

# Lower Cloquet River 1W1P Measurable Goals

SSL SWCD





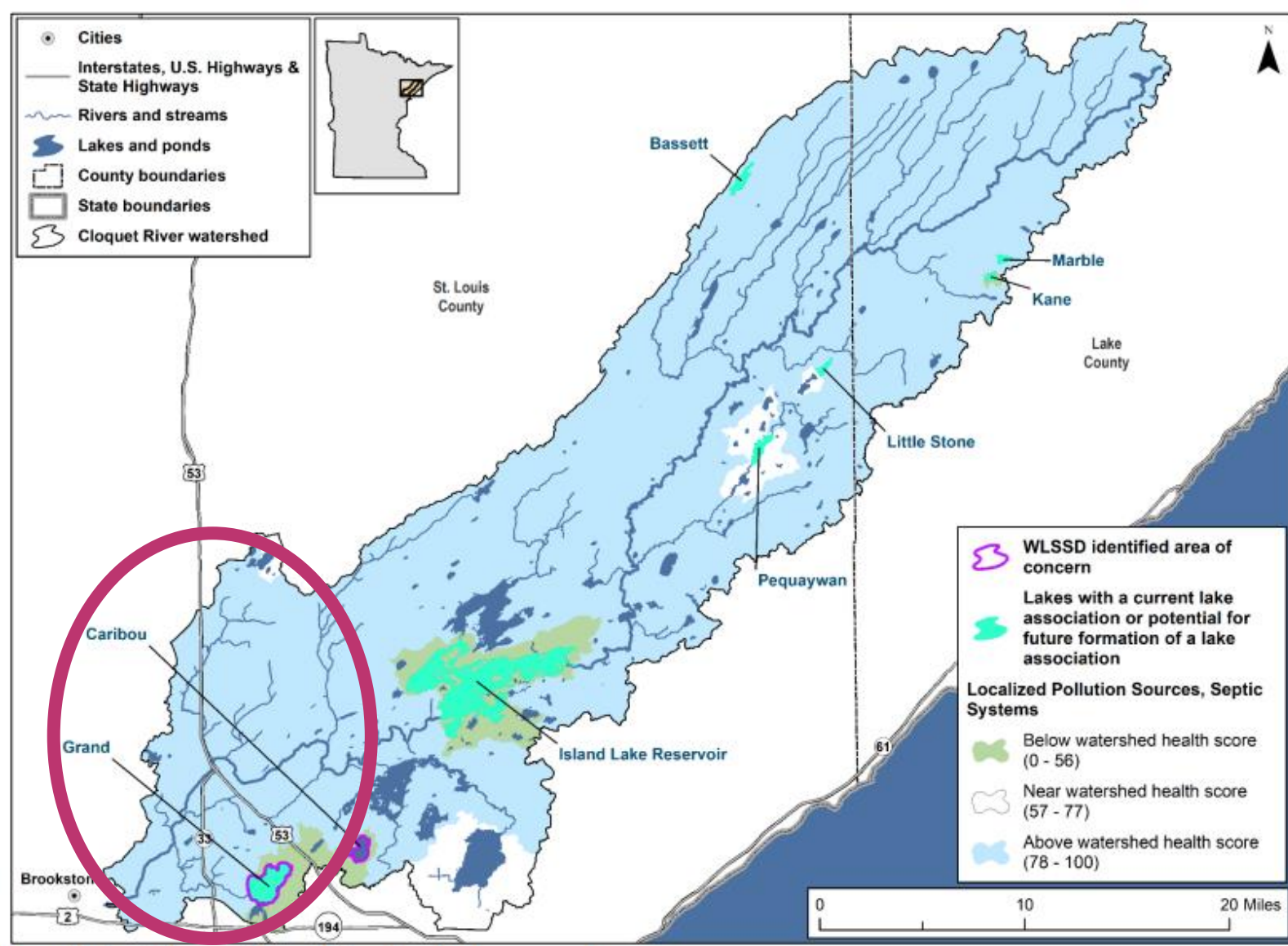
# Water Quality



# Septic Systems

- ▶ Identify and address ground and surface water quality problems stemming from inadequate wastewater treatment by supporting the enforcement of SSTs ordinances and inventory and upgrade **X%** of non-compliant systems in priority areas.

# What are the priority areas?



# Grand Lake

- ▶ Work with WLSSD



# Septic Systems

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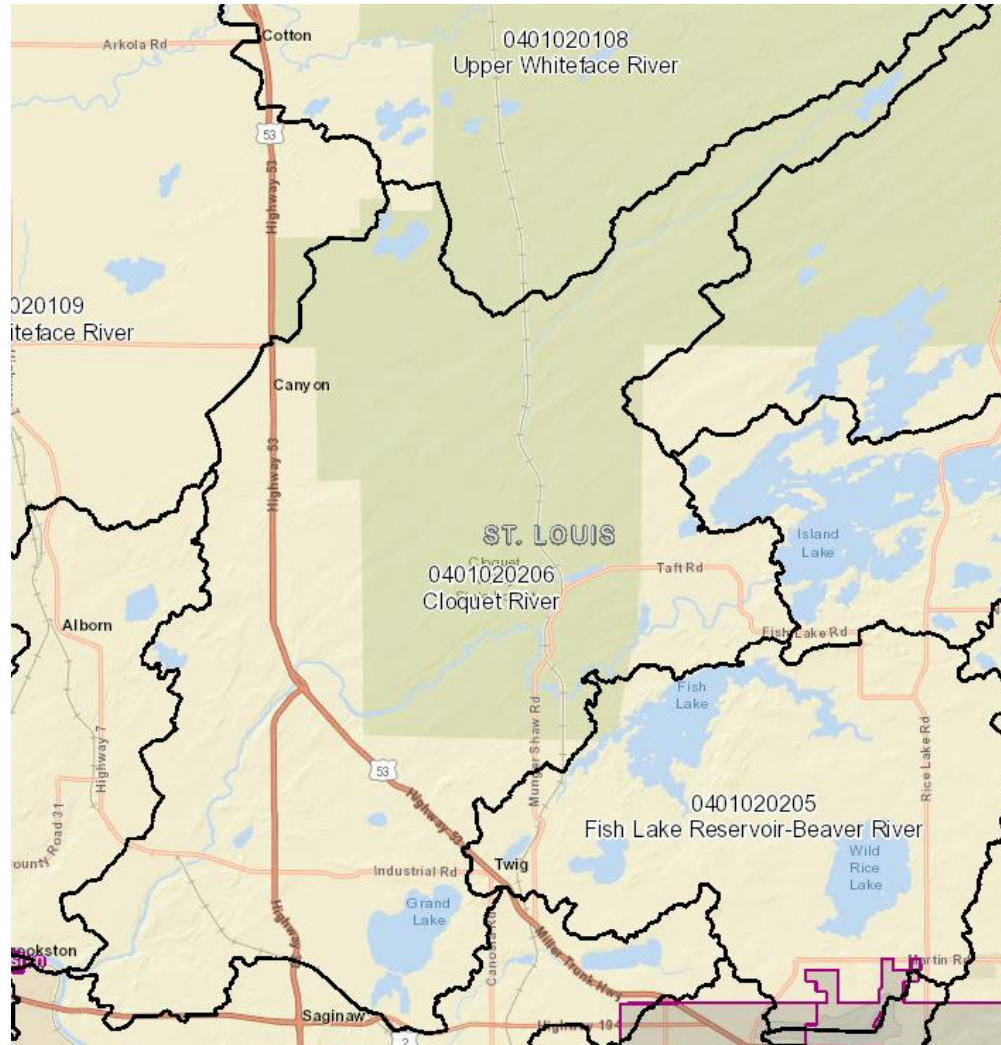
# Pollutants

- Manage chlorides reaching surface and ground water from road salts and water softener salts by ensuring X% of municipalities have Smart Salt Certified Staff,
- X% Communities achieved Level 2 Certified,
- Education & outreach to X% of priority landowners.



# Who are the Municipalities?

## ► St. Louis County



# Pollutants

- Manage chlorides reaching surface and ground water from road salts and water softener salts by ensuring **100%** of municipalities have Smart Salt Certified Staff,
- **100%** Communities achieved Level 2 Certified,
- Education & outreach to **X%** of priority landowners.

# Who are the priority landowners?

- ▶ Commercial landowners and/or landowners with >10 acres of land

# Pollutants

- Manage chlorides reaching surface and ground water from road salts and water softener salts by ensuring **100%** of municipalities have Smart Salt Certified Staff,
- **100%** Communities achieved Level 2 Certified,
- Education & outreach to **X%** of priority landowners.



# Land Use



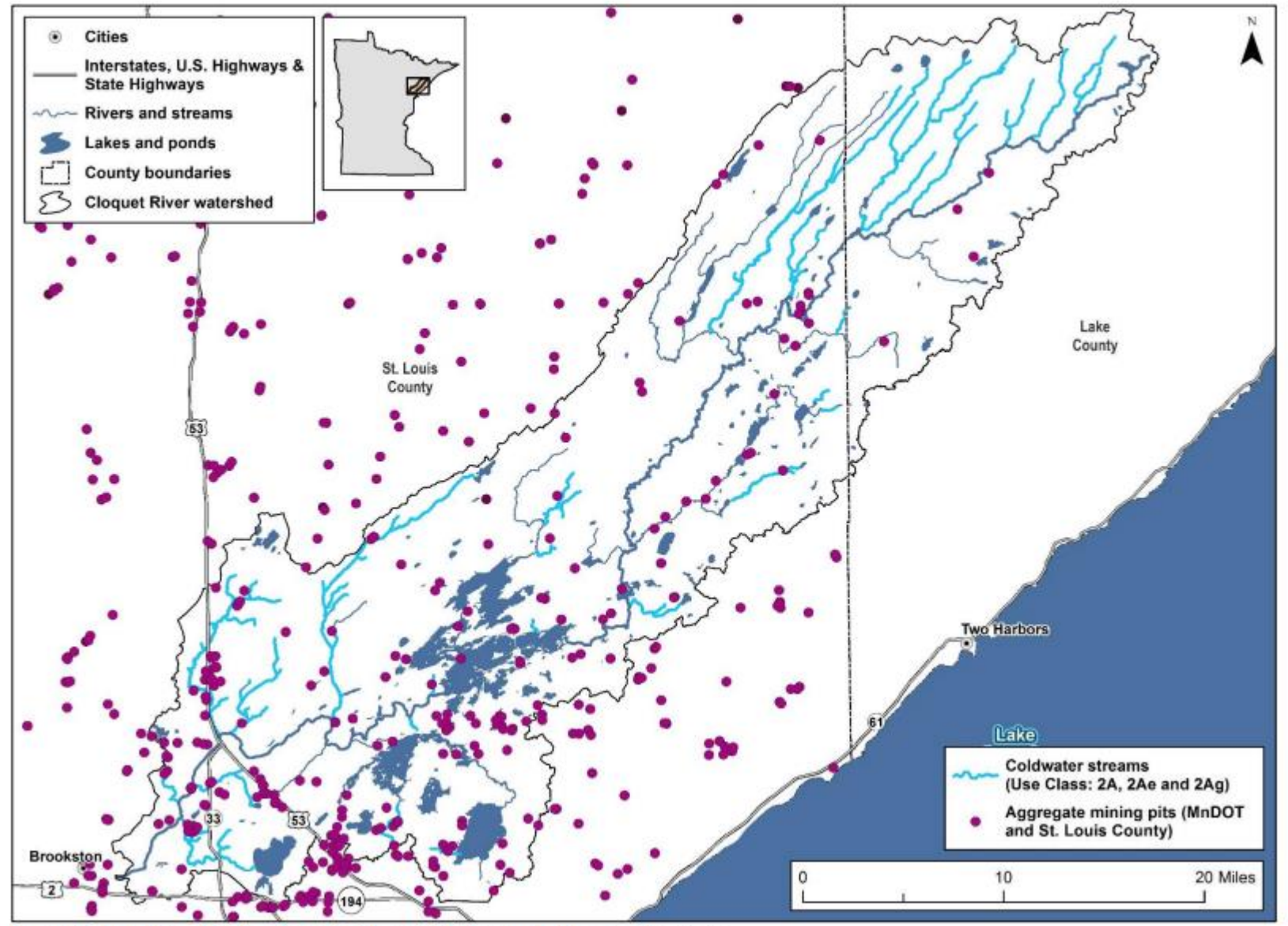


# Aggregate Mining

- Evaluate impacts of aggregate mining at **X %** of high priority sites that have the potential to impact sensitive surface and ground water resources.

# What are the high priority sites?

- ▶ Hellwig Creek Watershed
- ▶ Beartrap Creek Watershed
- ▶ We can address aggregate mining in both of these priority watersheds = 100%



# Aggregate Mining

- Evaluate impacts of aggregate mining at **100 %** of high priority sites that have the potential to impact sensitive surface and ground water resources.

# Altered Hydrology





# Fish Passage Barriers

- Reconnect **X miles** of priority streams and tributaries to benefit aquatic life and improve water quality.



# Priority Crossings

Stream Name	Street Name	Upstream Miles	Tier
Beartrap Creek 1	Railroad upstream of CR 694	11.23	2
Beartrap Creek 2	MN 33	9.38	2
Beartrap Tributary #2	Beartrap Rd - CR 872	0.58	3
Beartrap Tributary #3	Industrial Rd - CR 7	0.85	3
Hellwig Creek	Swan Lake Rd	31.92	1
Hellwig Creek Tributary	MN 53 - Northbound	1.82	3
Hellwig Creek Tributary	MN 53 - Southbound	1.79	3

- Prioritize Tier 1 and 2 crossings
- We could replace 2 of these 3
- Average length for 2 = 35 miles

# Fish Passage Barriers

- Reconnect **35 miles** of priority streams and tributaries to benefit aquatic life and improve water quality.



# Channel Stability

- Restore stream reaches that have been altered by human activity, including impounded, straightened, and incised stream reaches on **X Linear Feet** of high priority streams and tributaries.

# Priority Reaches

Stream	Length (feet)	Location
Chalberg	1,600	HWY 8
Hellwig	1,400	Shipley Road



# Channel Stability

- Restore stream reaches that have been altered by human activity, including impounded, straightened, and incised stream reaches on **3,000 Linear Feet** of high priority streams and tributaries.



# Habitat



# Forest Fragmentation and Loss

- Protect & manage **X acres** of private owned forests in areas that protect surface water, drinking/groundwater water quality and riparian habitat.

# St. Louis River LSP

- ▶ The watershed is 83% forested, so focus on Protection
- ▶ Prioritize - (WRAPS report)
  - ▶ Streams - Chalberg Creek, Cemetery Creek,
  - ▶ Lakes - Grand, Rose, Dodo and Leora
- ▶ 8,569 acres to be protected (LSP)
  - ▶ We can achieve half of this.

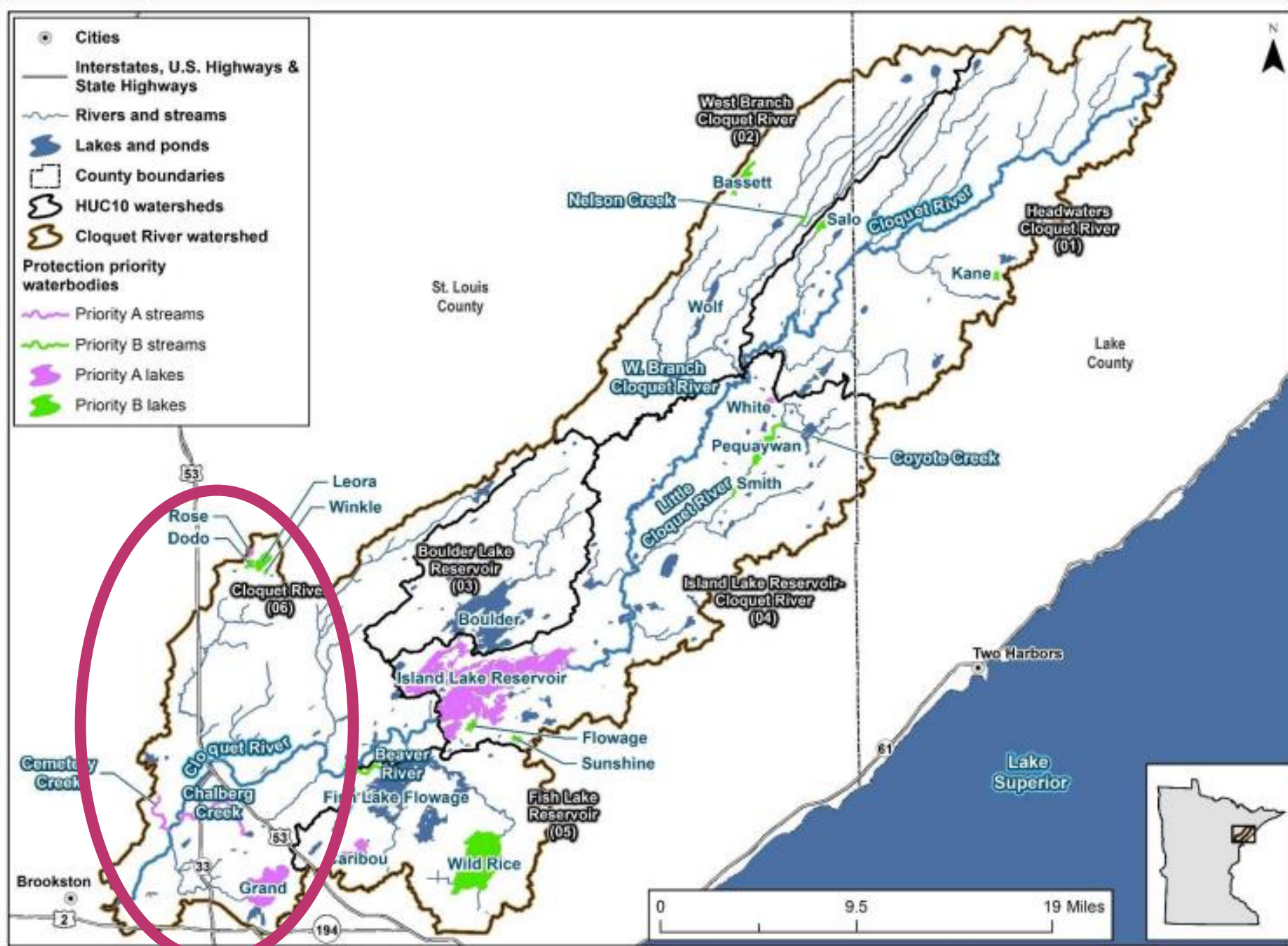


Figure 9. Priority waterbodies for protection in the Cloquet River Watershed as identified in statewide interagency effort.



# Forest Fragmentation and Loss

- Protect & manage 4,250 acres of private owned forests in areas that protect surface water, drinking/groundwater water quality and riparian habitat.



# Aquatic, Riparian, and Shoreland Habitats #1

- Shoreline ordinances are updated, developed, and enforced for **X %** of municipalities with priority resource shoreline areas.

# Who are the municipalities?

- ▶ St. Louis County



# Aquatic, Riparian, and Shoreland Habitats #1

- Shoreline ordinances are updated, developed, and enforced for **100 %** of municipalities with priority resource shoreline areas.

# Aquatic, Riparian, and Shoreland Habitats #2

- **X % (or feet)** of shoreline in prioritized lakes and streams have natural buffers and near shore areas are protected and restored to reduce erosion using bank stabilization, bioengineering, etc. techniques.

# Priority Stream Reaches

Stream	Length (feet)	Location
Chalberg	1,600	HWY 8
Hellwig	1,400	Shipley Road





# Other Priority Areas listed in the WRAPS and Stressor ID reports

**Table 17. Target areas for riparian corridor enhancements and possible cattle exclusion projects.**

Beartrap Creek Reach (Coordinates)	Recommendations
BCR 13 (46.878092°/ -92.491193°)	Fencing - Reduce cattle access to stream
BCR 14 (46.876495°/ -92.490944°)	Fencing - Reduce cattle access to stream; Plantings of trees, shrubs, native grasses/plants
BCR 15 (46.872587°/-92.494279°)	Fencing - Reduce cattle access to stream; Plantings of trees, shrubs, native grasses/plants

About of 1,000 feet of shoreline  
each.

# Aquatic, Riparian, and Shoreland Habitats #2

- 6,000 feet of shoreline in prioritized lakes and streams have natural buffers and near shore areas are protected and restored to reduce erosion using bank stabilization, bioengineering, etc. techniques.

# Aquatic, Riparian, and Shoreland Habitats #3

- Protect/Restore **x%** of high priority wild rice stands/populations (water levels, disturbance, shoreland development).

Where are the priority rice stands?



# Aquatic, Riparian, and Shoreland Habitats #3

- Protect/Restore **x%** of high priority wild rice stands/populations (water levels, disturbance, shoreland development).

# Lower Cloquet River Goals – Final Notes

- We should include Sturgeon stocking into the plan. Stocking activities are not eligible for 1W1P funding, but habitat improvement could be.
- Consider targeting some of the forest protection where there is gravel mining potential to protect cold water inputs to trout streams.