DEPARTMENT OF HEALTH

*Protecting, Maintaining and Improving the Health of All Minnesotans*

August 5, 2022

Becca Reiss, Community Conservationist
North St. Louis SWCD
505 3rd St S, Ste A
Virginia, MN 55792
becca@nslswcd.org

Subject: Initial Comment Letter – Rainy River Headwaters/Vermilion River Watershed

Dear Ms. Reiss,

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 Rainy River Headwaters/Vermilion 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 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 Rainy River Headwaters/Vermilion 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 the DWSMAs 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 Rainy River Headwaters/Vermilion 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 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 Protecting Noncommunity Public Water Supplies**

Noncommunity public water supplies provide drinking water to people at their places of work or play (schools, offices, resorts, 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, or river - used by a public water system and discuss how susceptible that source may be to contamination.

**Support 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. Prioritize management activities to protect and restore drinking water sources.

The city of International Falls, while not in the watershed, relies on the Rainy River for their drinking water and likewise benefits from restoration and protection of surface water in the watershed. The Rainy Headwaters watershed is a major tributary to the Rainy River.

**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 contaminates, 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 Rainy River Headwaters/Vermilion 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 at (218) 308-2109 or chris.parthun@state.mn.us.

Sincerely,

Chris Parthun, Principal Planner
Minnesota Department of Health
Source Water Protection Unit
Environmental Health Division
705 5th Street NW, Suite A
Bemidji, MN 56601-2933

Attachments

CC: Rainy River Headwaters-Vermillion River Watershed Planning Work Group

Ryan Hughes, BWSR (via email) ryan.hughes@state.mn.us
Julie Westerlund, BWSR (via email) julie.westerlund@state.mn.us
Erin Loeffler, BWSR (via email) erin.loeffler@state.mn.us
Jeff Hrubes, BWSR (via email) jeff.hrubes@state.mn.us
Chad Severts, BWSR (via email) chad.severts@state.mn.us
Barbara Weisman, MDNR (via email) barbara.weisman@state.mn.us
Darrell Schindler, MDNR (via email) darrell.schindler@state.mn.us
Kim Boland, MDNR (via email) kim.boland@state.mn.us
Margaret Wagner, MDA (via email) margaret.wagner@state.mn.us
Carrie Raber MDH (via email) carrie.raber@state.mn.us
Amy Mustonen MPCA (via email) amy.mustonen@state.mn.us
Jeff Risberg, MPCA (via email) jeff.risberg@state.mn.us

**MDH Data and information:**

- Drinking Water Statistics – Where do people get their drinking water in the Rainy River Headwaters/Vermilion River Watershed? Based on available information, most of the people obtain their drinking water from groundwater sources, but the city of Ely and other noncommunity PWS depend on surface water for their drinking water source. Additionally there are a number of PWS where their groundwater source is under the direct influence of surface water. 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:**

The following figures are attached, and will be included in the GRAPS report.

- A figure detailing the "Pollution Sensitivity of Near-Surface Materials" in the Rainy River Headwaters/Vermilion 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 can be used to help prioritize areas and implementation activities.

- A figure detailing "Pollution Sensitivity of Wells" in the Rainy River Headwaters/Vermilion 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 sources of groundwater people are drinking.

- A figure detailing "Pollution Sensitivity of Wells and Nitrate Results" in the Rainy River Headwaters/Vermilion 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 Rainy River Headwaters/Vermilion 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 Rainy River Headwaters/Vermilion River Watershed. This information can help you understand which DWSMA is most vulnerable to contamination from the ground surface. This figure allows for targeting of implementation activities for public water suppliers.

## Rainy River Headwaters/Vermilion River Public Water Supplies
## Drinking Water Protection Concerns for Quality & Quantity

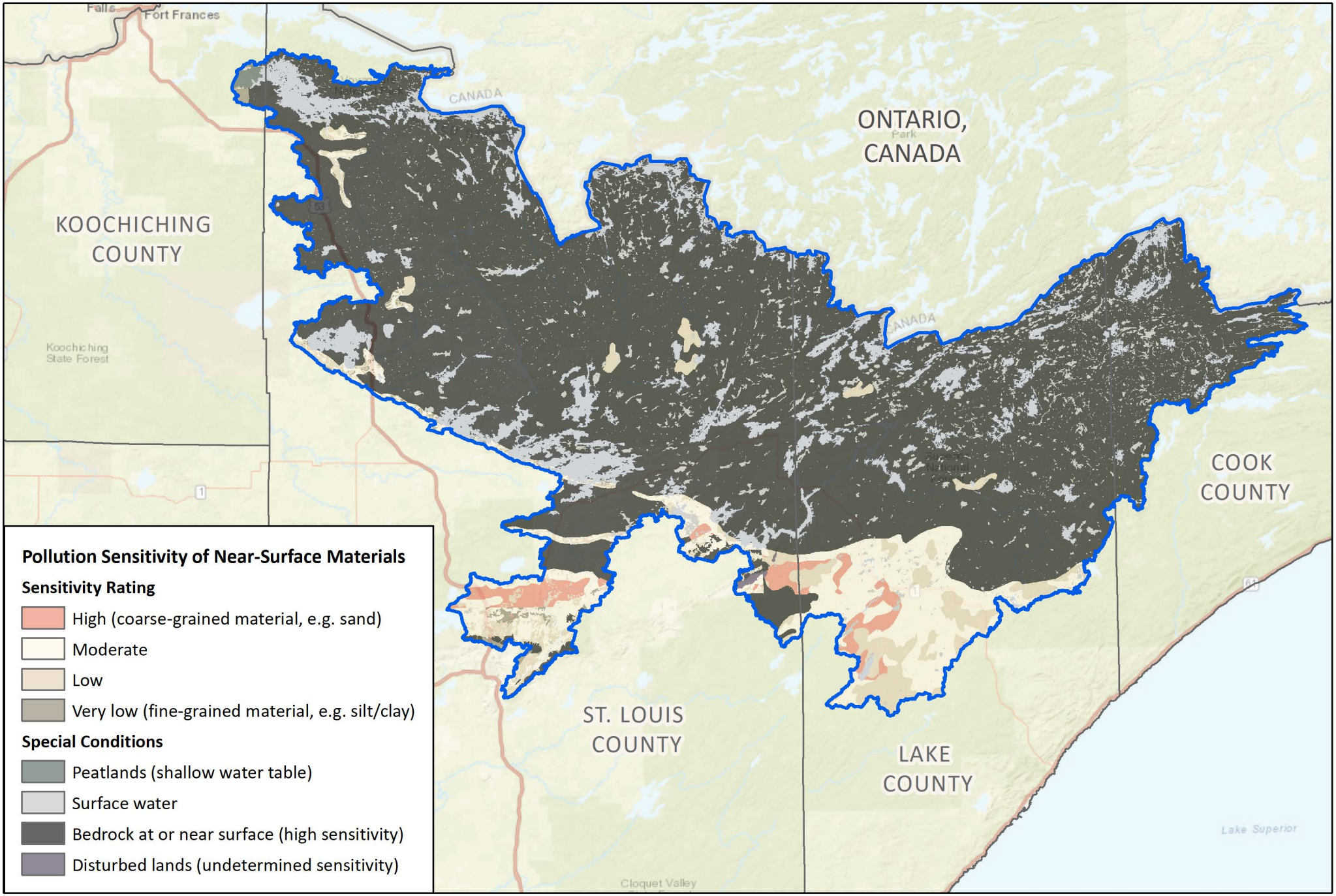
| Source Water Risk | Name | County | Watershed | Subwatershed | Drinking Water Source | WHP/Surface Intake Plan | DWSMA Vulnerability/Surface Water Source | Drinking Water Protection Concerns |
|---|---|---|---|---|---|---|---|---|
| *Very high potential contaminant risk due to surface water source and/or connection with surface water -* | | | | | | | | |
| Focus on impacts from land use practices and surface water runoff | | | | | | | | |
| | Breitung | St. Louis | RRHVR | 090300020202 | GW | Yes | Very High/SWCA | Nitrates |
| | Ely | St. Louis | RRHVR | 090300010801 | SW | No | Very High | Land Use Management |
| | Winton | St. Louis | RRHVR | 090300010905 | GW | Yes | Very High | Land Use Management |
| | | | | | | | | |
| *High potential contaminant risk -* | | | | | | | | |
| Focus on potential land use contaminant sources that may impact water quality | | | | | | | | |
| | Orr | St. Louis | RRHVR | 090300020303 | GW | Yes | High | GW Under the Influence of SW |
| | | | | | | | | |
| | | | | | | | | |
| *Moderate potential contaminant risk -* | | | | | | | | |
| Focus on potential land use contaminant sources that may impact water quality | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| *Low potential contaminant risk -* | | | | | | | | |
| Focus on sealing of unused wells and old public water supply wells (funding available from MDH) | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

246 Non-Community Public Water Suppliers:
- 34 Appropriate SW; 6 are GW under the influence of SW

2,676 private wells in highly vulnerable settings
3,387 Located Private Wells per *MN Well Index*
154 Tanks/Leaks 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

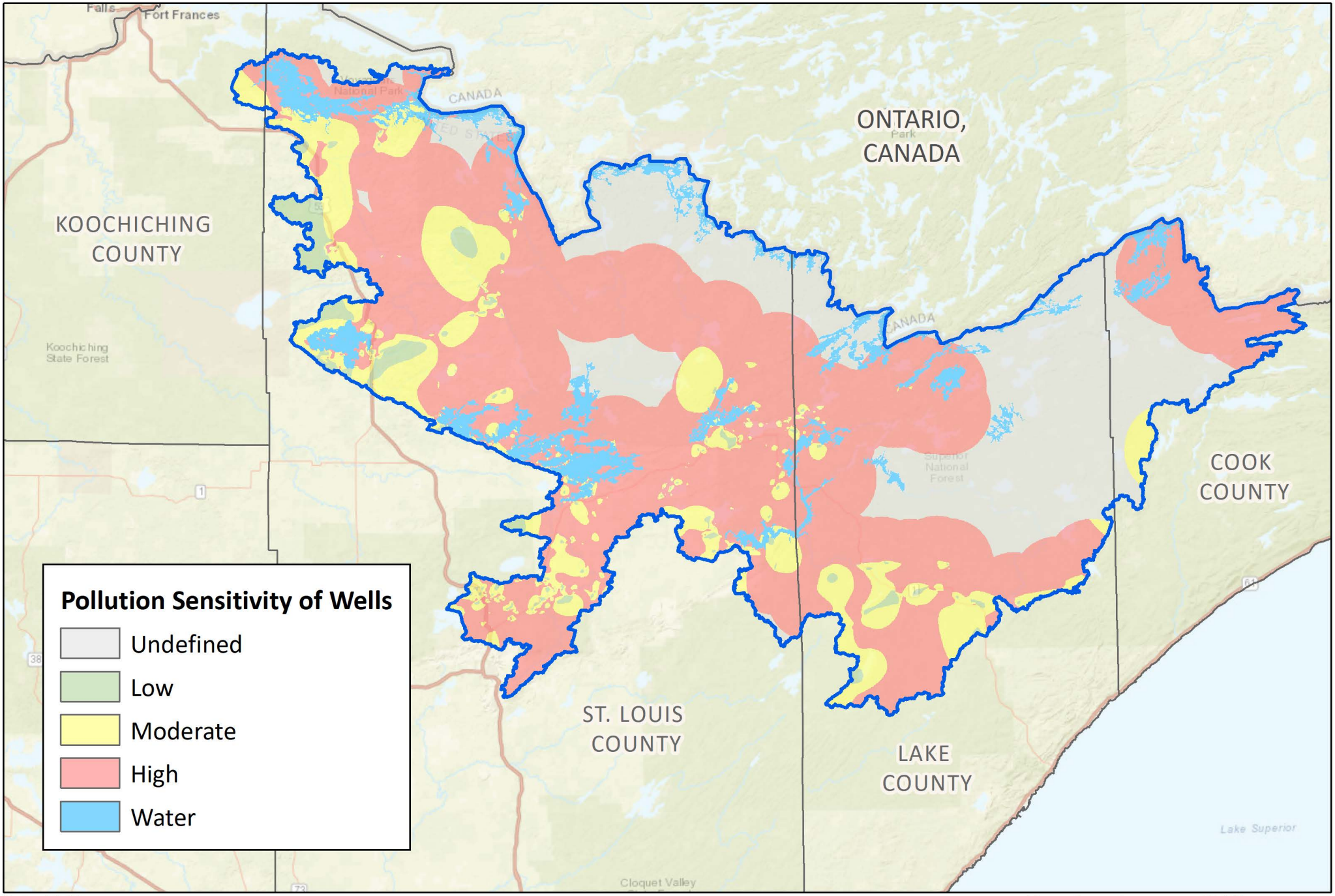
# Rainy River Headwaters/Vermilion River - Pollution Sensitivity of Near-Surface Materials




Data: DNR
Basemap: ESRI World Street Map

10 5 0 10 Miles

# Rainy River Headwaters/Vermilion River - Pollution Sensitivity of Wells

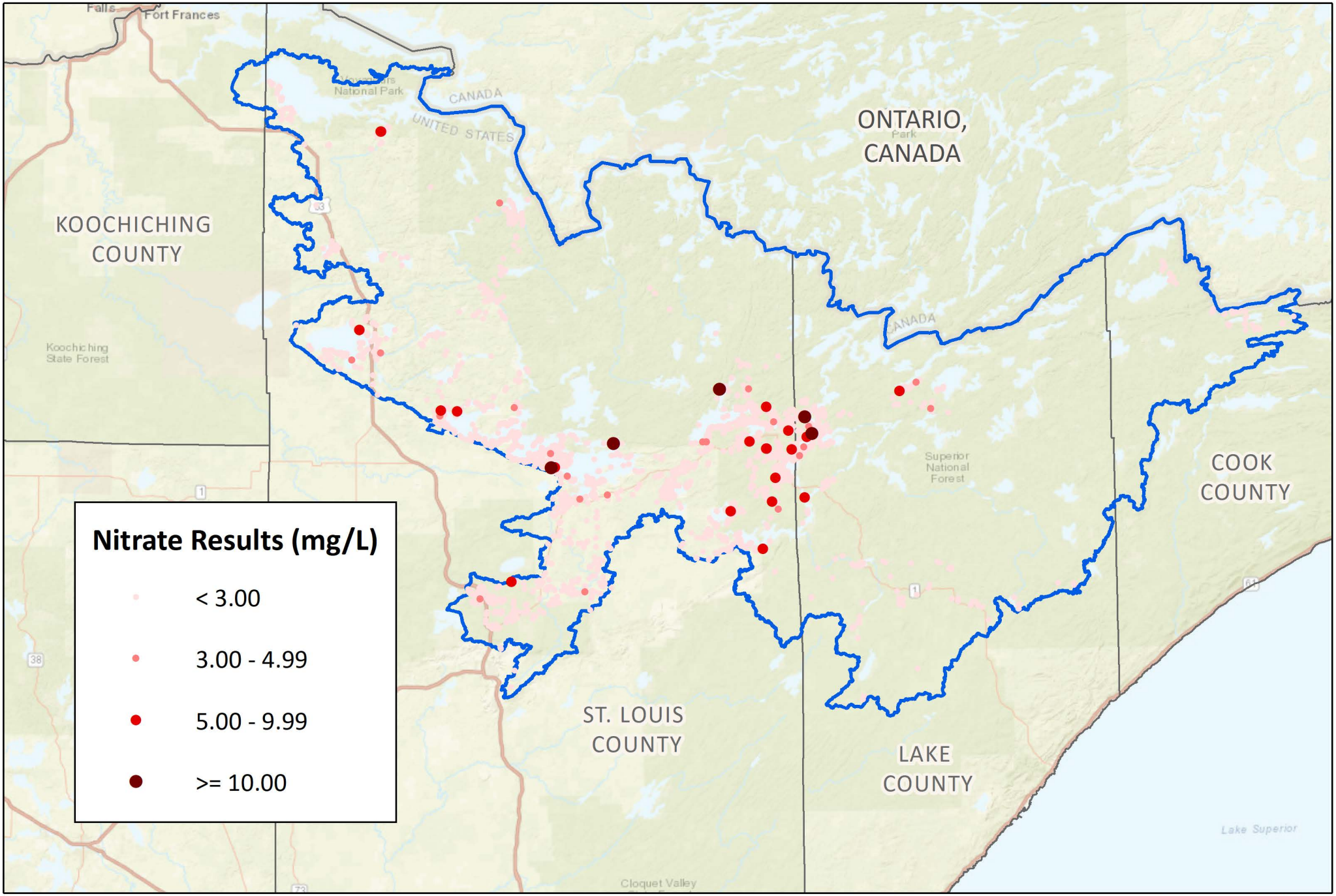



Data: MDH

Basemap: ESRI World Street Map

10 5 0 10 Miles

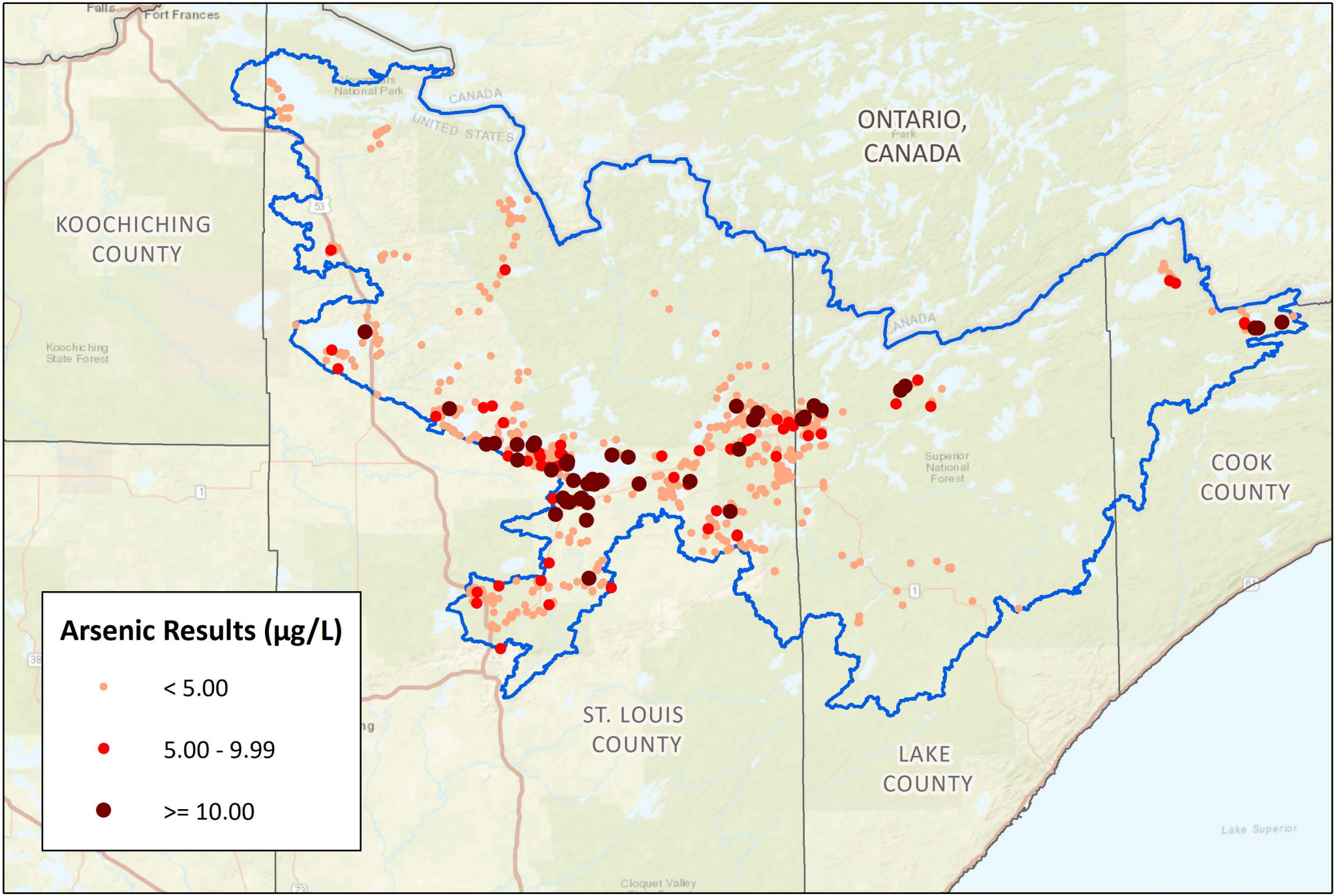
# Rainy River Headwaters/Vermilion River - Maximum Nitrate Results




Data: MDH
Basemap: ESRI World Street Map

0 5 10 20 30 40 50 Miles

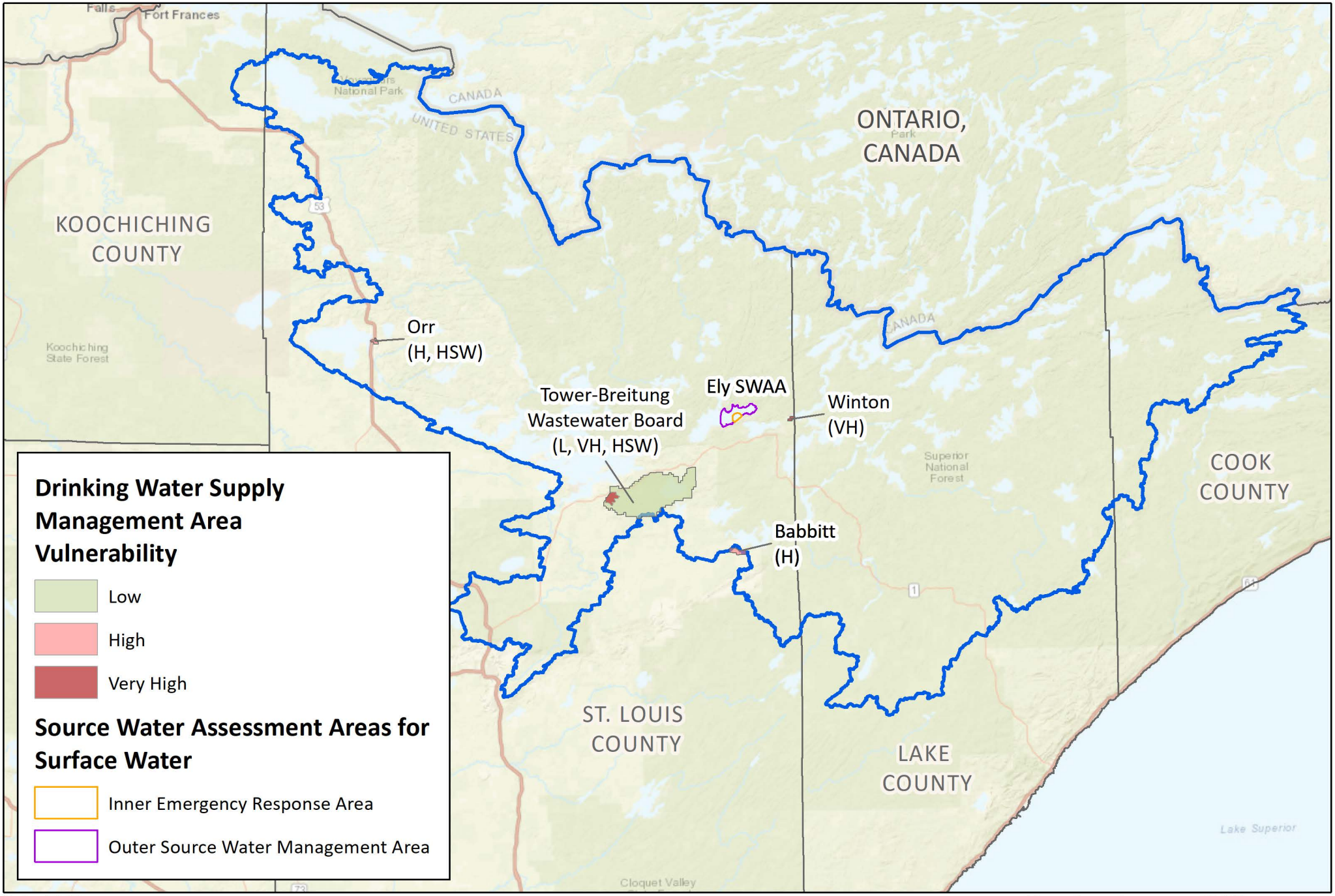
# Rainy River Headwaters/Vermilion River - Maximum Arsenic Results




Data: MDH
Basemap: ESRI World Street Map

0 5 10 20 30 40 50 Miles

# Rainy River Headwaters/Vermilion River - DWSMA Vulnerability




Data: MDH
Basemap: ESRI World Street Map

10 5 0 10 Miles

# Surface Water Public Water System Sources
# Rainy River Headwaters/Vermilion Watershed

DEPARTMENT OF HEALTH