RIVERS & STREAMS TOPIC MEETING SUMMARY

Introduction

The Upper Mississippi - Grand Rapids Watershed flows from Laurentian Continental divide to where it empties into the Mississippi River near Palisade. It drains over 1.3 million acres and contains almost 2,000 miles of streams and 625 lakes greater than 10 acres. It includes the cities of Grand Rapids, Nashwauk, Coleraine, Hill City, McGregor, Remer and Cromwell. This watershed has an abundance of beautiful lakes that make it an important recreational destination. It is also home to unique plant and animal species such as wild rice and trout, along with an abundance of healthy forests.

The Upper Mississippi – Grand Rapids One Watershed, One Plan (1W1P) is a planning partnership between Aitkin County, Aitkin SWCD, Carlton County, Carlton SWCD, Cass SWCD, Itasca County, Itasca SWCD, Logan Township, Mille Lacs Band of Ojibwe and Salo Township. The goal of this partnership is to prioritize restoration and protection opportunities and target valuable resources. The result will be the development of a comprehensive watershed management plan with actions that make progress towards measurable goals.

The general 1W1P process is outlined in Figure 1. For the first step, which is to gather and prioritize opportunities/issues in the watershed, a series of five topic meetings will be held. The meeting topics include: 1) lakes, 2) forests, 3) wetlands & ditching 4) rivers & streams 5) stormwater and 5) farms & groundwater.

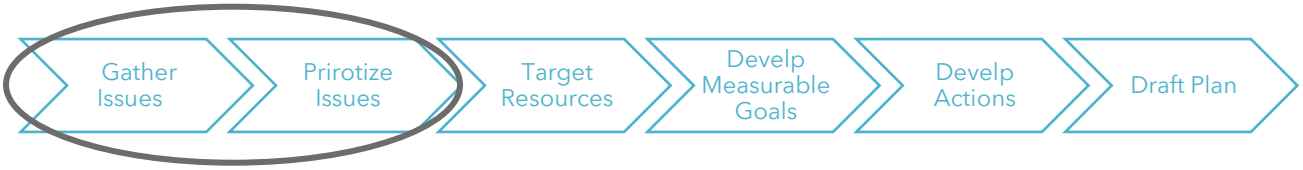


Figure 1. The 1W1P process is divided into six main steps. The topic meetings are the first step in the process (circled).

The 1W1P process is driven by local units of government, guided by an Advisory Committee made up of local stakeholders and state agencies. The decision-making body for the plan is a Policy Committee made up of elected officials from each County, SWCD Tribal Government or Township.

Upper Mississippi – Grand Rapids Watershed Rivers & Streams

There are about 2000 miles of streams and rivers in the Upper Mississippi – Grand Rapids Watershed. Compared to other parts of Minnesota, most of these streams and rivers are

healthy. Many of these streams and rivers support sensitive species, and the Minnesota Pollution Control Agency (MPCA) classified four streams as exceptional, meaning the streams have the highest quality fish and macroinvertebrate communities and have the most natural conditions. Finally, seven streams are designated trout streams, meaning they have suitable habitat and temperature for trout growth and survival.

Figure 2. Most rivers and streams in the Upper Mississippi Grand Rapids Watershed are healthy.

While most rivers and streams are healthy, a total of 23 of the 73 streams assessed by the MPCA were found to be impaired, meaning they did not meet state standards for one or more parameters. There are 17 stream impaired because they do not support fish or aquatic macroinvertebrate (bug) life. In addition, six streams are impaired due to high levels of *E. coli* bacteria. Finally, the Mississippi River from the confluence of the Swan River to the confluence of the Crow Wing River is listed as impaired for high levels of sediment or Total Suspended Solids.

The Watershed Restoration and Protection Strategy explains that ditched wetlands and peatlands are likely a major contributor of water quality issues to downstream streams, impacting aquatic life. Other stressors to water quality include undersized culverts, altered hydrology, stormwater runoff, failing septic systems, manure runoff and livestock access to streams.

Upper Mississippi Grand Rapids Watershed Rivers and Streams Issues

To illustrate the diversity of viewpoints, at the beginning of the rivers and streams meeting, we asked the experts and Advisory Committee members to tell us what comes to mind when they think about the watershed's rivers and streams. The responses were assembled to create a word cloud.

Figure 3. Word cloud depicting the diversity of responses to the question, "when you think of the Upper Mississippi Grand Rapids Watershed's rivers and streams, what comes to mind?"

To help us understand what issues and opportunities surround rivers and streams in the watershed, issues listed in previous plans, reports, state agency comment letters and public input were gathered and compiled into common themes, becoming the basis of creating the priority rivers and streams issues for the Upper Mississippi Grand Rapids Watershed.

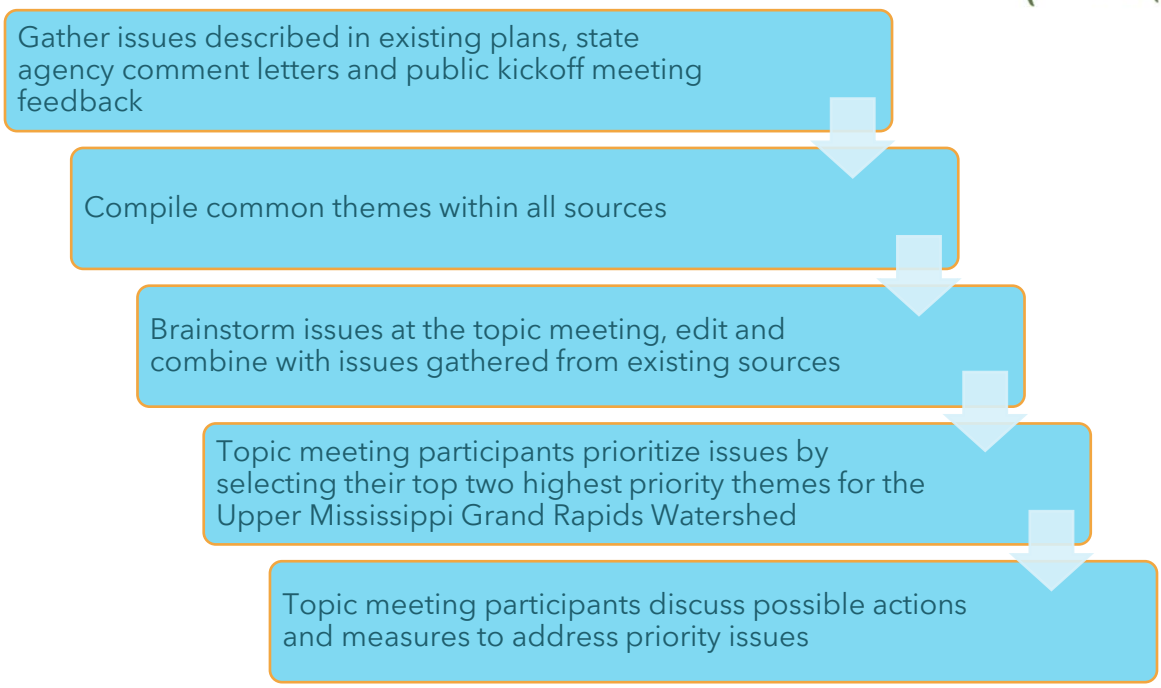


Figure 4. Issue statement development process

A diverse group of river and stream experts plus the Upper Mississippi Grand Rapids Watershed Advisory Committee gathered to brainstorm issues for rivers and streams in the watershed. The brainstormed list was either grouped with the compiled themes of new themes were created, the group then agreed on a final list of four themes (Table 1).

Table 1. Rivers and streams issue statements developed at the Rivers and Streams Topic Meeting

#	Draft Issue Statement	References
1	**Riparian alteration** from development and land use change increases streambank erosion and temperature of streams in the watershed.	WRAPS, Aitkin, Carlton and Itasca, St. Louis County water plans, Public Kickoff Meeting, BWSR Letter
2	**Protection** of critical stream habitats with rare/sensitive species, including cold-water fish species such as trout and cisco, is needed to support native fish, wildlife, and plan communities.	DNR Letter, Landscape Stewardship Plan
3	Improperly sized culverts can contribute to flooding and related repair costs, loss of floodplain **connectivity**, impacts to fish and other aquatic habitat, and disruption of ecologically important stream functions.	WRAPS, Public Kickoff Meeting, DNR Letter,
4	**Historic straightening of natural watercourses** impacts water quality, aquatic life and flooding/hydrology.	WRAPS, Public Kickoff Meeting, DNR Letter, MPCA Letter, BWSR Letter

Each participant ranked their top two issues for rivers and streams, and the top two priorities overall were:

- **Protection** of critical stream habitats with rare/sensitive species, including cold-water fish species such as trout and cisco, is needed to support native fish, wildlife, and plan communities. (18)
- **Riparian alteration** from development and land use change increases streambank erosion and temperature of streams in the watershed. (14)

The group also identified outreach and monitoring as areas of importance, including aquatic invasive species management and evaluating current local ordinances.

The group brainstormed a list of possible actions to address the priority issues along with ways success might be measured.

Rivers and Streams Actions and Measures

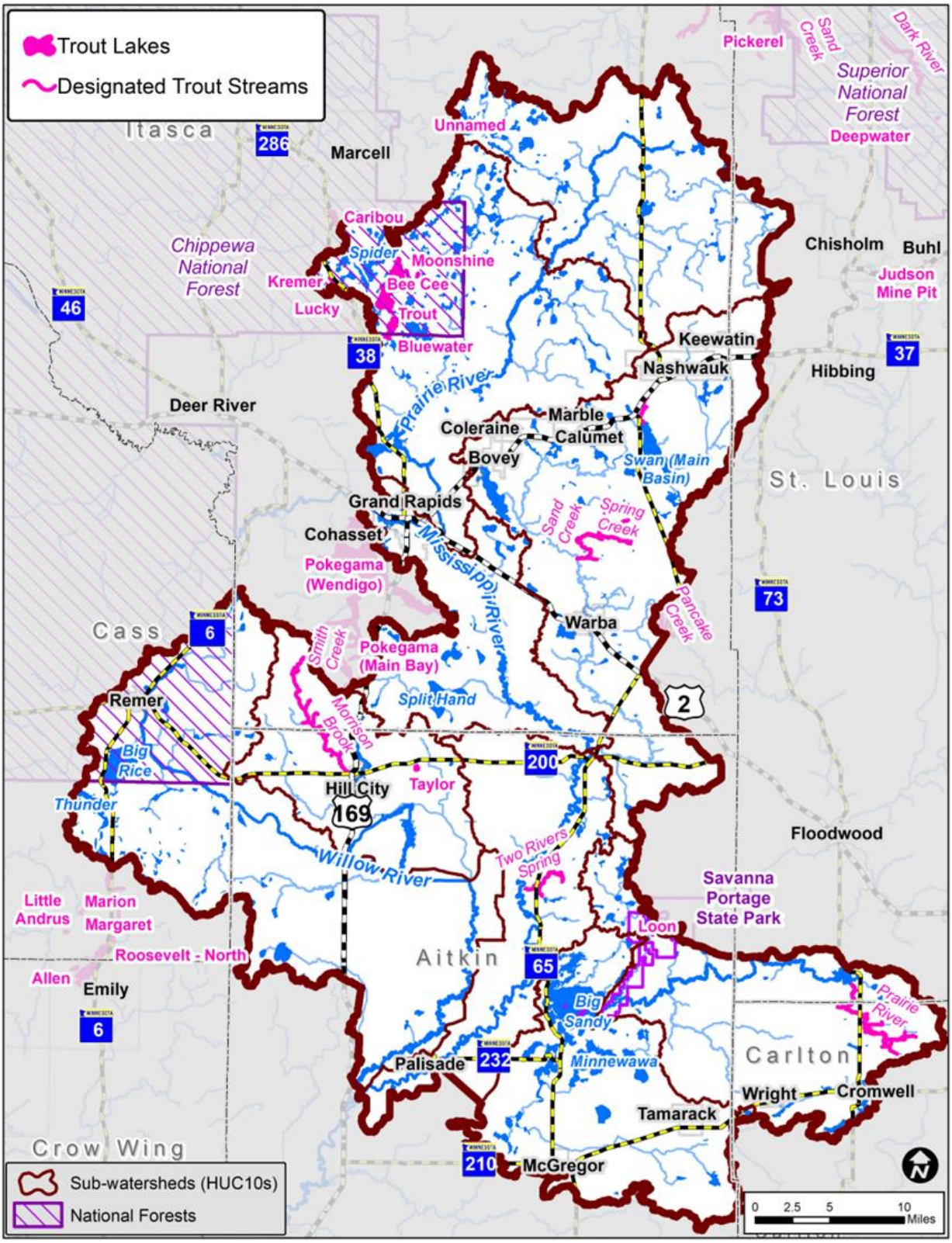
- Education & outreach to townships on how to protect natural resources while maintaining roads. Talk to them how they can protect waterways locally (ordinances)
- Education & outreach to and with Snowmobile & ATV clubs on trail crossings, BMPs
- Have townships work with County Transportation Departments to assist with BMPs
- Inventory culverts
    - Work with townships & counties
- Fence livestock out of streams
- Update failing septic systems
- Grants to groups/organizations to help clean up rivers and streams
- Work with ACOE on discharge of reservoirs to help reduce bank erosion
- Drone studies along rivers/streams to identify erosion
- Create/enhance habitat along streams
- Install Buffers
- Install Stormwater BMPs
- Chloride management – road salt
- Riparian plantings
- Reduce the number of variances in shoreland areas / enforcement of current ordinances / Incentives for BMP installation before variances are granted
- Education & Outreach of easements

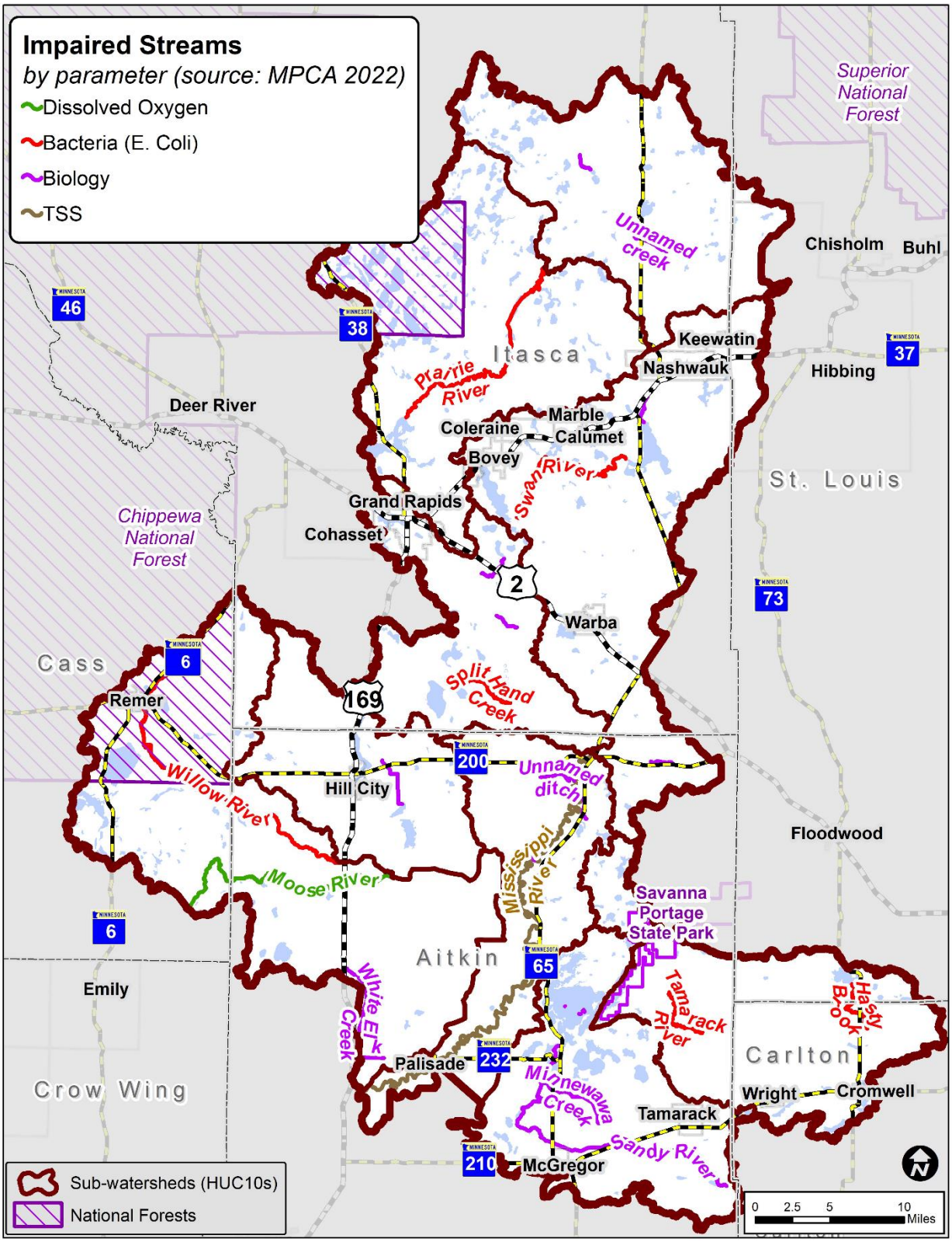
- Work with land management agencies or private land owners to restore channelized streams and rivers
- Work with cedar revetments instead of rock in shoreland restorations
- Request the ACOE update the ROPES Study. The original plan focused on water levels and recreation, but not focused on water quality and flow regimes. Or request a study of the fringe impacts of the dams.
- Protect forested wetlands, wild rice
- Reconnect floodplains
- Encourage restoration of peatlands after harvest
- Zoning changes to encourage larger parcels (minimum lot sizes). Townships can have different regulations than the counties
- Restore peatlands
- Easements and acquisitions for access of the Mississippi River
- Restore hydrology (hydrological connectivity) of ditched systems (peatlands, floodplains)
- Make sure county comprehensive plan resources include watershed priorities, and make it easier for planning commission to understand watershed goals, for example for changes to zoning districts

Meeting Attendees

- Andy Arens, Itasca SWCD
- Greg Berg, MN DNR
- Melanie Bomier, Carlton SWCD
- Perry Bunting, Mille Lacs Band of Ojibwe DNR
- Jeff Cook, US Army Corps of Engineers
- Barb Dahl, Carlton County SWCD
- Karola Dalen, Carlton County
- Dom DeGuiseppi, City of Grand Rapids
- Tom Fasteland, Aitkin SWCD
- Derek Frost, MN DNR
- Bonnie Goshey, MPCA
- Dana Gutzmann, Cass SWCD
- Matt Gutzmann, Itasca SWCD
- Mike Hoffman, Salo Township
- Jeff Hrubes, BWSR
- Susan Klappel, Mille Lacs Band of Ojibwe DNR
- Dave Lange, Hill City Mayor
- Dave Lick, Itasca Waters
- Perry Loegering, Isaak Walton League, Itasca Waters

- Veronica Lundquist, Aitkin SWCD
- Bob Marcum, Salo Township
- Lynn Mizner, Logan Township
- Matt Myer, MN DOT
- Tom Nelson, SWCD
- Mitch Neitge, NRCS
- Dave Peterson, Cass County
- Russ Reisz, MN DNR
- Moriya Rufer, HEI (facilitator)
- Cal Saari, Itasca SWCD
- Janet Smude, Aitkin SWCD
- Austin Steere, Itasca SWCD
- Kevin Stroom, MPCA
- Tim Terrill, Mississippi Headwater Board


Trout Lakes
Designated Trout Streams
Sub-watersheds (HUC10s)
National Forests
Itasca
Cass
Crow Wing
Aitkin
St. Louis
Carlton
Marcell
Deer River
Grand Rapids
Cohasset
Pokegama (Wendigo)
Pokegama (Main Bay)
Warba
Coleraine
Bovey
Marble
Calumet
Nashwauk
Keewatin
Chisholm
Buhl
Hibbing
Judson Mine Pit
Deepwater
Superior National Forest
Chippewa National Forest
Remer
Hill City
Floodwood
Savanna Portage State Park
Palisade
McGregor
Tamarack
Wright
Cromwell
Emily
Loon
Unnamed
Caribou
Spider
Moonshine
Bee Cee
Trout
Bluewater
Kremer
Lucky
Pickerel
Sand Creek
Dark River
Prairie River
Swan (Main Basin)
Spring Creek
Pancake Creek
Smith Creek
Split Hand
Morrison Brook
Big Rice
Thunder
Taylor
Two Rivers Spring
Willow River
Little Andrus
Marion
Margaret
Roosevelt - North
Allen
Big Sandy
Minnewawa
Mississippi River
286
46
38
37
73
6
2
200
169
65
232
210
0 2.5 5 10 Miles


Impaired Streams
by parameter (source: MPCA 2022)
Dissolved Oxygen
Bacteria (E. Coli)
Biology
TSS
Superior National Forest
Chippewa National Forest
Unnamed creek
Prairie River
Swan River
Split Hand Creek
Unnamed ditch
Willow River
Moose River
Mississippi River
White Elk Creek
Tamarack River
Hasty Brook
Minnewawa Creek
Sandy River
Savanna Portage State Park
Chisholm
Buhl
Keewatin
Nashwauk
Hibbing
Marble
Coleraine
Calumet
Bovey
Grand Rapids
Cohasset
Deer River
Warba
Remer
Hill City
Floodwood
Emily
Palisade
Tamarack
Wright
Cromwell
McGregor
Itasca
St. Louis
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Aitkin
Crow Wing
Carlton
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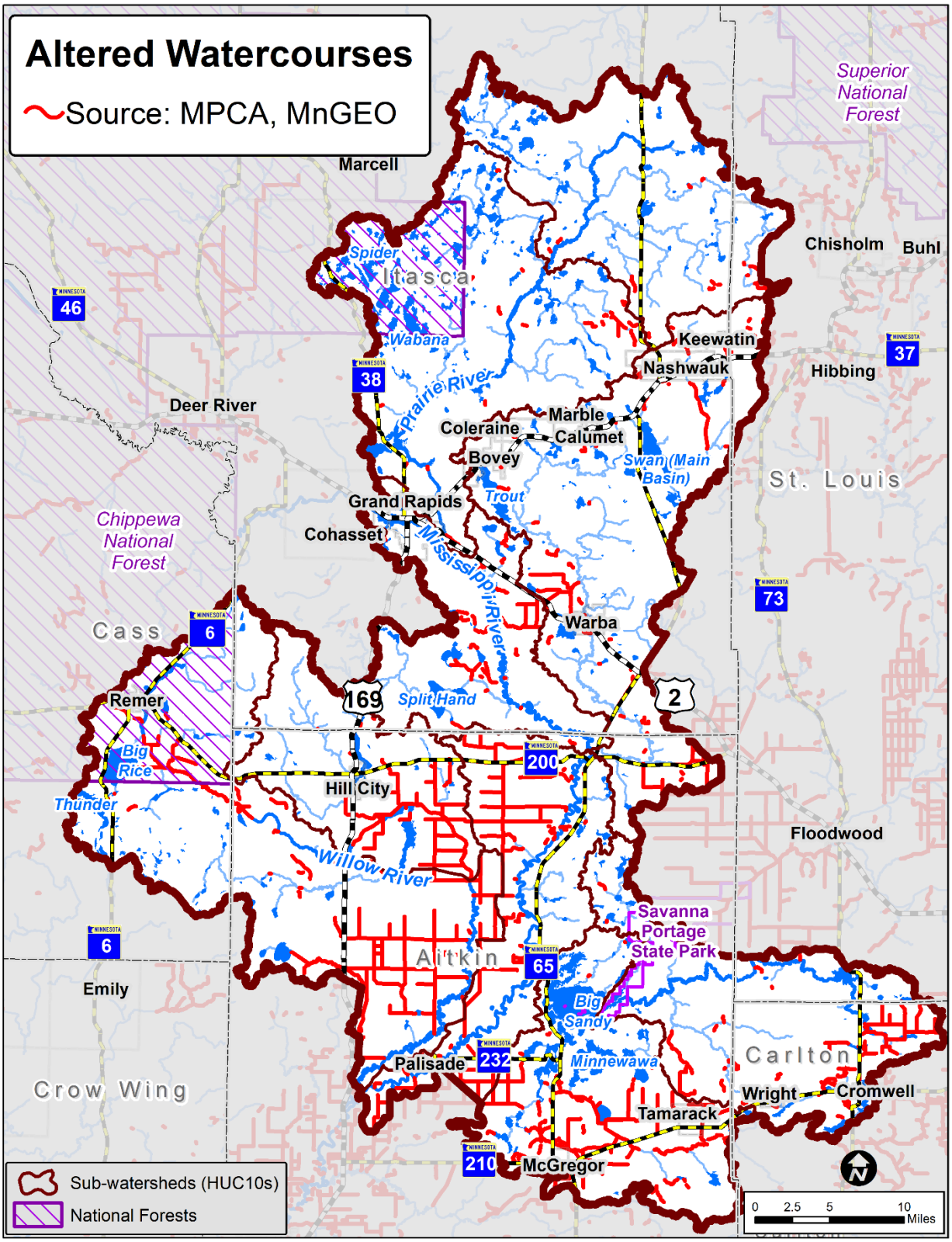
Sub-watersheds (HUC10s)
National Forests
0 2.5 5 10 Miles


Altered Watercourses
Source: MPCA, MnGEO
Superior National Forest
Marcell
Spider
Itasca
Wabana
Chisholm
Buhl
Keewatin
Nashwauk
Hibbing
Prairie River
Deer River
Coleraine
Marble
Calumet
Bovey
Swan (Main Basin)
St. Louis
Grand Rapids
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