



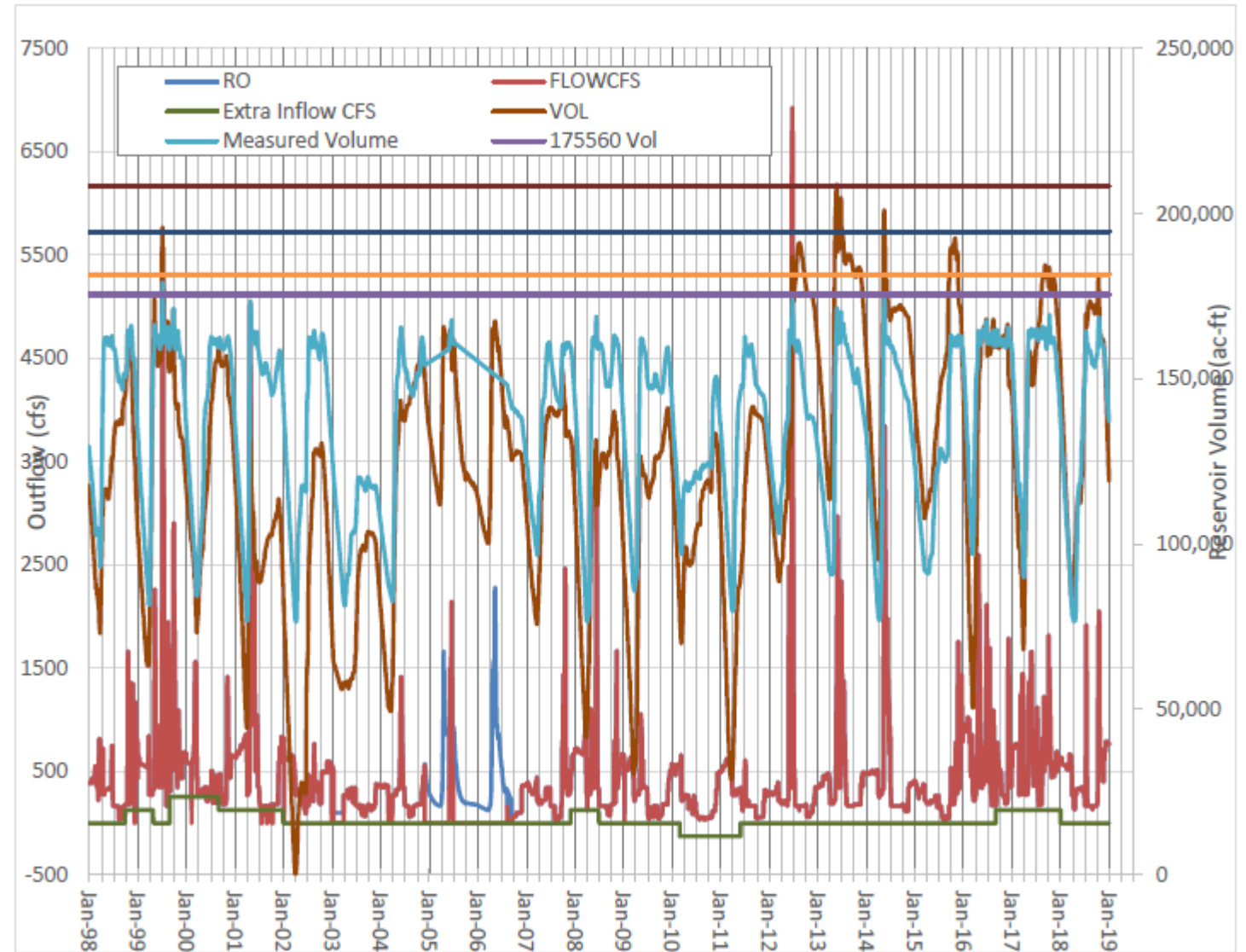
CLOQUET RIVER WATERSHED WRAPS REPORT

Summary of Information for Public Comment Period
Beginning May 4, 2020

WHAT IS A WRAPS REPORT?

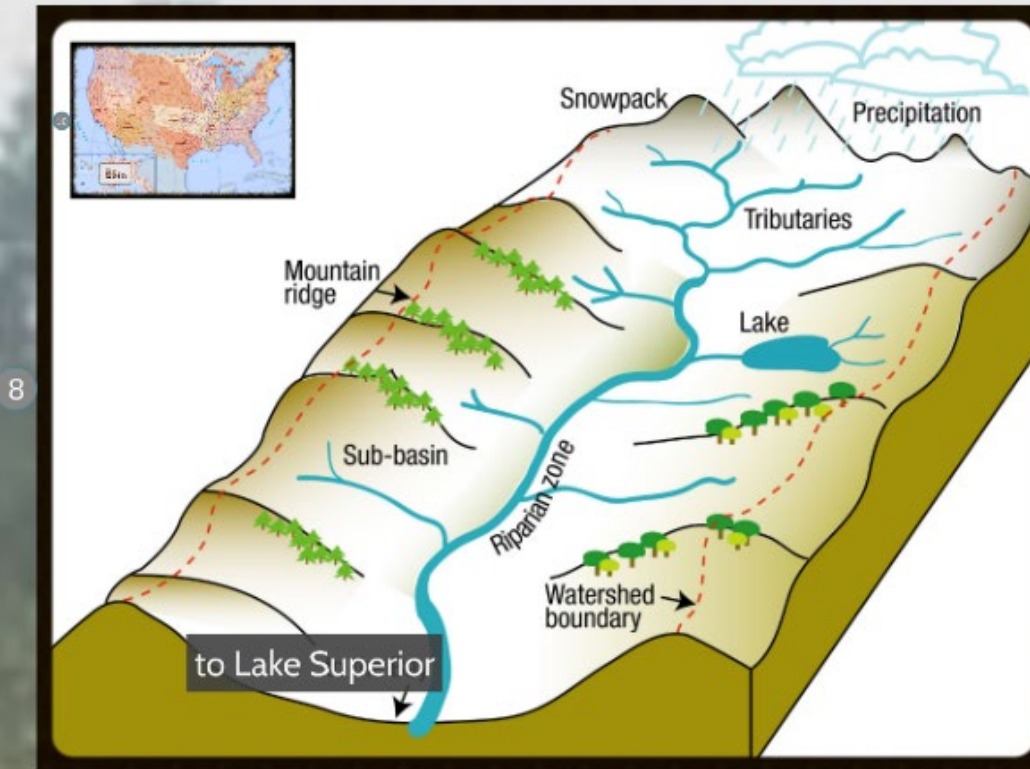
A WRAPS (Watershed Restoration and Protection Strategy) Report is the Final Report that comes out of a period of intensive monitoring, study and modeling by the Minnesota Pollution Control Agency and its local partners in a particular watershed. This is part of a longer, 10-year iterative process called the “Watershed Approach.” Other formal documents that come out of this process are: A Monitoring and Assessment Report (comes out year 2); A Stressor Identification Report (comes out year 4); and Total Maximum Daily Load allocations for any waters impaired for pollutants that are able to be expressed as a daily load. All of these documents are available on the MPCA website.

The reports that come out of the WRAPS process are extremely technical. For example, this graph shows various parameters that were modeled or studied in the Cloquet. You do not need to understand graphs like these to understand how healthy the Cloquet Watershed is. But you can access them in the final WRAPS report if these are of interest to you.



7

What is a Watershed?



One way think about watersheds is like Russian nesting dolls. Watersheds are also composed of nested creeks and rivers - small creeks run into to larger creeks, which run into rivers and eventually a lake or ocean.

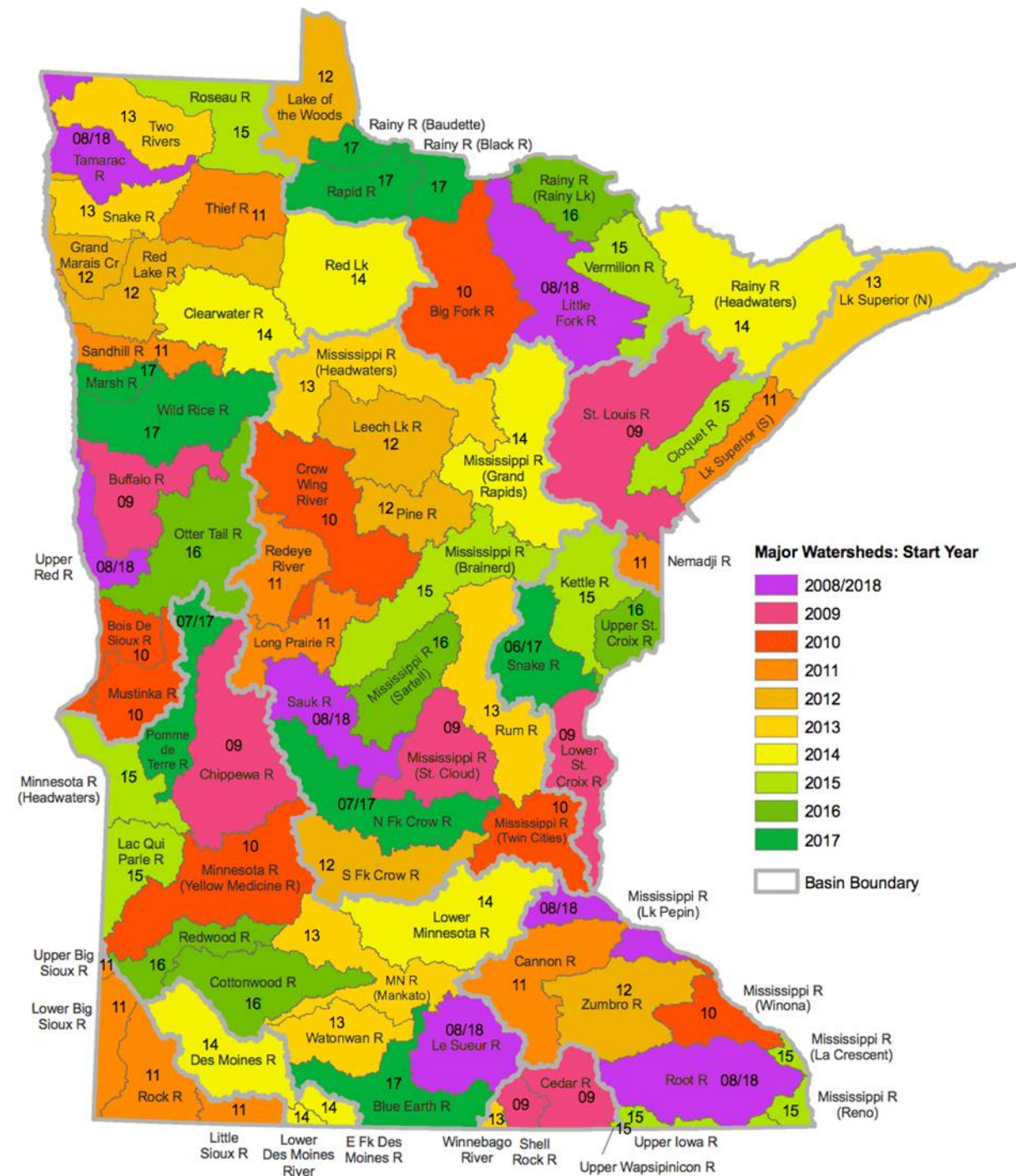




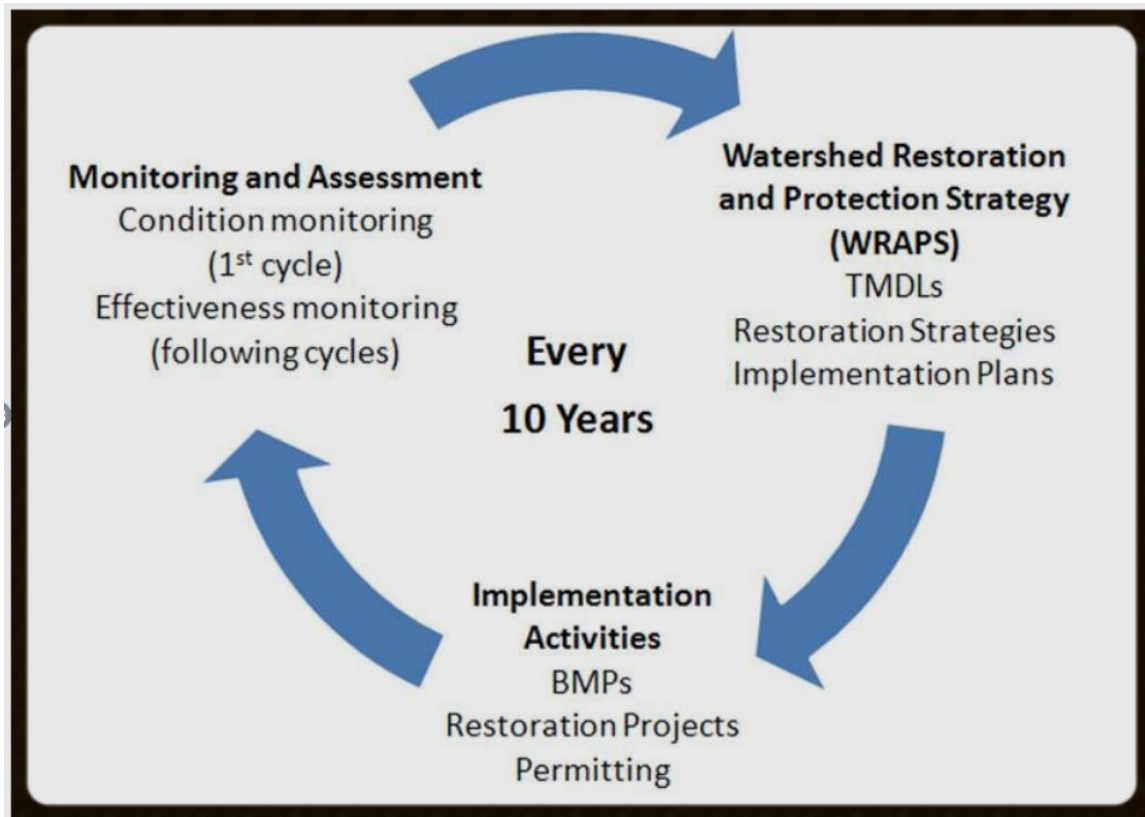
For example, the Mississippi River is a huge watershed – its tributaries include the Minnesota River, Missouri River, and Ohio River, and all of these rivers have their own watersheds. Eventually, the Mississippi flows into the Gulf of Mexico. The Cloquet River is also a Tributary to a larger River – the St. Louis, although in this area, all rivers eventually flow into Lake Superior.

WATERSHED APPROACH

Minnesota has adopted a watershed approach to assess the state's 81 "major" watersheds. This approach looks at the drainage area as a whole instead of focusing on lakes and stream sections one at a time, thus increasing effectiveness and efficiency. The "start year" of each 10-year cycle is shown for each watershed in this map. The first cycle in the Cloquet Watershed started in 2015.



WRAPS PROCESS



The WRAPS process is made up of several smaller processes as illustrated in the diagram at left:

1. Monitoring water bodies and collecting data over two years on water chemistry and biology. Resulting in the Monitoring and Assessment Report.
2. Assessing the data to determine which waters are impaired, which conditions are stressing water quality, and which factors are fostering healthy waters. Resulting in the Stressor Identification Report.
3. Developing strategies to restore and protect the watershed's water bodies. Resulting in the Watershed Restoration and Protection Strategies (WRAPS) Report.
4. Coordinating with local One Watershed-One Plan efforts for implementation of restoration and protection projects. Separate, but parallel locally – led planning effort overseen by the Board of Water and Soil Resources.

CLOQUET RIVER WATERSHED CHARACTERISTICS



The Cloquet River Watershed is located in northeastern Minnesota within the Lake Superior Basin.



The watershed spans approximately 793 square miles in St. Louis and Lake Counties.



The watershed is upstream of the St. Louis River Watershed and the St. Louis River Estuary AOC.



Land cover in the watershed is predominantly forest and wetlands with few developed areas.



Development in the watershed is limited to a portion of the Duluth International Airport and cabins and associated infrastructure around the reservoir lakes.



Major townships include Grand Lake, Pequaywan and Fredenberg.

ADDITIONAL WATERSHED INFORMATION



The Cloquet Watershed has been historically used for logging, trapping, fishing and recreation with those uses continuing today.



The watershed has a high % of public lands with about 50% state land, 13% federal land and 1% county land. The Fond du Lac Band also owns land in the watershed.



Allete, Inc. and Potlatch Corp. are large landowners in the watershed including the reservoir hydroelectric facilities of Island Lake, Fish lake and Boulder Lake.



Portions of the Cloquet Valley State Forest and the Superior National Forest are located within this watershed.



The watershed is within the 1854 Ceded Territory where Band members from Bois Forte, Grand Portage and Fond du Lac retain rights to hunt, fish and gather.



The Cloquet River is one of 35 MN State Water Trails.



WHAT IS THE GOAL OF THIS REPORT?

The goal of this report is to provide the most scientifically accurate data to professionals, agencies and citizens who work, live or study in the watershed. The report provides information on which waterbodies are impaired or on the brink of becoming impaired, and which are doing just fine. This information helps people decide where to spend limited funding and attention and what will have the greatest positive impact immediately and over time for the watershed.

WHAT DOES THE DATA SHOW?

During the first phase of the watershed approach – intensive watershed monitoring – the MPCA collected data about biology such as fish populations, chemistry such as pollutant levels, and flow to determine if streams were meeting water quality standards designed to ensure that waters are fishable and swimmable. Waters are “impaired” if they fail to meet standards.

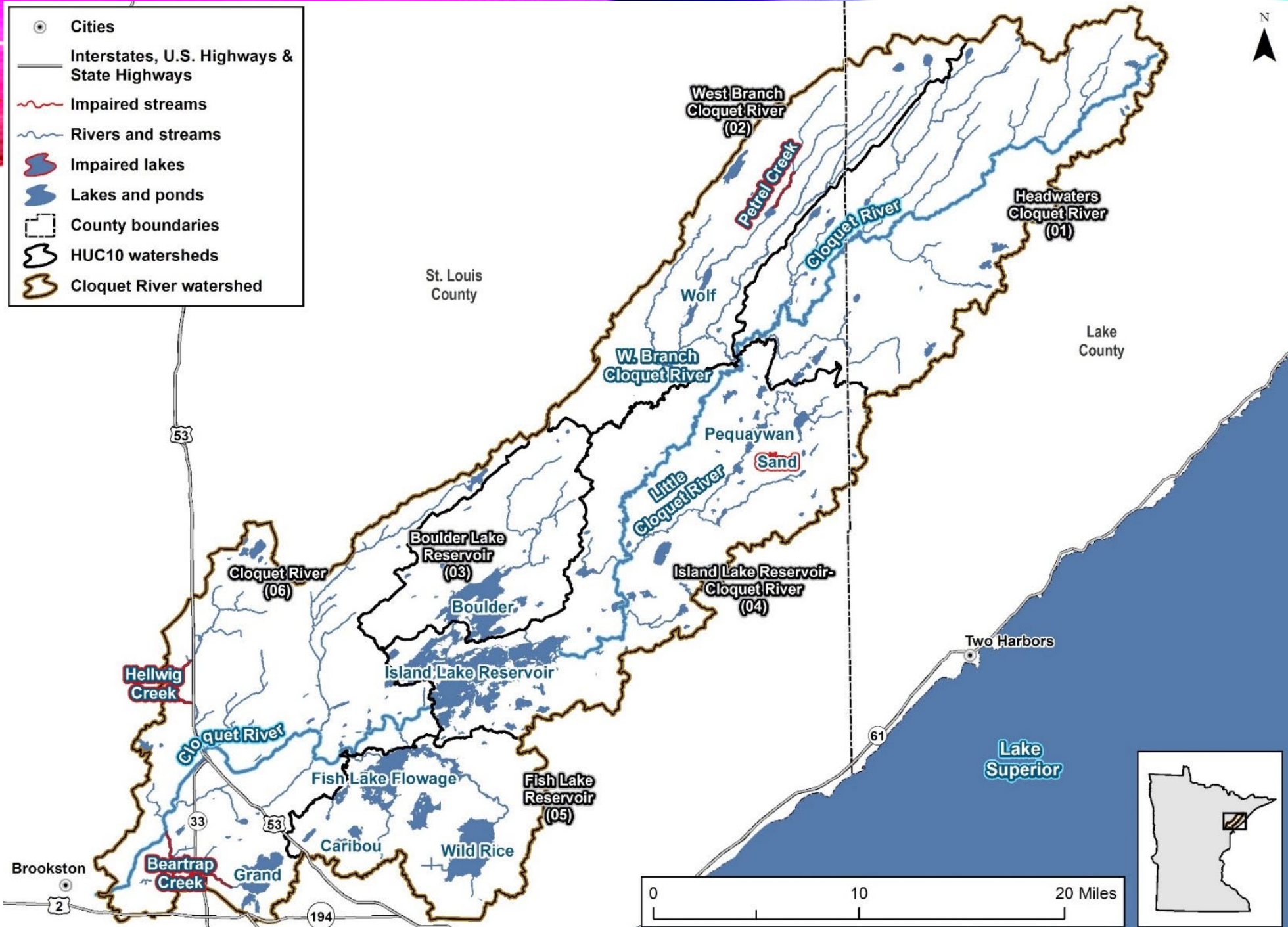


WATER QUALITY RESULTS- SUMMARY



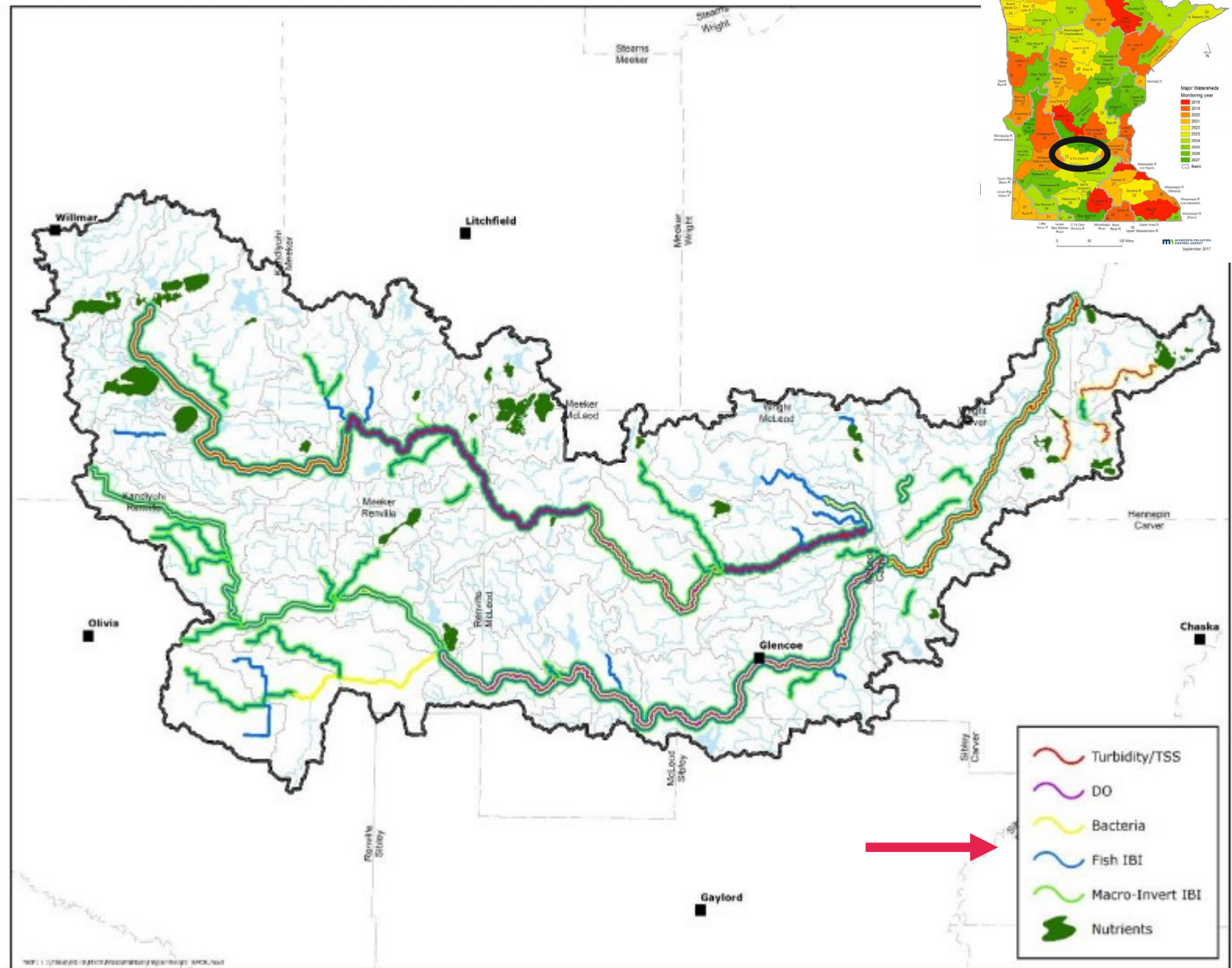
- Only three streams were found to be impaired in the Cloquet: Hellwig, Beartrap and Petrel. Two of the impairments were attributed to non-pollutant stressors (e.g., lack of quality physical habitat, loss of connectivity), and Petrel was impaired due to natural causes.
- Only one lake did not meet the aquatic recreation standards – Sand Lake. However, this impairment is caused by the shallowness of the lake and by natural conditions, not due to human impacts.
- *See next slide for map.*

- Cities
- Interstates, U.S. Highways & State Highways
- ~ Impaired streams
- ~ Rivers and streams
- Impaired lakes
- Lakes and ponds
- County boundaries
- HUC10 watersheds
- Cloquet River watershed



Compare the relatively pristine nature of the Cloquet to the South Fork Crow River Watershed in southern Minnesota. Watersheds in the southern Part of the State manifest many more impairments than the watersheds in the northern parts of the state, due to the high amount of urban and agricultural uses in these watersheds.

Figure 3: South Fork Crow River Watershed Impairments



Areas of High Biodiversity

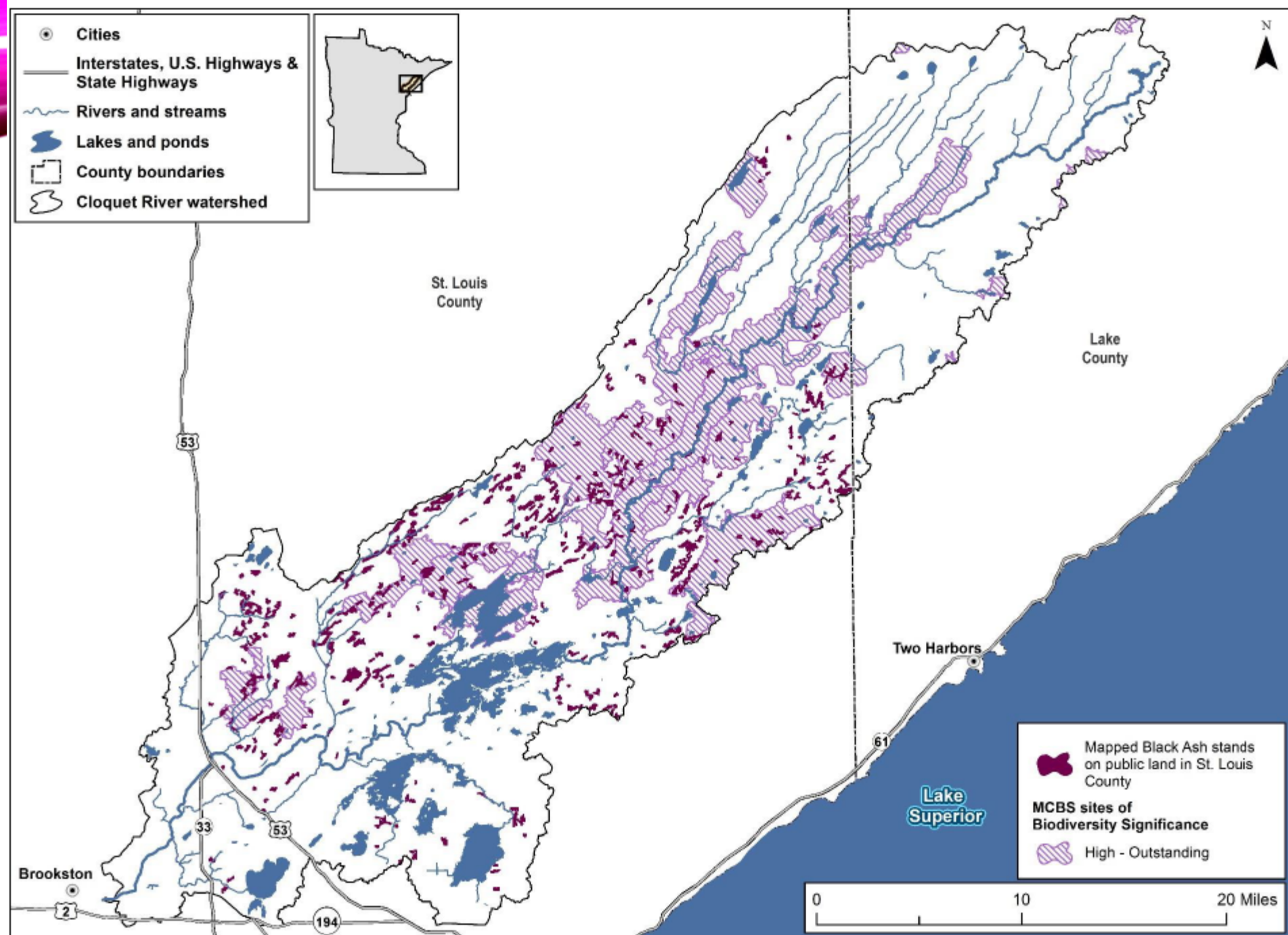


Figure 23. Targeted geographic areas for forestry management.

Sub- Watershed Heath

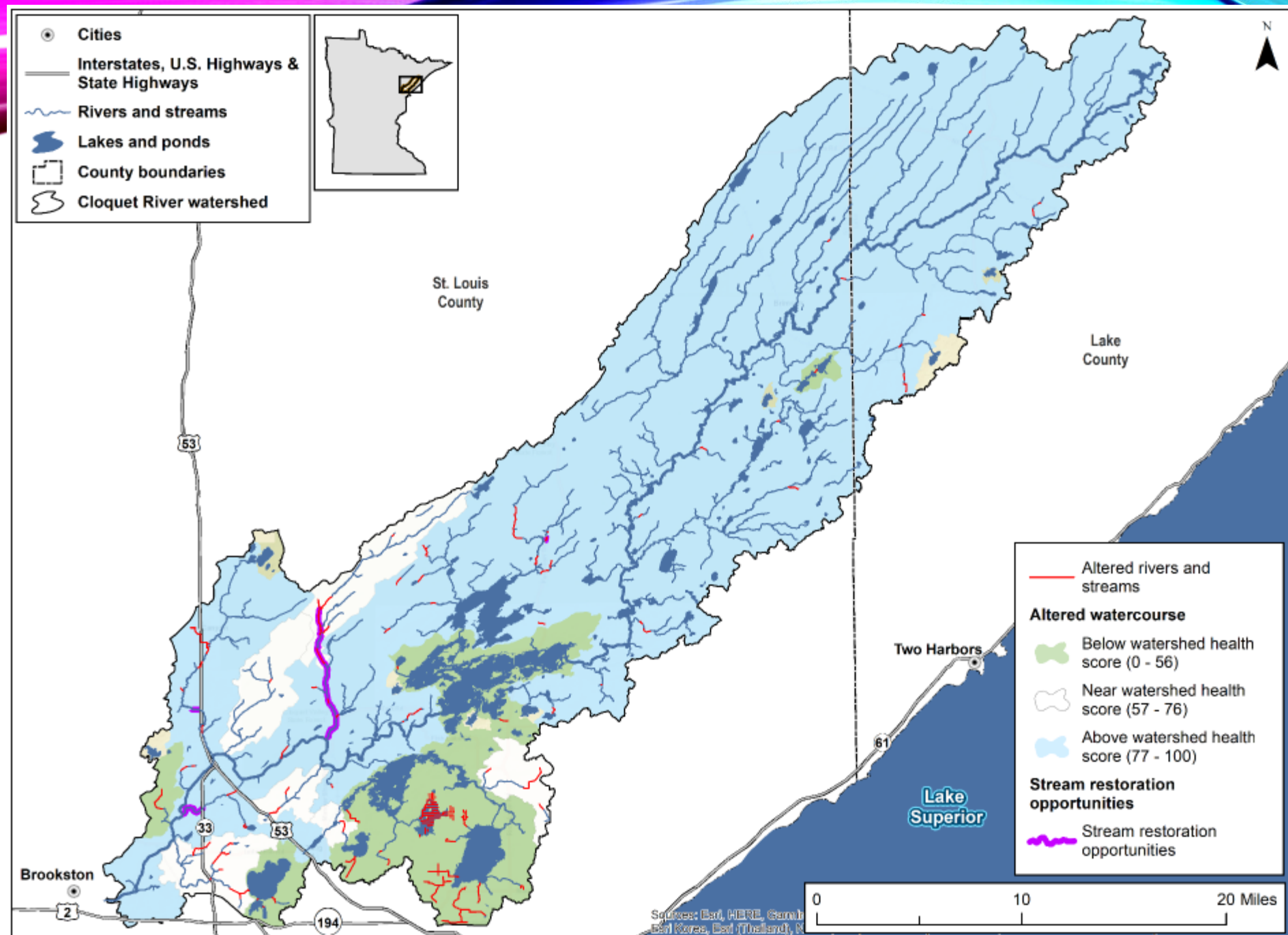


Figure 25. Targeted geographic area for stream bank restoration and protection.

Wild Rice
Lakes

Priority
Lakes

Lakes with
Associations

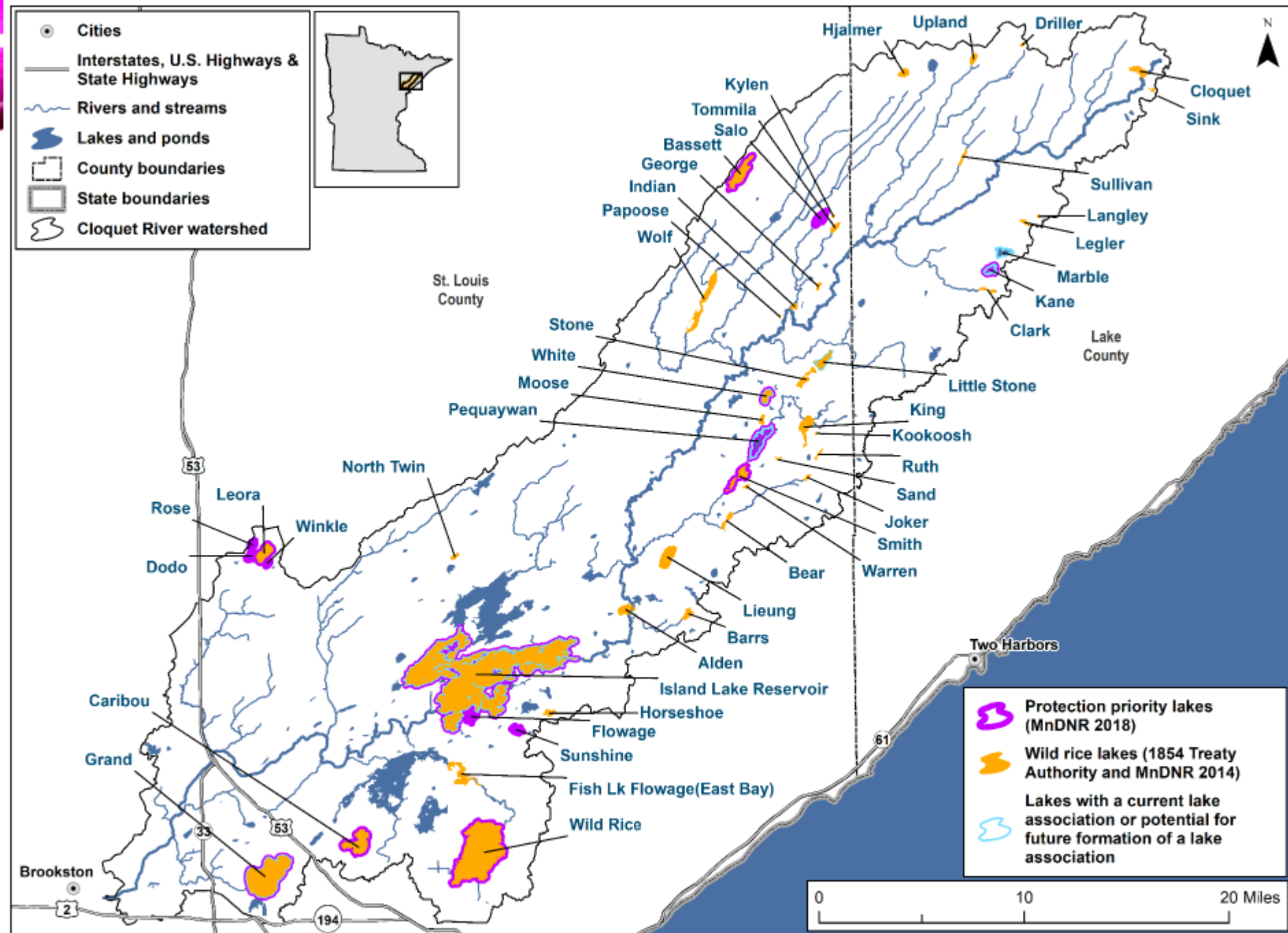


Figure 26. Targeted geographic areas for lake management.

WILD RICE WATERS

Wild rice waters are unique and valuable resources in the Cloquet River Watershed and have high cultural significance to the Lake Superior Chippewa tribes. As such, they are important to consider for protection. The preservation of wild rice waters is a consideration in planning efforts. The DNR maintains a data set of waters containing wild rice in the state of Minnesota. In addition, the 1854 Treaty Authority conducts ongoing wild rice surveys within the 1854 Ceded Territory.

Impaired Waters in the Cloquet Watershed

Bear Trap Creek

- Habitat and connectivity limitations are contributing to low index of biological integrity (IBI) scores
- 5 of 17 road crossings evaluated along Bear Trap Creek were determined to be full or partial barriers to fish movement and connectivity.
- 12 of 17 road crossings evaluated along Bear Trap Creek are undersized for the hydrology of the stream and impact connectivity.
- Warmer water temperature, numerous beaver impoundments, lack of shading from tree canopy cover, and lack of coarse substrates (gravel to spawn in) lead to less than ideal coldwater habitat in the creek.

Hellwig Creek

- Beaver dams are influencing habitat conditions in Hellwig Creek.
- Flow diversion into the road ditch along Shipley Road is influencing habitat conditions in Hellwig Creek.
- The watershed for Hellwig Creek is predominantly bogs and wetlands with minimal human influence. Water from these areas is naturally low in dissolved oxygen and may contribute to lower dissolved oxygen levels in the upper reaches of Hellwig Creek.
- Dissolved oxygen levels increase markedly with the downstream reaches of Hellwig Creek.

AT-RISK STREAMS

The data shows that some streams are not impaired but are “on the brink” and could become impaired in the near future, if action is not taken to protect them. These streams are listed in Table 9:

Table 9. Priority Cloquet River Watershed streams for protection as identified in the statewide interagency effort.

HUC-10 subwatershed	Stream name (AUID)	Community nearly impaired ^a	Riparian risk	Current protection level	Priority protection class
West Branch Cloquet River (0401020202)	Nelson Creek (528) ^b	one	med/high	med/high	B
Island Lake Reservoir–Cloquet River (0401020204)	Coyote Creek (584)	one	med/low	high	B
	Beaver River (503)	one	med/low	medium	B
Cloquet River (0401020206)	Challberg Creek (533)	both	med/low	med/low	A
	Cemetery Creek (532)	one	med/high	medium/low	A

a. “one” indicates that either the macroinvertebrate or the fish community in this stream reach is close the applicable IBI threshold. “both” indicates that both communities are close to their IBI thresholds.

KEY CONCLUSIONS OF THE FIRST CYCLE

01

The Cloquet River Watershed is extremely healthy. This is due to the relative remote and heavily forested nature of the watershed.

02

The stressors to aquatic life (fish and bugs) in the watershed are largely due to lack of quality physical habitat and improperly sized road crossings over streams.

03

The biological impairments found in the Watershed are on relatively small streams. This suggests that there are not widespread, systematic stressors throughout the watershed, but rather ones that are more local in both cause and effect.

RESTORATION AND PROTECTION STRATEGIES

Strategies for addressing the identified issues in the Cloquet River Watershed include:

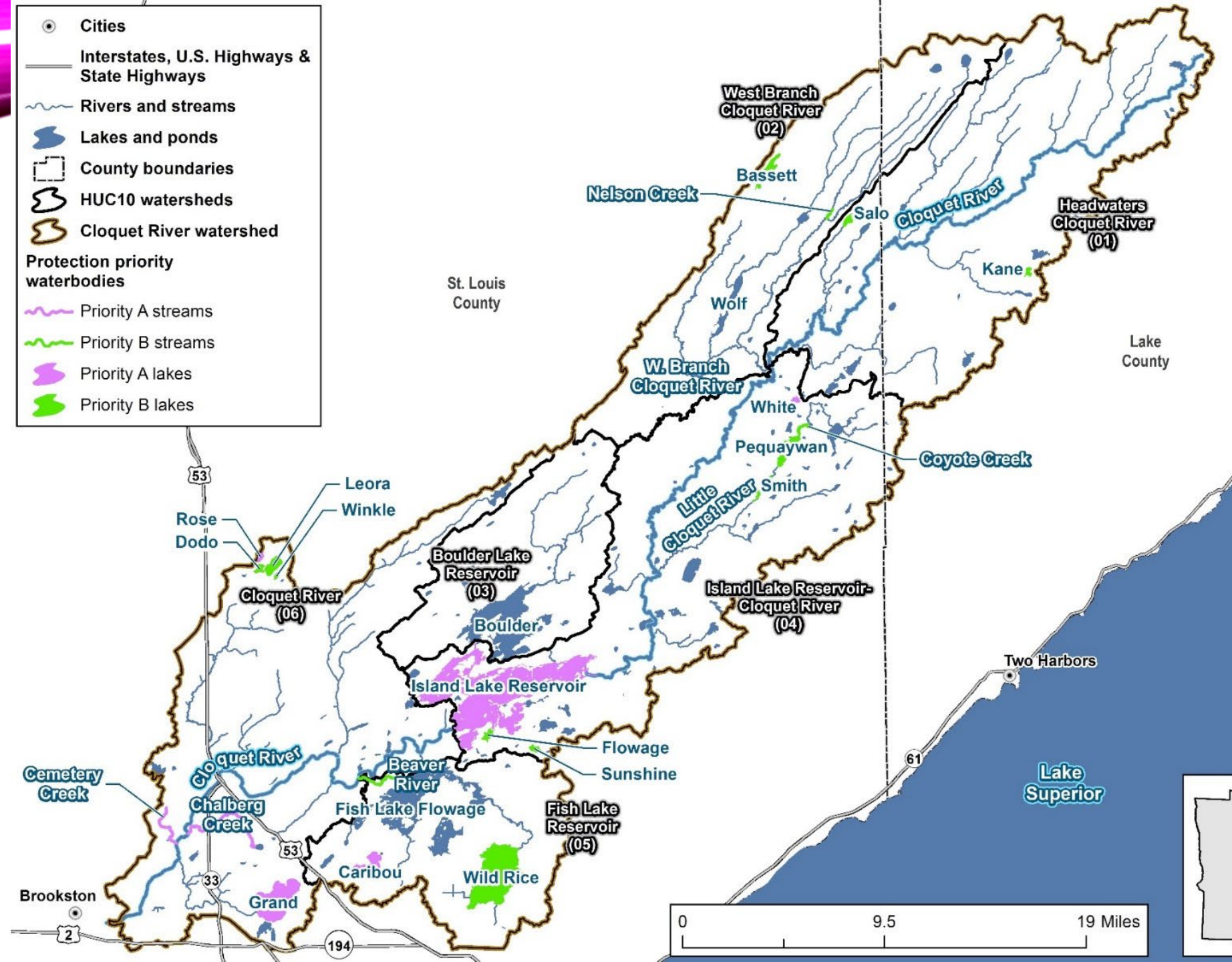
1. Promoting shoreland protection
2. Implementing programs for forest protection to maintain healthy working forests on private lands
3. Restoring altered stream hydrology

TARGETED RESTORATION & PROTECTION



Over the course of this process, the MPCA and its local partners and consultants identified areas in which to target limited funding and staff resources over the next decade or so to protect those waterbodies that are healthy and to keep those creeks and lakes that are “on the brink” of becoming impaired from deteriorating. The targeted areas are shown in the map on the next slide and are identified as Priority A and Priority B.

Priority areas for restoration & protection





WHAT HAPPENS NEXT?

It is the intent of the implementing organizations in this watershed to make steady progress in terms of pollutant reduction. Factors that may mean slower progress include limits in funding or landowner acceptance, challenging fixes (e.g., unstable bluffs and ravines, invasive species), and unfavorable climatic factors. Conversely, there may be faster progress for some impaired waters whose watersheds do not have these factors.

WHAT CAN I DO?

Protecting and restoring our state's myriad lakes and streams can not fall solely on the State. There are just too many of them! In addition, people who own land or hunt, fish or vacation near or on our beloved lakes and streams know those resources best. Minnesotans can help by participating in meetings, demonstrating good land use practices and cooperating with SWCDs or other agencies that may request access to the streams on their property or permission to restore a stretch of stream or shoreline.



The Minnesota Pollution Control Agency (MPCA) leads the technical work and coordinates and supports strategy development with local partners. Implementation is the focus of the second half of the 10-year cycle. It is expected that once the locations and causes of impairments are discovered and formally documented, local partners like Soil and Water Conservation Districts, Watershed Districts, conservation organizations and municipalities will use the information to focus restoration and protection activities on those priorities that have been identified. The One Watershed, One Plan Process, a BWSR Program, is the sister process to the WRAPS report and is intended to leverage funding to implement the actions set forth in the Final One Watershed One Plan report, as supported by the data contained in the WRAPS reports.

LOCAL PARTNERS



The One Watershed, One Plan process for the St. Louis River Planning area includes the Cloquet River Watershed. This process is just starting.

Information can be found at this website or by calling the South St. Louis Soil and Water Conservation District.



WWW.SOUTHSTLOUISSWCD.ORG/1W1P



Full report

Full reports as well as supporting documents can be found at: <https://www.pca.state.mn.us/water/watersheds/cloquet-river> or search “Cloquet River Watershed” on the MPCA website.

Contacts

MPCA Project Manager - Tom Estabrooks
tom.estabrooks@state.mn.us 218-302-6608
South St. Louis SWCD – Kate Kubiak
kate.kubiak@southstlouisswcd.org
218-576-8068

