



Protecting, Maintaining and Improving the Health of All Minnesotans

03/26/2018

Tiffany Determan, District Manager
Isanti Soil and Water Conservation District
110 Buchanan St. N
Cambridge, MN 55008

Subject: Initial Comment Letter – Lower St. Croix One Watershed One Plan (1W1P)

Dear: Ms. Determan,

Thank you for the opportunity to submit comments regarding water management issues for consideration in the 1W1P planning process for the Lower St. Croix 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 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 Lower St. Croix 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 provide 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 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 DWSMA vulnerability table and map highlights details for the DWSMAs and public water supply systems in the watershed.

Prioritize Sealing Abandoned Wells

Unused, unsealed wells can provide a conduit for contaminants from the land surface to reach the 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 Lower St. Croix 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 drilling 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.

Prioritize Drinking Water Supply Management Areas and private wells impacted by contamination.

Prioritize these areas for working with landowners and coordinating with state agencies on Perfluorochemical and Trichloroethylene contamination.

Prioritize and promote groundwater recharge & conservation.

Portions of the Lower St. Croix watershed has limited groundwater resources due to contamination issues, a large number of high capacity wells, and/or aquifer availability. Promote groundwater recharge in appropriate areas with consideration given to contaminated areas to avoid moving contaminants to clean aquifers. Promote conservation practices that improve wise water use to help reduce stresses on the aquifer(s).

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 One Watershed One Plan (1W1P), whether PTMapp, HSPF-Scenario Application Manager (SAM) or others, leverage GIS information and/or digital terrain analysis to determine the flow paths of runoff across the landscape and the pour points 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 Lower St. Croix. 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.
- Target private wells by evaluating the vulnerability of the upper most aquifers to determine the areas within the watershed most at risk from different land uses. Geologic atlases provide this information where available, as well as the statewide geomorphology layer, or the DNR's statewide aquifer sensitivity layer.

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

Attached you will find a listing of the data and information MDH can provide 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 (651) 201-4669 or John.Freitag@state.mn.us.

Sincerely,



John Freitag, Principal Planner
Minnesota Department of Health
Source Water Protection Unit
625 Robert St. N.
St. Paul, MN 55164

Attachments

CC: Amal Djerarri, MDH Source Water Protection Unit
Carrie Raber, MDH Source Water Protection Unit
Derek Richter, MDH Source Water Protection Unit
Chris Elvrum, MDH Well Management Section
Dan Fabian, BWSR, Board Conservationist
Barb Peichel, BWSR, Clean Water Specialist
Jason, Carlson, DNR, NR Area Hydrologist
Eric, Alms, MPCA, Metallic Mining Sector 2
Margaret, Wagner, MDA, Agri Unit Supervisor, Pesticide & Fertilizer Management
Jennifer Kostrzewski, Met Council, Principal Environmental Scientist

MDH Data and information:

- Drinking Water Statistics – 100% of citizens and businesses get their drinking water from groundwater in the Lower St. Croix Watershed. Water is supplied from private wells and community public water supply systems. This information can help you understand where people are obtaining their drinking water and develop implementation strategies to protect the sources of drinking water in the watershed.
- A table of the public water supply systems in the watershed, status in wellhead protection planning. This information can help you 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 <http://www.health.state.mn.us/divs/eh/water/swp/maps/index.htm>. This information can help you prioritize and target implementation activities that protect drinking water sources for public water supplies.

Information in GRAPS Reports

- A figure detailing the “Pollution Sensitivity of the Upper Most Aquifer” in the Lower St. Croix 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 Lower St. Croix 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 sources of water people are drinking.
- A figure detailing “Pollution Sensitivity of Wells and Nitrate Results” in the Lower St. Croix 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 Lower St. Croix Watershed Underlain by Geologic Sensitivity Ratings from Wells. This information can help you understand which wells in the watershed contain elevated arsenic levels.