests using methodologies applied by the agency to prioritize and target implementation activities in the Source Water Protection program.

Using the Groundwater Restoration and Protection Strategies (GRAPS) Report –

The MDH, along with its state agency partners, are developing a Groundwater Restoration and Protection Strategies (GRAPS) report for the St. Louis River watershed. GRAPS will provide information and strategies on groundwater and drinking water supplies to help inform the local decision making process of the 1W1P. Information in a GRAPS Report can be used to identify risks to drinking water from different land uses. Knowing the risks to drinking water in a specific area allows targeting of specific activities.

- Prioritize Actions Identified in the Groundwater Restoration and Protection Strategies (GRAPS) report.

Using Wellhead Protection Plans –

- Identify Drinking Water Supply Management Areas (DWSMA) located in the watershed.
- Examine the vulnerability of the aquifer to contamination risk to determine the level of management required to protect groundwater quality. For example, a highly vulnerable setting requires many different types of land uses to be managed, whereas a low vulnerability setting focuses on a few land uses due to the long recharge time and protective geologic layer.
- Use the Management Strategies Table in a Wellhead Protection Plan to identify and prioritize action items for each DWSMA.

Using Guidance Documents to Manage Specific Potential Contaminant Sources –

The MDH has developed several guidance documents to manage impacts to drinking water from specific potential contaminant sources. Topics include mining, stormwater, septic systems, feedlots, nitrates, and chemical and fuel storage tanks. This information is available at

<https://www.health.state.mn.us/communities/environment/water/swp/resources.html>

Attached you will find a listing of MDH data and information to help you in the planning process. Thank you for the opportunity to be involved in your watershed planning process. If you have any questions, please feel free to contact me at (218) 308-2109 or chris.parthun@state.mn.us.



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Attachments

CC via email:

Jenilynn Marchand, MDH Source Water Protection Unit
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Tracy Lund, MDH Source Water Protection Unit
Chris Elvrum, MDH Well Management Section
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Julie Westerlund, BWSR 1W1P Coordinator
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Samuel Martin, DNR Support Hydrologist
Jeff Risberg, MPCA Watershed Information & Assistance
Juline Holleran, MPCA Watershed Information & Assistance
Tom Estabrooks, MPCA Northeast Watershed
Margaret Wagner, MDA Unit Supervisor

MDH Data and information:

- Drinking Water Statistics – Where do people get their drinking water in the St. Louis River Watershed? A vast majority obtains their drinking water from groundwater, but there are six public water supplies that obtain their drinking water from surface water sources. This information can help you understand where people are obtaining their drinking water and develop implementation strategies to protect the different sources of drinking water in the watershed.
- A spreadsheet of the public water supply systems in the watershed, status in wellhead protection planning, and any drinking water protection concerns or issues that have been identified in protection areas. This information can help you understand the drinking water protection issues in the watershed, prioritize areas for implementation activities, and identify potential multiple benefits for implementation activities.
- Shape files of the Drinking Water Supply Management Areas (DWSMA) in the watershed are located at <https://www.health.state.mn.us/communities/environment/water/swp/maps/index.htm>. This information can help you prioritize and target implementation activities that protect drinking water sources for public water supplies.

MDH Figures:

- A figure detailing the “Pollution Sensitivity of Near-Surface Materials” in the St. Louis River Watershed. This information can help you understand the ease with which recharge and contaminants from the ground surface may be transmitted into the upper most aquifer on a watershed scale. Individual wellhead protection areas provide this same information on a localized scale. This in turn can be used to prioritize areas and implementation activities.
- A figure detailing “Pollution Sensitivity of Wells” in the St. Louis River Watershed. This information can help you understand which wells in the watershed are most geologically sensitive based on the vulnerability of the aquifer in which the well is completed. This information allows for targeting of implementation activities to the groundwater sources of water people are drinking.
- A figure detailing “Pollution Sensitivity of Wells and Nitrate Results” in the St. Louis River Watershed Underlain by Geologic Sensitivity Ratings from Wells. This information takes what we know about the sensitivity of wells to contamination and combines it with nitrate results to highlight areas of the watershed where there is known nitrate contamination of

the water people are drinking. This figure can help prioritize implementation activities aimed at reducing nitrate levels in the sources of drinking water.

- A figure detailing “Arsenic Results” in the St. Louis River Watershed Underlain by Geologic Sensitivity Ratings from Wells. This information can help you understand which wells in the watershed contain elevated arsenic levels.
- A figure detailing “DWSMA Vulnerability” in the St. Louis River Watershed. This information can help you understand the DWSMAs that are most vulnerable to contamination from the ground surface. This figure allows for targeting of implementation activities for public water suppliers.

**St. Louis River Basin Public Water Supplies -
Drinking Water Protection Concerns for Quality & Quantity**

Source Water Risk	Name	County	Watershed	Subwatershed	Drinking Water Source	WHP/Surface Intake Plan	DWSMA Vulnerability/Surface Water Source	Drinking Water Protection Concerns
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Very high potential contaminant risk due to surface water source and/or connection with surface water -

Focus on impacts from land use practices and surface water runoff

Breitung	St. Louis	St. Louis River	040102010302	GW	Yes	Low/High/SWCA	Nitrates and bacteria
Virginia	St. Louis	St. Louis River	040102010704	SW	No	Very High	Hwy 53 stormwater runoff
Hoyt Lakes	St. Louis	St. Louis River	04102010105	SW	No	Very High	Colby Lake impacts from PolyMet
Biwabik	St. Louis	St. Louis River	040102010304	SW	No	Very High	Will be changing source to Embarrass Pit
Aurora	St. Louis	St. Louis River	040102010104	SW	No	Very High	Will be changing source to Embarrass Pit
Eveleth	St. Louis	St. Louis River	040102010701	SW	No	Very High	
Chisholm	St. Louis	St. Louis River	040102010601	SW	No	Very High	

High potential contaminant risk -

Focus on potential land use contaminant sources that may impact water quality

Forbes MHP	St. Louis	St. Louis River	040102010703	GW	Yes	High	
Hibbing	St. Louis	St. Louis River	040102010602	GW	Yes	Mod/High/Very High	Seeking new sources - quantity issues
Babbitt	St. Louis	St. Louis River	040102010301	GW	Yes	High	
Buhl	St. Louis	St. Louis River	040102010601	GW	Yes	Low/Mod/Very High	
Cloquet	Carlton	St. Louis River	040102011503	GW	Yes	Mod/High	
Kinney	St. Louis	St. Louis River	040102010503	GW	Yes	Mod/Very High	
Mountain Iron	St. Louis	St. Louis River	040102010501	GW	Yes	Mod/Very High	
Carlton	Carlton	St. Louis River	040102011504	GW	Yes	Mod/High	

Moderate potential contaminant risk -

Focus on potential land use contaminant sources that may impact water quality

Gilbert	St. Louis	St. Louis River	040102010305	GW	Yes	Moderate	
Scenic Acres	St. Louis	St. Louis River	040102010305	GW	Yes	Moderate	
Iron Junction	St. Louis	St. Louis River	040102010703	GW	Yes	Moderate	
Wrenshall	Carlton	St. Louis River	040102011505	GW	Yes	Low/Mod	

Low potential contaminant risk -

Focus on sealing of unused wells and old public water supply wells (funding available from MDH)

Floodwood	St. Louis	St. Louis River	040102011301	GW	Yes	Low	
Meadowlands	St. Louis	St. Louis River	040102010908	GW	Yes	Low	

2 Vulnerable Community, Non-Municipal Public Water Suppliers in Elbow Creek (Forbes MHP), and Embarrass (Scenic Acres) Subwatersheds
169 Non-Community Public Water Suppliers
2,676 private wells in highly vulnerable settings
20,644 Located Wells per *MN Well Index*
483 Tanks/Leaks per MPCA *What's In My Neighborhood*
51 Feedlots per MPCA *What's In My Neighborhood*

Acronyms:

GW = Groundwater
SW = Surface Water
SWCA = Surface Water Contribution Area
DWSMA = Drinking Water Supply Management Area
WHP = Wellhead Protection