

2024 Summary of Activities Conducted by Mitch Brinks

TSA8 Geographic Information Systems (GIS) Specialist

Overall Summary:

Below is a summary of the work plan items from my current contract with North Central Minnesota Joint Powers Board (TSA8). The contract was originally signed March 3-29-2023 and re-authorized on 12-4-2024.

1. Assist TSA8 Districts/Counties with GIS Support, specifically mapping support for One Watershed One Plans
2. Maintain annual watershed protection data & provide training/workshops on the protection model
3. Provide general GIS assistance and training as needed

Individual Work Plan Components Summary:

1. Mapping and Support to TSA8

One Watershed One Plan (1w1p) Accomplishments:

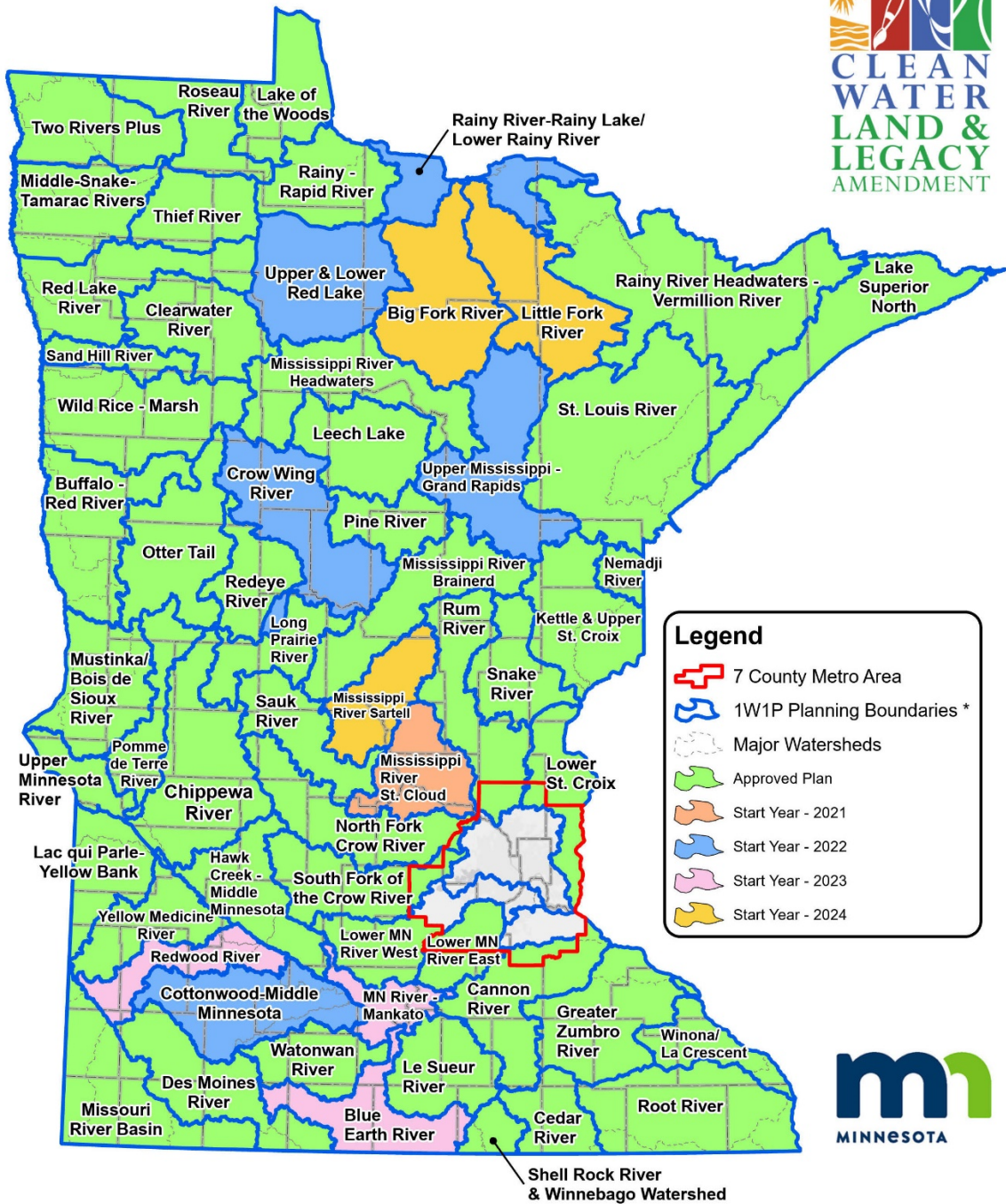
- Mississippi River Grand Rapids 1w1p (Itasca & Cass SWCDs)
 - Finished mapping for plan
- Rainy River Rainy Lake 1w1p (Koochiching SWCD)
 - Finished mapping for plan
- Crow Wing River 1w1p (primary SWCDs: Hubbard, Cass, Crow Wing & Wadena SWCDs)
 - Finished mapping for plan
- Upper & Lower Red Lake (primary SWCDs: Beltrami, Koochiching SWCDs)
 - Finished mapping for plan

Figure 1 on the next page shows these four watersheds in blue shading on the map. These were started in 2023 and completed in 2024 with formal BWSR approval expected in early 2025. They represent four of the six remaining watersheds in TSA8 (with the Big Fork River and Little Fork River 1w1ps to start in 2025). Providing maps and analysis (+meetings) for these watershed planning efforts represented nearly 40% of my hours in 2024 (see Table 1 on page 6).

Once completed, the final mapping data was also provided to the plan writing contractor (Houston Engineering) & local SWCDs. Priority areas layers were typically incorporated into a webmap.

One Watershed, One Plan

Participating Watersheds



*Not legal boundaries; intended for planning purposes through One Watershed, One Plan only.

September 2024

Figure 1: One Watershed One Plan Status Map (September 2024)

Landscape Stewardship Plans (LSPs)

Landscape Stewardship Plans (LSPs) are DNR-funded forestry plans focused on private forest landowners that own more than 20 acres of land. They provide forest protection and forest management recommendations for One Watershed One Plans. In addition, they provide the Riparian, Adjacency, Quality (RAQ) scores for all 10+ acre private parcels in the watershed.

No LSPs were conducted in TSA8 in 2024. There are plans in 2025 to begin work on the watersheds in red in Figure 2 (below), which includes the Little Fork River watershed.

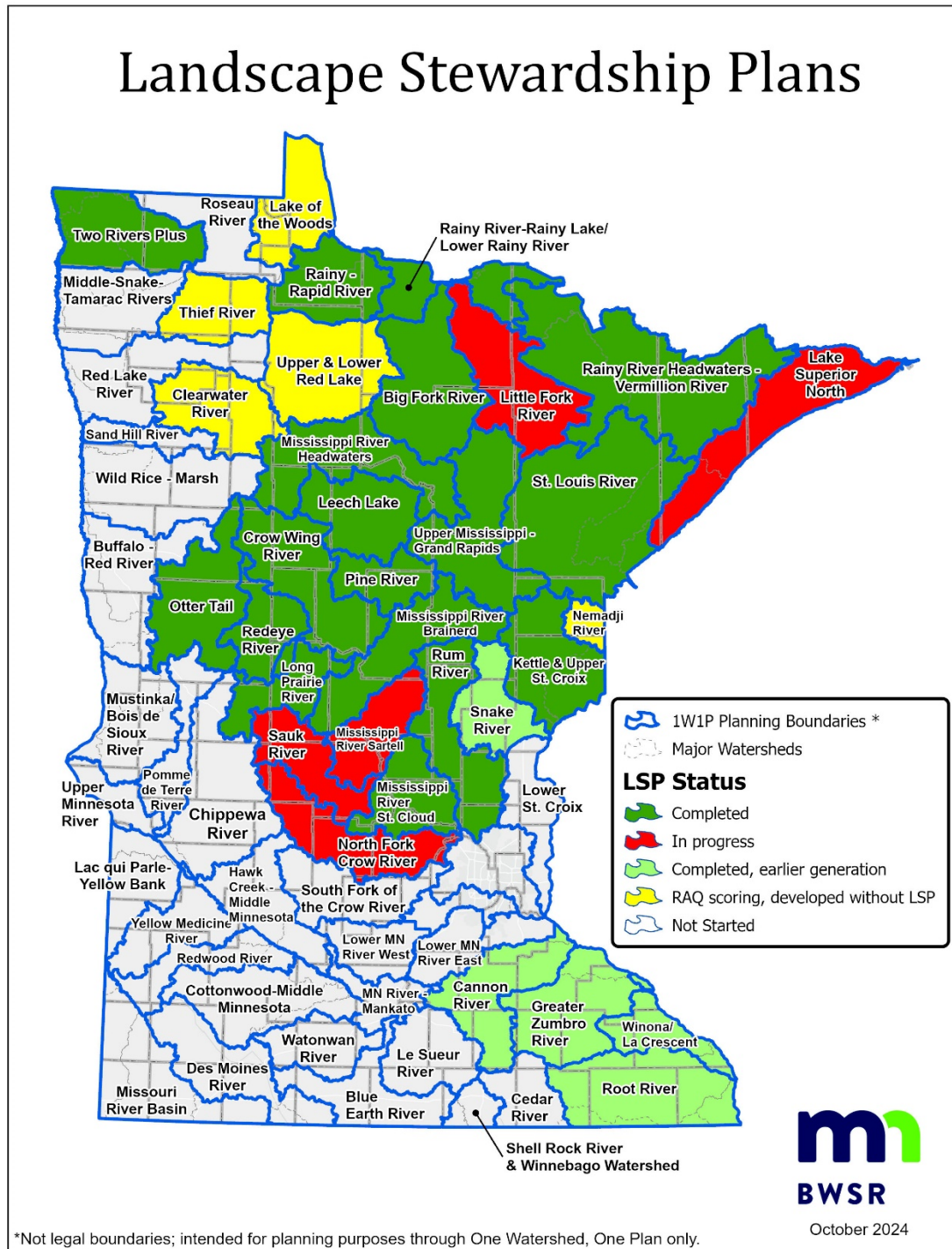


Figure 2: Landscape Stewardship Plan (LSP) Status Map, current as of October 31, 2024

Other GIS Mapping Accomplishments:

- Acquired and updated parcel data with landowner addresses, public land status, SFIA enrollment, forest stewardship, and land value data for all counties within TSA8 (this is an annual practice).
- Built 1w1p priority areas webapps for Mississippi River – Brainerd, Redeye River/Crow Wing River and Miss. River Grand Rapids watersheds.
- Calculated the % of Protected shoreline (public lands, easements, SFIA, NGO) for all lakes in TSA8, with summaries by county and watershed. Participated in discussions related to development of a shoreline incentives program to maintain protected/undeveloped shoreline.
- Incorporated the most current National Land Cover Dataset (NLCD 2021) into watershed & parcel datasets since its release in late 2023.
- Updated various GIS datasets, including: priority wild rice, statewide aquifers, county well index, etc.
- Built/maintained RAQ scoring interactive web applications for watersheds in TSA8.
- Updated overall Mississippi Headwaters Basin priority watersheds webapp (from completed 1w1ps).
- Provided Mississippi River-Brainerd Ag focus areas maps and data for outreach contractor.
- Created Wadena county-wide summary maps.
- Created and updated a 'Keep It Clean' map for Lake of the Woods SWCD.
- Mapped various individual protection/easement projects and calculated their effect on the larger watershed protection amount (to show how much the needle moved).
- Explored new LIDAR data and applications.
- Completed various individual mapping projects for SWCDS as requested.
- Created maps for various grant proposals.
- Provided GIS tech support as requested.

2. Watershed Protection

Most One Watershed One Plans in TSA8 have a robust protection goal that seeks to protect land via perpetual conservation easements as well as by increasing enrollment in the DNR's Sustainable Forest Incentive Act (SFIA) program. Keeping track of this data is a key element of my work. Some highlights are listed below:

- Annually updated watershed protection data for entire work area. 'Protected' lands includes public lands, public waters (lakes/streams), conservation easements, wetlands on private lands, other conservation lands (non-governmental organizations, etc.) and lands enrolled in SFIA. See Figure 3 for a current map of the % of protected lands in TSA8 by major watershed/1w1p planning area.
- Completed GIS data and Excel spreadsheet showing protection amounts by watershed (scales: HUC08 Major watershed, HUC10, HUC12, HUC14 minor watershed, DNR Level 08 catchment).
- Used watershed protection data to create a 1-page summary report of current protection data by major watershed in the Mississippi Headwater Basin as well as protection gains made from 2008/2016 to 2024.
- Worked with Dain Erickson to develop/update several 1-2 page success story factsheets showing watershed protection gains (moving the needle) by smaller sub/minor watersheds in key areas throughout TSA8.
- Developed a Protected Lands dashboard for the Mississippi River Basin that features protection maps, needles (gauges), and charts for minor watersheds and major watersheds in the Basin.

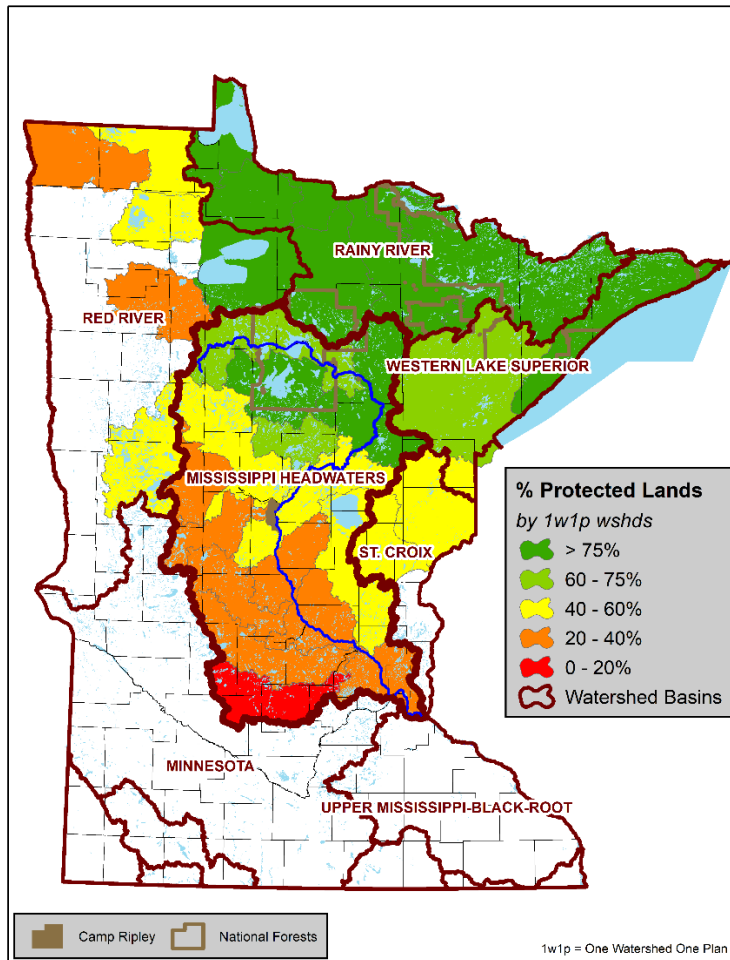


Figure 3: Protected Lands by Watershed (fall 2024)

3. Presentations, Trainings, Meetings

I participated in a number of non 1w1p meetings, events, & trainings in 2024 (listed in order chronologically):

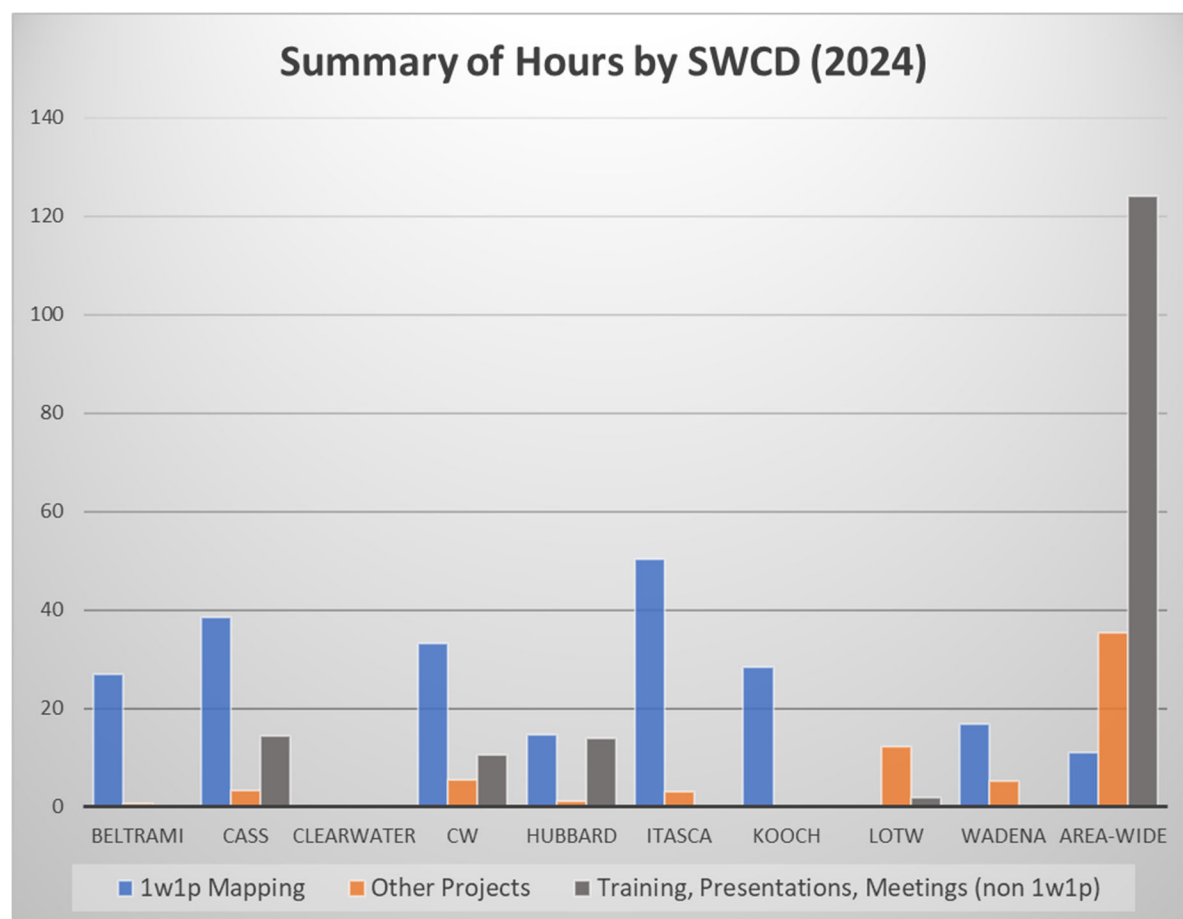
- Assisted LOTW SWCD with setting up a project tracking webapp (January/February)
- Cass SWCD GIS setup/training (February)
- Area VIII Meeting (March)
- Crow Wing SWCD GIS setup/training (May)
- Steamboat Lake Assoc. PPT prep with Dan Steward & Pete Jacobson (June)
- PPT prep with Dan Steward for Legislative Water Commission (June)
- Attended/presented at 'Minnesota Implementers' online presentations (January – June)
- PTMapp Training (July)
- PPT prep and poster map development for Hubbard SWCD's Legislative Water Tour (August)
- Area VIII Tour & Meeting (September)
- Frontier Precision GPS Survey Equipment Training (October)
- Co-presented to Clean Water Council (October)
- Co-presented at BWSR Academy (October):
 - *Migrating from ArcMap to ArcPro* (with Jarrett Drileck, Crow Wing SWCD)
 - *Seeing Forests for the Trees, and Fish Too!* (with Lindberg Ekola (SWCD) & Gary Michael (DNR))
- MASWCD Conference: LIDAR Session (December)
- TSA8 Technical Training Team Meeting (December)

2024 Hours Worked Summary

District	Work Plan Items				Total
	1w1p Mapping	Protection & Parcel Analysis	Other Projects	Training, Presentations, Meetings (non 1w1p)	
Beltrami	27	3.75	0.75	0	31.5
Cass	38.5	8.75	3.25	14.5	65
Clearwater	0.25	1	0	0	1.25
Crow Wing	33.25	9.5	5.5	10.5	58.75
Hubbard	14.75	3.75	1.25	14	33.75
Itasca	50.25	4	3	0	57.25
Koochiching	28.5	2.5	0	0	31
Lake of the Woods	0	0	12.25	2	14.25
Wadena	16.75	4	5.25	0	26
Area-wide	11	89.25	35.5	124	259.75
Totals	220.25	126.5	66.75	165	578.5

Table 1: Mitch's hours summary by SWCD in 2024

For comparison: 2023 Hours worked = 627. More 1w1p mapping occurred in 2024 vs. 2023, but there were more 'Other Projects' hours in 2023, largely due to the Mississippi Headwaters Impervious Surface mapping project.



Next Steps: Plans for 2025

My plans for 2025 include efforts related to planning, implementation, and tracking/measuring:

Planning:

Provide GIS analysis and mapping support for the following One Watershed One Plans:

- Big Fork River
- Little Fork River
- Pine River (5-year update)
- Leech Lake River (potential 5-year update)

Implementation:

- Continue to update parcels and protection datasets to help SWCDs do targeted outreach
- Update and maintain various RAQ web-applications
- Provide maps and GIS analysis as needed to support SWCD conservation efforts
- Continue to build and refine interactive webapps for One Water One Plan priority areas
- Provide training and technical support so SWCD staff can be effective planners & implementers

Tracking/Measuring:

- Continue to annually track watershed protection data, with a unique focus on the Mississippi Headwaters Basin.
- Use annually updated protection data to continue to find and highlight success stories that demonstrate moving the needle.
- Continue to explore and assist SWCDs in building project tracking GIS web-applications.