

September 21, 2018

Heidi Rudolph
Watonwan County Land Management/SWCD
108 8th Street South, Suite #2
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Jill Sackett-Eberhart
Board of Water and Soil Resources
11 Civic Center Plaza, Suite #300
Mankato, MN 56001

Dear Heidi Rudolph and Jill Sackett-Eberhart:

The Minnesota Pollution Control Agency (MPCA) is pleased to provide priority concerns for consideration in the development of the Watonwan River Watershed One Watershed One Plan (1W1P). The MPCA has contributed significant time and resources in addressing water quality issues in the Watonwan River Watershed. We would invite you to consider the following reports and studies during 1W1P development.

Watonwan River Monitoring and Assessment Report (2016) – Summary of 2013/2014 intensive watershed monitoring efforts. <https://www.pca.state.mn.us/sites/default/files/wq-ws3-07020010b.pdf>

Watonwan River Stressor ID (2018) – This report summarizes and evaluates factors, natural and human, which are likely responsible for the impaired condition of the fish and macroinvertebrate communities. A thorough description of the natural features and processes occurring in the watershed and the extent of various human activity throughout the watershed that may have potential to degrade streams, rivers, and lakes. <https://www.pca.state.mn.us/sites/default/files/wq-ws5-07020010a.pdf>

DRAFT Watonwan River Watershed Restoration and Protection Strategy (WRAPS) (2018) – High level summary of past assessment and diagnostic work and outlines ways to prioritize actions and strategies for implementation. Document is currently being drafted and will be reviewed by local partners. Drafts will be available for the 1W1P work group.

DRAFT Watonwan River Watershed Total Maximum Daily Load (TMDL) Report (2018) – A draft TMDL report for the Watonwan River will be available for review and will be on public comment during the 1W1P process.

DRAFT Minnesota River and Greater Blue Earth River Basin Total Suspended Solids (TSS) TMDL Report (2018) – A draft of the TMDL report of the TSS impairments is available for review by the 1W1P work group.

Fecal Coliform TMDL Assessment for 21 Impaired Streams in the Blue Earth River Basin (2007) – TMDL study includes five Fecal Coliform impairments in the Watonwan River Watershed. <https://www.pca.state.mn.us/sites/default/files/wq-iw7-05b.pdf>

Greater Blue Earth River Basin Fecal Coliform TMDL Report Implementation Plan (2007) – *E. coli* TMDL implementation plan for the impaired reaches of the Greater Blue Earth watershed including impaired reaches of the Watonwan and South Fork Watonwan River.

<https://www.pca.state.mn.us/sites/default/files/wg-iw7-05c.pdf>

The following table lists streams identified as resource concerns per the 2018 Impaired Waters 303(d) list and the corresponding issues affecting them:

Water Body Name	AUID	Water Body Description	County	Affected Use	Pollutant or Stressor
Butterfield Creek	07020010-516	Headwaters to St James Cr	Watonwan	Aquatic Life	Aquatic macroinvertebrate bioassessments
Butterfield Creek	07020010-516	Headwaters to St James Cr	Watonwan	Aquatic Life	Fishes bioassessments
Butterfield Creek	07020010-516	Headwaters to St James Cr	Watonwan	Aquatic Life	Turbidity
Butterfield Creek	07020010-516	Headwaters to St James Cr	Watonwan	Aquatic Recreation	Escherichia coli
County Ditch 78	07020010-559	164th St to Watonwan R	Blue Earth	Aquatic Life	Aquatic macroinvertebrate bioassessments
County Ditch 78	07020010-559	164th St to Watonwan R	Blue Earth	Aquatic Life	Fishes bioassessments
Judicial Ditch 1	07020010-580	-94.9058 43.9095 to T105 R33W S7, east line	Cottonwood	Aquatic Life	Fishes bioassessments
Judicial Ditch 1	07020010-579	Headwaters to -94.9058 43.9095	Cottonwood	Aquatic Life	Aquatic macroinvertebrate bioassessments
Judicial Ditch 1	07020010-579	Headwaters to -94.9058 43.9095	Cottonwood	Aquatic Life	Fishes bioassessments
Judicial Ditch 1	07020010-581	T105 R33W S8, west line to Irish Lk	Watonwan	Aquatic Life	Fishes bioassessments
Judicial Ditch 1	07020010-581	T105 R33W S8, west line to Irish Lk	Watonwan	Aquatic Recreation	Escherichia coli
Mink Creek	07020010-577	Unnamed cr to Perch Cr	Martin	Aquatic Life	Aquatic macroinvertebrate bioassessments
Mink Creek	07020010-577	Unnamed cr to Perch Cr	Martin	Aquatic Life	Fishes bioassessments
Perch Creek	07020010-524	Headwaters (Perch Lk 46-0046-00) to Spring Cr	Watonwan	Aquatic Life	Aquatic macroinvertebrate bioassessments
Perch Creek	07020010-524	Headwaters (Perch Lk 46-0046-00) to Spring Cr	Watonwan	Aquatic Life	Fishes bioassessments
Perch Creek	07020010-524	Headwaters (Perch Lk 46-0046-00) to Spring Cr	Watonwan	Aquatic Life	Turbidity
Perch Creek	07020010-523	Spring Cr to Watonwan R	Blue Earth	Aquatic Life	Fishes bioassessments
Perch Creek	07020010-523	Spring Cr to Watonwan R	Blue Earth	Aquatic Recreation	Escherichia coli
Spring Branch Creek	07020010-574	T106 R30W S22, west line to Perch Cr	Watonwan	Aquatic Life	Fishes bioassessments
Spring Branch Creek	07020010-574	T106 R30W S22, west line to Perch Cr	Watonwan	Aquatic Recreation	Escherichia coli
Spring Brook	07020010-540	Unnamed ditch to S Fk Watonwan R	Watonwan	Aquatic Life	Aquatic macroinvertebrate bioassessments
Spring Brook	07020010-540	Unnamed ditch to S Fk Watonwan R	Watonwan	Aquatic Life	Fishes bioassessments

Water Body Name	AUID	Water Body Description	County	Affected Use	Pollutant or Stressor
St James Creek	07020010-515	Butterfield Cr to Watonwan R	Watonwan	Limited Resource Value	Escherichia coli
St James Creek	07020010-502	T106 R31W S18, south line to Butterfield Cr	Watonwan	Limited Resource Value	Escherichia coli
St James Creek	07020010-576	T106 R32W S25, west line to T106 R31W S19, north line	Watonwan	Aquatic Recreation	Escherichia coli
St James Creek (Kansas Lake Inlet)	07020010-528	Headwaters to Kansas Lk	Watonwan	Aquatic Life	Turbidity
Unnamed creek	07020010-552	CD 4 to Butterfield Cr	Watonwan	Aquatic Life	Aquatic macroinvertebrate bioassessments
Unnamed creek	07020010-552	CD 4 to Butterfield Cr	Watonwan	Aquatic Life	Fishes bioassessments
Unnamed creek	07020010-526	T105 R30W S24, south line to Perch Cr	Watonwan	Aquatic Life	Aquatic macroinvertebrate bioassessments
Unnamed creek	07020010-526	T105 R30W S24, south line to Perch Cr	Watonwan	Aquatic Life	Fishes bioassessments
Unnamed creek	07020010-583	T106 R35W S1, west line to Unnamed cr	Cottonwood	Aquatic Life	Aquatic macroinvertebrate bioassessments
Unnamed creek	07020010-583	T106 R35W S1, west line to Unnamed cr	Cottonwood	Aquatic Life	Fishes bioassessments
Unnamed creek	07020010-561	Unnamed cr to JD 1	Cottonwood	Aquatic Life	Aquatic macroinvertebrate bioassessments
Unnamed creek	07020010-561	Unnamed cr to JD 1	Cottonwood	Aquatic Life	Fishes bioassessments
Unnamed creek	07020010-549	Unnamed cr to N Fk Watonwan R	Cottonwood	Aquatic Life	Aquatic macroinvertebrate bioassessments
Unnamed creek	07020010-549	Unnamed cr to N Fk Watonwan R	Cottonwood	Aquatic Life	Fishes bioassessments
Unnamed creek	07020010-557	Unnamed cr to Perch Cr	Martin	Aquatic Life	Fishes bioassessments
Unnamed creek (Mountain Lake Inlet)	07020010-505	Headwaters to Mountain Lk	Cottonwood	Aquatic Life	Aquatic macroinvertebrate bioassessments
Watonwan River	07020010-511	Butterfield Cr to S Fk Watonwan R	Watonwan	Aquatic Consumption	Mercury in fish tissue
Watonwan River	07020010-511	Butterfield Cr to S Fk Watonwan R	Watonwan	Aquatic Life	Aquatic macroinvertebrate bioassessments
Watonwan River	07020010-511	Butterfield Cr to S Fk Watonwan R	Watonwan	Aquatic Life	Fishes bioassessments
Watonwan River	07020010-511	Butterfield Cr to S Fk Watonwan R	Watonwan	Aquatic Life	Turbidity
Watonwan River	07020010-511	Butterfield Cr to S Fk Watonwan R	Watonwan	Aquatic Recreation	Fecal Coliform
Watonwan River	07020010-566	Headwaters to T107 R33W S33, east line	Cottonwood	Aquatic Consumption	Mercury in fish tissue
Watonwan River	07020010-566	Headwaters to T107 R33W S33, east line	Cottonwood	Aquatic Life	Aquatic macroinvertebrate bioassessments
Watonwan River	07020010-566	Headwaters to T107 R33W S33, east line	Cottonwood	Aquatic Life	Fishes bioassessments
Watonwan River	07020010-566	Headwaters to T107 R33W S33, east line	Cottonwood	Aquatic Life	Turbidity

Water Body Name	AUID	Water Body Description	County	Affected Use	Pollutant or Stressor
Watowan River	07020010-566	Headwaters to T107 R33W S33, east line	Cottonwood	Aquatic Recreation	Fecal Coliform
Watowan River	07020010-562	N Fk Watowan R to T107 R32W S13, east line	Watowan	Aquatic Consumption	Mercury in fish tissue
Watowan River	07020010-562	N Fk Watowan R to T107 R32W S13, east line	Watowan	Aquatic Life	Turbidity
Watowan River	07020010-562	N Fk Watowan R to T107 R32W S13, east line	Watowan	Aquatic Recreation	Fecal Coliform
Watowan River	07020010-501	Perch Cr to Blue Earth R	Blue Earth	Aquatic Consumption	Mercury in fish tissue
Watowan River	07020010-501	Perch Cr to Blue Earth R	Blue Earth	Aquatic Consumption	Mercury in water column
Watowan River	07020010-501	Perch Cr to Blue Earth R	Blue Earth	Aquatic Life	Aquatic macroinvertebrate bioassessments
Watowan River	07020010-501	Perch Cr to Blue Earth R	Blue Earth	Aquatic Life	Fishes bioassessments
Watowan River	07020010-501	Perch Cr to Blue Earth R	Blue Earth	Aquatic Life	Turbidity
Watowan River	07020010-501	Perch Cr to Blue Earth R	Blue Earth	Aquatic Recreation	Fecal Coliform
Watowan River	07020010-510	S Fk Watowan R to Perch Cr	Watowan	Aquatic Consumption	Mercury in fish tissue
Watowan River	07020010-510	S Fk Watowan R to Perch Cr	Watowan	Aquatic Life	Aquatic macroinvertebrate bioassessments
Watowan River	07020010-510	S Fk Watowan R to Perch Cr	Watowan	Aquatic Life	Fishes bioassessments
Watowan River	07020010-510	S Fk Watowan R to Perch Cr	Watowan	Aquatic Life	Turbidity
Watowan River	07020010-510	S Fk Watowan R to Perch Cr	Watowan	Aquatic Recreation	Escherichia coli
Watowan River	07020010-563	T107 R31W S18, west line to Butterfield Cr	Watowan	Aquatic Consumption	Mercury in fish tissue
Watowan River	07020010-563	T107 R31W S18, west line to Butterfield Cr	Watowan	Aquatic Life	Fishes bioassessments
Watowan River	07020010-563	T107 R31W S18, west line to Butterfield Cr	Watowan	Aquatic Life	Turbidity
Watowan River	07020010-563	T107 R31W S18, west line to Butterfield Cr	Watowan	Aquatic Recreation	Fecal Coliform
Watowan River	07020010-567	T107 R33W S34, west line to N Fk Watowan R	Watowan	Aquatic Consumption	Mercury in fish tissue
Watowan River	07020010-567	T107 R33W S34, west line to N Fk Watowan R	Watowan	Aquatic Life	Fishes bioassessments
Watowan River	07020010-567	T107 R33W S34, west line to N Fk Watowan R	Watowan	Aquatic Life	Turbidity
Watowan River	07020010-567	T107 R33W S34, west line to N Fk Watowan R	Watowan	Aquatic Recreation	Fecal Coliform
Watowan River, North Fork	07020010-564	Headwaters to T107 R32W S6, east line	Cottonwood	Aquatic Life	Aquatic macroinvertebrate bioassessments
Watowan River, North Fork	07020010-564	Headwaters to T107 R32W S6, east line	Cottonwood	Aquatic Life	Fishes bioassessments
Watowan River, North Fork	07020010-564	Headwaters to T107 R32W S6, east line	Cottonwood	Aquatic Life	Turbidity
Watowan River, North Fork	07020010-564	Headwaters to T107 R32W S6, east line	Cottonwood	Aquatic Recreation	Escherichia coli

Water Body Name	AUID	Water Body Description	County	Affected Use	Pollutant or Stressor
Fork					
Watowan River, North Fork	07020010-565	T107 R32W S5, west line to Watowan R	Watowan	Aquatic Life	Fishes bioassessments
Watowan River, South Fork	07020010-568	-94.8475 43.8813 to Irish Lk	Watowan	Aquatic Life	Aquatic macroinvertebrate bioassessments
Watowan River, South Fork	07020010-568	-94.8475 43.8813 to Irish Lk	Watowan	Aquatic Life	Fishes bioassessments
Watowan River, South Fork	07020010-568	-94.8475 43.8813 to Irish Lk	Watowan	Aquatic Recreation	Escherichia coli
Watowan River, South Fork	07020010-569	-94.9121 43.8594 to -94.8475 43.8813	Cottonwood	Aquatic Life	Fishes bioassessments
Watowan River, South Fork	07020010-547	Irish Lk to Willow Cr	Watowan	Aquatic Life	Fishes bioassessments
Watowan River, South Fork	07020010-547	Irish Lk to Willow Cr	Watowan	Aquatic Life	Turbidity
Watowan River, South Fork	07020010-517	Willow Cr to Watowan R	Watowan	Aquatic Life	Aquatic macroinvertebrate bioassessments
Watowan River, South Fork	07020010-517	Willow Cr to Watowan R	Watowan	Aquatic Life	Fishes bioassessments
Watowan River, South Fork	07020010-517	Willow Cr to Watowan R	Watowan	Aquatic Life	Turbidity
Watowan River, South Fork	07020010-517	Willow Cr to Watowan R	Watowan	Aquatic Recreation	Fecal Coliform
Willow Creek	07020010-571	JD 4 to S Fk Watowan R	Watowan	Aquatic Life	Aquatic macroinvertebrate bioassessments
Willow Creek	07020010-571	JD 4 to S Fk Watowan R	Watowan	Aquatic Life	Fishes bioassessments

TMDL completed TMDL in progress

The following table lists lakes identified as resource concerns per the 2018 Impaired Waters 303(d):

Lake Name	Lake ID	County	Affected Use	Pollutant or Stressor
Bingham	17-0007-00	Cottonwood	Aquatic Life	Fishes bioassessments
Bingham	17-0007-00	Cottonwood	Aquatic Recreation	Nutrient/eutrophication biological indicators
Butterfield	83-0056-00	Watsonwan	Aquatic Recreation	Nutrient/eutrophication biological indicators
Eagle	17-0020-00	Cottonwood	Aquatic Recreation	Nutrient/eutrophication biological indicators
Fish (Bullhead Bay)	32-0018-02	Cottonwood	Aquatic Consumption	Mercury in fish tissue
Fish (Main Lake)	32-0018-03	Cottonwood	Aquatic Consumption	Mercury in fish tissue
Fish (Main Lake)	32-0018-03	Cottonwood	Aquatic Life	Fishes bioassessments
Hanska	08-0026-00	Brown	Aquatic Life	Fishes bioassessments
Kansas	83-0036-00	Watsonwan	Aquatic Recreation	Nutrient/eutrophication biological indicators
Long	83-0040-00	Watsonwan	Aquatic Life	Fishes bioassessments
Mountain	17-0003-00	Cottonwood	Aquatic Consumption	Mercury in fish tissue
Mountain	17-0003-00	Cottonwood	Aquatic Life	Fishes bioassessments
North west Bay	32-0018-01	Cottonwood	Aquatic Consumption	Mercury in fish tissue

While the above tables identify specific waterbodies, the table below illustrates concerns relating to the Stressor ID report.

Stream Name	AUID	Biological Impairment	Stressors								
			Low DO	Eutrophication	Nitrogen	High turbidity/TSS	Lack of Habitat	Altered Hydrology	Connectivity	Chloride/Conductivity	Ammonia
Upper Watsonwan River 10 HUC											
Unnamed Creek (Mountain Lake Inlet)	07020010-505	Macroinvertebrates	-	o	•	-	•	o	-	-	-
Watsonwan River	07020010-566	Both	o	o	•	o/•	•	•	-	-	-
Watsonwan River	07020010-567	Fish	-	o	-	•	•	•	-	-	-

Stream Name	AUID	Biological Impairment	Stressors								
			Low DO	Eutrophication	Nitrogen	High turbidity/TSS	Lack of Habitat	Altered Hydrology	Connectivity	Chloride/Conductivity	Ammonia
North Fork Watonwan River 10 HUC											
Unnamed Creek	07020010-583	Both	-	o	•	o	•	•	-	-	-
Unnamed Creek	07020010-549	Both	-	o	•	o	•	•	-	-	-
NF Watonwan River	07020010-564	Both	o	o	•	o	•	•	o	-	-
NF Watonwan River	07020010-565	Fish	o	o	-	o	•	•	-	-	-
St James Creek 10 HUC											
Unnamed Creek	07020010-552	Both	o	o	o	o	•	o	o	-	-
Butterfield Creek	07020010-516	Both	o	•	•	•	•	•	•	o	o
South Fork Watonwan River 10 HUC											
Unnamed Creek	07020010-561	Both	o	o	•	o	•	•	o	-	-
JD 1	07020010-579	Both	o	o	•	o	•	•	•	-	-
JD1	07020010-580	Fish	o	o	o	o	•	•	o	-	-
JD1	07020010-581	Fish	o	o	o	o	•	•	•	-	-
South Fork Watonwan River	07020010-569	Fish	o	o	o	o	•	•	•	-	-
South Fork Watonwan River	07020010-568	Both	o	o	o/•	•	•/o	•	•	-	-
South Fork Watonwan	07020010-547	Fish	o	o	o	•	•	•	o	-	-
Willow Creek	07020010-571	Both	-/o	o	•	o/•	•	•	o	-	-
South Fork Watonwan River	07020010-517	Both	o	o	•	•	•	•	-	-	-
Spring Brook	07020010-540	Both	o/-	o	o	o	•	o	o	-	-

Stream Name	AUID	Biological Impairment	Stressors								
			Low DO	Eutrophication	Nitrogen	High turbidity/TSS	Lack of Habitat	Altered Hydrology	Connectivity	Chloride/Conductivity	Ammonia
Perch Creek 10 HUC											
Mink Creek	07020010-577	Both	o/-	o	●	-/o	●	●	o	-	-
Unnamed Creek	07020010-557	Fish	-	o	o	-	●	●	o	-	-
Perch Creek	07020010-524	Both	-	o	o/●	●	●	●	●	-	-
Unnamed Creek	07020010-526	Both	o/●	o	o/●	o	●	●	o	o	-
Spring Branch Creek	07020010-574	Fish	o	o	-	o	●	●	o	-	-
Perch Creek	07020010-523	Fish	-	o	o	●	●	o	-	-	-
Lower Watonwan River 10 HUC											
Watonwan River	07020010-563	Fish	-	o	o	●	●	o	-	-	-
Watonwan River	07020010-511	Both	o/-	o	o	●	●	o	-	-	-
Watonwan River	07020010-510	Both	o/-	o	o	●	●/o	o	-	o	-
County Ditch 78	07020010-559	Both	o	o	o/●	-	●/o	o	-	-	-
Watonwan River	07020010-501	Both	o/-	o	-/o	o/●	●	o	-	-	-

● = stressor; o = inconclusive stressor; - = not a stressor, blanks not assessed (no data)

Based on the listed impairments and identified stressors, the following high level priorities should be considered as issues to be addressed as part of the 1W1P. Priority areas will be further developed via the local WRAPS workgroup over the next couple months and will be available at that time.

"Local Priority" areas that are of high social importance to restore or protect - Civic engagement and the day-to-day work of our local partners has identified several priority areas based on local/citizen interest, special uses, or other reasons. Information on the CE process is available on the Watonwan website:

<http://watonwanriver.org/>
<https://drive.google.com/file/d/1ZRN3gg-u0Lu4sLVbDjMYw2pglwPhQDmi/view>
http://watonwanriver.org/wp-content/uploads/2015/02/ww-leverage-points_2-18.pdf
<https://drive.google.com/file/d/17lviV59Fr-cnEoWCTOuGGPCF3sqj77Lj/view>

Local priorities may be the single largest driver of what areas could be prioritized and targeted for implementation work. Because there are so many ways to prioritize, there are many ways to link up the social and biophysical priorities using WRAPS data. Contact WRAPS authors for assistance if needed.

Improve land management utilizing soil health principles Civic engagement work in the Watonwan River Watershed revealed that producers view soil health as a potential win-win management option as it can reduce soil erosion, improve soil fertility and store water on the landscape without taking land out of production. To produce results at the scale of the Watonwan Watershed, soil health practices will need widespread adoption. This will require a lot of education, demonstration, peer-to-peer networking and program flexibility.

"Drinking water and Ground water" - Areas contributing water or risks to drinking and ground water resources - While not technically in the scope of WRAPS, protecting drinking water and ground water is a high local priority. The Minnesota Department of Health (MDH) provides information for targeting for drinking water source restoration and protection. High nitrates are typically the primary concern with drinking water supply. Targeting nitrogen reduction strategies to the contributing these priority areas helps achieve ground water and surface water improvements. Citizens expressed concern about the importance of protecting groundwater, both quality and quantity. Some were concerned about contamination of groundwater while many others noted the high number of groundwater withdrawal permits, particularly in the sandy-soil region near La Salle. Communities are working with the MDH and other local partners to better understand the status and to protect groundwater sources.

Nutrient management- High nitrogen concentrations have been identified as a common stressor to the stream biology and high phosphorus is linked to eutrophication in lakes in the Watonwan River Watershed. The Watonwan WRAPS will provide tools and local input to identify priority areas to focus nutrient reduction efforts.

Manage for altered hydrology, in particular, subwatersheds identified as "highly hydrologically altered" - Ditches carry nutrients and excess water through the system faster than the natural system (before ditching). There is also very little water storage in the watershed as a large percentage of wetlands have been drained. Management of ditch systems needs to be revised, considering the potential for water storage and water treatment in the ditch repair and improvement processes.

Heidi Rudolph
Jill Sackett-Eberhart
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September 21, 2018

Thank you for the opportunity to provide comments as we begin the 1W1P process for the Watonwan River Watershed. The MPCA looks forward to contributing throughout.

Sincerely,

Wayne Cords

This document has been electronically signed.

Wayne Cords
Manager, Southeast Region
Watershed Division

cc: Juline Holleran, MPCA
Paul Davis, MPCA
Shannon Lotthammer, MPCA