

July 12, 2017

Ms. Stephanie Adams  
Watershed Projects Coordinator  
Pomme de Terre River Association  
12 Highway 28 East, Suite 2  
Morris, MN 56267

RE: Response to Request for Water Management Issues and Priority Concerns to be Addressed in the Pomme de Terre River One Watershed, One Plan

Dear Ms. Adams:

The Minnesota Pollution Control Agency (MPCA) appreciates the opportunity to provide priority concerns for the Pomme de Terre River One Watershed, One Plan (1W1P).

### Background Information

In 2010, a comprehensive approach was taken to assess all of the watershed's surface water bodies for aquatic life, recreation, and fish consumption use support, where data was available. For details on the data behind that assessment, refer to the *Pomme de Terre River Watershed Monitoring and Assessment Report (wq-ws3-07020002b)* and the *Assessment Report of Selected Lakes within the Pomme de Terre River Watershed* (<https://www.pca.state.mn.us/water/watersheds/pomme-de-terre-river>).

Within the Pomme de Terre River watershed (Watershed), there are 19 impairment listings; two for fecal coliform or E.coli, two for turbidity, three for aquatic macroinvertebrate bio assessments, five for fishes bio assessments, and four lakes listed for nutrient eutrophication.

Impairment Type	Number of Listings	Beneficial Use
Turbidity; Total Suspended Solids	2	Aquatic Life
Nitrates	0	Drinking Water
Fecal Coliform; <i>E. coli</i>	2	Aquatic Life
Aquatic Macro-invertebrate bio assessment	5	Aquatic Life
Fishes bio assessment	5	Aquatic Life
Lake; Nutrient/eutrophication	4	Aquatic Recreation
Dissolved Oxygen	1	Aquatic Life

Specific reduction goals for the impaired lakes and stream reaches can be found in the following documents:

[Pomme de Terre River Watershed WRAPS Report](#)

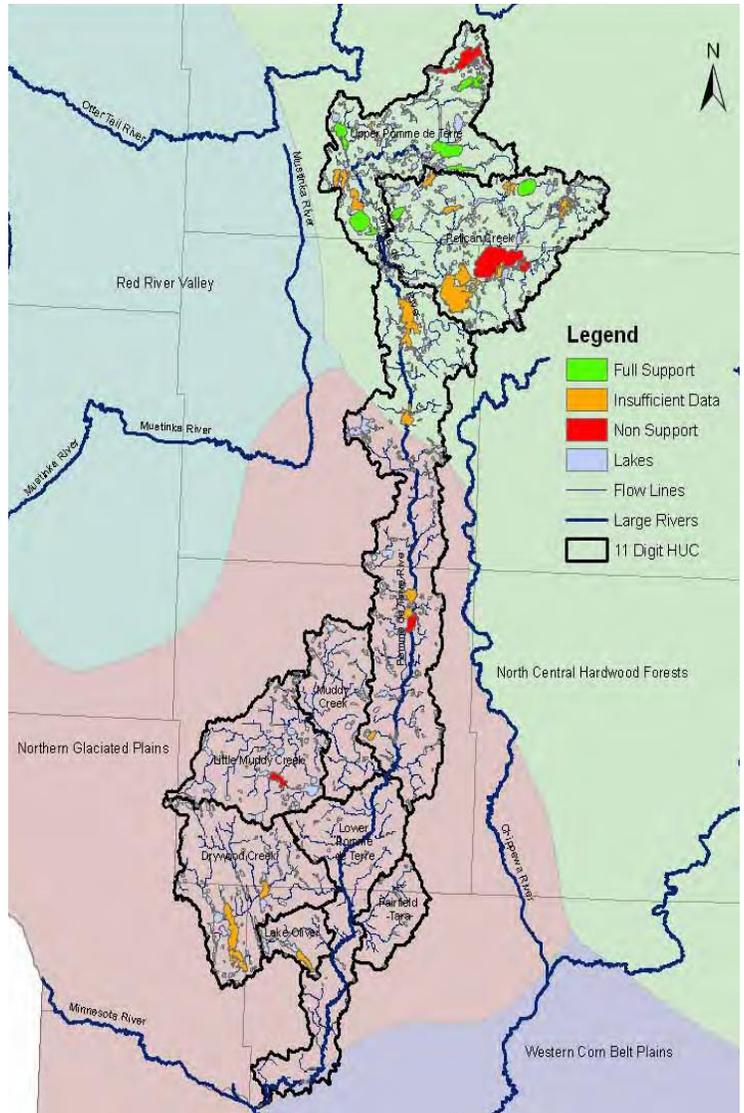
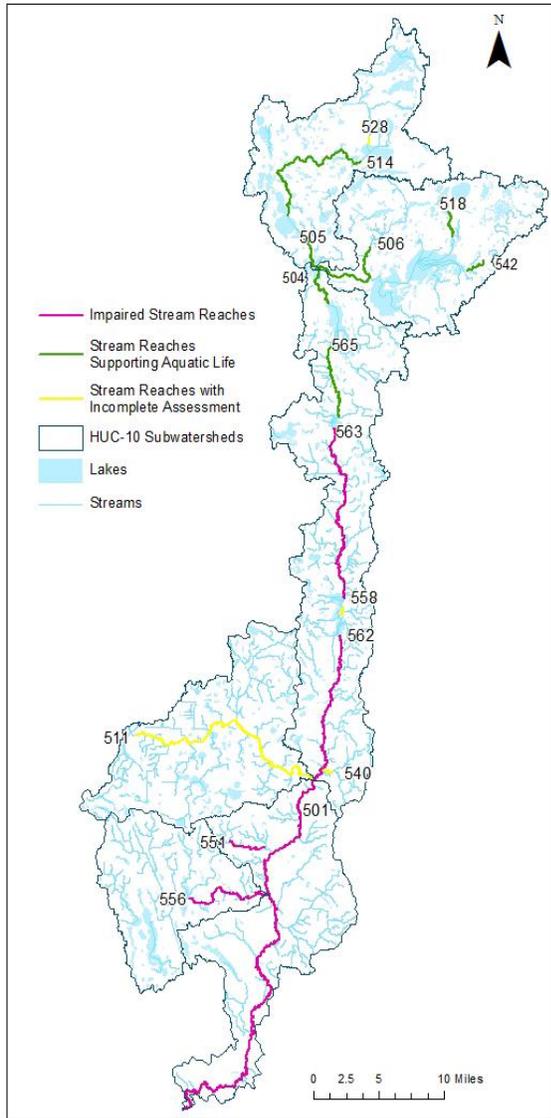
[Pomme de Terre River Watershed TMDL Report](#)

[Pomme de Terre River, Muddy Creek to Marsh Lake, Fecal Coliform TMDL](#)

[Turbidity TMDL Assessment for the Pomme de Terre River Final Report:](#)

<https://www.pca.state.mn.us/water/watersheds/pomme-de-terre-river>

These impairments are illustrated on the maps below.



A stressor identification process is documented in the *Pomme de Terre River Watershed Biotic Stressor Identification Study* (Study) for the reaches listed for aquatic life impairments. In this Study, a summary of the primary stressors to the biological community by impaired reach can be found in Table 25 on page 148. In the Study, seven primary stressors are identified; they are:

- Altered hydrology;
- Poor habitat;
- Low dissolved oxygen;
- High phosphorous;
- High turbidity;
- High nitrates; and
- Fish barriers (dams).

#### **MPCA Water Management Priorities in the Pomme de Terre River Watershed**

The following priorities need to be addressed within the 1W1P. They address the impairments that are found across the Watershed. The MPCA identified these priorities through scientific analysis in the MPCA reports listed below.

Pomme de Terre River Watershed Monitoring and Assessment Report:  
<https://www.pca.state.mn.us/sites/default/files/wq-ws3-07020002b.pdf>

Assessment Report of Selected Lakes Within the Pomme de Terre River Watershed:  
<https://www.pca.state.mn.us/sites/default/files/wq-ws3-07020002.pdf>

Pomme de Terre River Watershed Biotic Stressor Identification:  
<https://www.pca.state.mn.us/sites/default/files/wq-iw7-36n.pdf>

- Biota (Aquatic Life)  
Address the stressors to aquatic life in the 1W1P. Aquatic life use impairments within the Watershed are complex. Biotic impairments are a result of nonpoint source pollution and localized stress linked to poor habitat condition and altered hydrology. High nitrogen and phosphorus levels are likely impacting macroinvertebrate communities in the southern part of the Watershed. Stabilizing hydrology, increasing riparian buffer width, and stabilizing stream banks would greatly help the in-stream habitat.
- Altered Hydrology  
Seek changes to the landscape that reduce the volume, rates, and timing of runoff and increase the base flows needed to prevent continued and further impairments. A primary stressor to the majority of the biotic impairments in the Watershed is altered hydrology. Other pollutants (turbidity, nutrients, bacteria, etc.) are delivered because of altered hydrology. Managing the hydrology to provide a consistent base flow is imperative for the survival of the biological communities in the Watershed. Increasing rainfall infiltration and water retention, and

improving riparian conditions are activities that are needed to stabilize hydrology and reduce impairments.

- Turbidity and Total Suspended Solids (Aquatic Life)

Reduce and control sediment entering into the water bodies of the Watershed. Total suspended solids (TSS) and turbidity, which is a measure of water clarity affected by sediment, algae, and organic matter, is a common impairment and stressor to aquatic life in the Watershed. Reducing TSS will also likely reduce the means by which other pollutants are conveyed (phosphorus and bacteria).

Resource:

Pomme de Terre River Turbidity Total Maximum Daily Load Implementation Plan:

<https://www.pca.state.mn.us/sites/default/files/wq-iw7-18c.pdf>

- Nutrients (Aquatic life/Eutrophication)

Reduce nutrient delivery to the Watershed. High levels of nutrients (phosphorus) are driving nuisance algae blooms in the Watershed's impaired lakes, and threatening other lakes that are on the verge of becoming impaired. Algae blooms can deprive lakes of their oxygen as the algae die off and decay, causing fish kills. High levels of algae cause increased levels of turbidity, degrading aquatic recreation and aquatic life. Blue-green algae can also be deadly to humans.

The MPCA anticipates more lakes and stream reaches will be listed as impaired following the intensive monitoring phase of the second watershed cycle (now underway). Stream monitoring has documented high concentrations of total phosphorus. With the implementation of the new River Eutrophication Standards (<https://www.pca.state.mn.us/water/water-quality-standards-river-eutrophication-and-total-suspended-solids>), the MPCA suspects that new stream impairments are likely to emerge.

Management plans that appropriately value the nutrient worth of manure and previous crops and focus on the timing and intensity of the fertilizers and manure applications will help reduce the amount of phosphorus and nitrogen reaching the river. These reductions would also aid in the low dissolved oxygen problems present in some parts of the Watershed.

- Bacteria (Aquatic Recreation)

Control pathways delivering human and livestock feces to the Pomme de Terre River. High levels of bacteria are widespread across the southern portion of the Watershed. The abundance of feedlots, feedlot runoff, improper manure management, and over-grazed pastures in the Watershed may correlate with this finding. High bacteria levels are also attributed to noncompliant septic systems.

Resource:

Pomme de Terre Fecal Coliform Implementation Plan:

<https://www.pca.state.mn.us/sites/default/files/wq-iw7-08c.pdf>

The MPCA recognizes all the hard work and cooperation from the local partners within the Pomme de Terre River watershed, and offers our continued support in the 1W1P pilot project. Thank you for the opportunity to provide comments during the planning process.

Ms. Stephanie Adams

Page 5

July 12, 2017

Please contact Paul Wymar, MPCA, at 507-476-4282 or [paul.wymar@state.mn.us](mailto:paul.wymar@state.mn.us) if you have any questions or would like additional information.

Sincerely,

*Wayne Cords*

*This document has been electronically signed.*

Wayne Cords

Manager, Southeast Region

Watershed Division

507-344-5245

[wayne.cords@state.mn.us](mailto:wayne.cords@state.mn.us)

cc: Rebecca Flood, MPCA  
Scott MacLean, MPCA  
Paul Wymar, MPCA