

2023 Summary of Activities Conducted by Mitch Brinks

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Overall Summary:

From January through March 2023, I wrapped up the BWSR grant that guided my GIS efforts the past 3+ years: “TSA8 Conservation Targeted to Parcel = Move the Protection Needle.” My efforts for that grant were focused on providing mapping support for the One Watershed One Plan process, continually updating the watershed protection methodology (including the development of a white paper/manual) and looking for areas where the combined efforts of local SWCDs Counties, DNR, and NGOs have added additional protected lands across the landscape and moved the protection needle. Early in 2023, a final report was prepared for that grant. In addition, a number of success story examples were identified and shared with partners at various meetings and events. These efforts to tell the conservation story are still a large part of my duties as is continuing to track protection efforts and providing mapping support for One Watershed One Plans.

Below is a summary of the work plan items from my current contract with TSA8 North Central Joint Powers Board (signed March 3-29-23):

1. Assist Area VIII Districts/Counties with GIS Support, specifically mapping support for One Watershed One Plans (1w1ps)
2. Maintain annual watershed protection data & provide training or 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 Brainerd 1w1p: Completed all mapping for plan (spring 2023)
- Mississippi River Grand Rapids 1w1p
 - Began mapping (summer 2023)In addition to base maps for the plan, the following tasks were performed as well:
 - Conducted lake prioritization setup (quality/risk analysis)
 - Conducted new buffer analysis (to incorporate into protection calcs)
 - Conducted cumulative watershed protection analysis upstream of larger lakes
 - Conducted analysis of lakes with no/little development (per DNR guidance)
- Rainy River Rainy Lake 1w1p: Began mapping (summer 2023)
 - Conducted priority resources analysis
- Crow Wing River 1w1p:
 - Began mapping (fall 2023).In addition to base maps for the plan, the following tasks were performed as well:
 - Conducted new buffer analysis (to incorporate into protection)
 - Conducted cumulative watershed protection analysis upstream of larger lakes
 - Conducted priority lakes/resources analysis
- Mississippi Headwaters 1w1p:
 - Completed large impervious surface mapping project for Tier 1 priority lakes (action item from 1w1p)

See figure 1 on the next page for a summary of the current One Watershed One Plan progress

One Watershed, One Plan Participating Watersheds

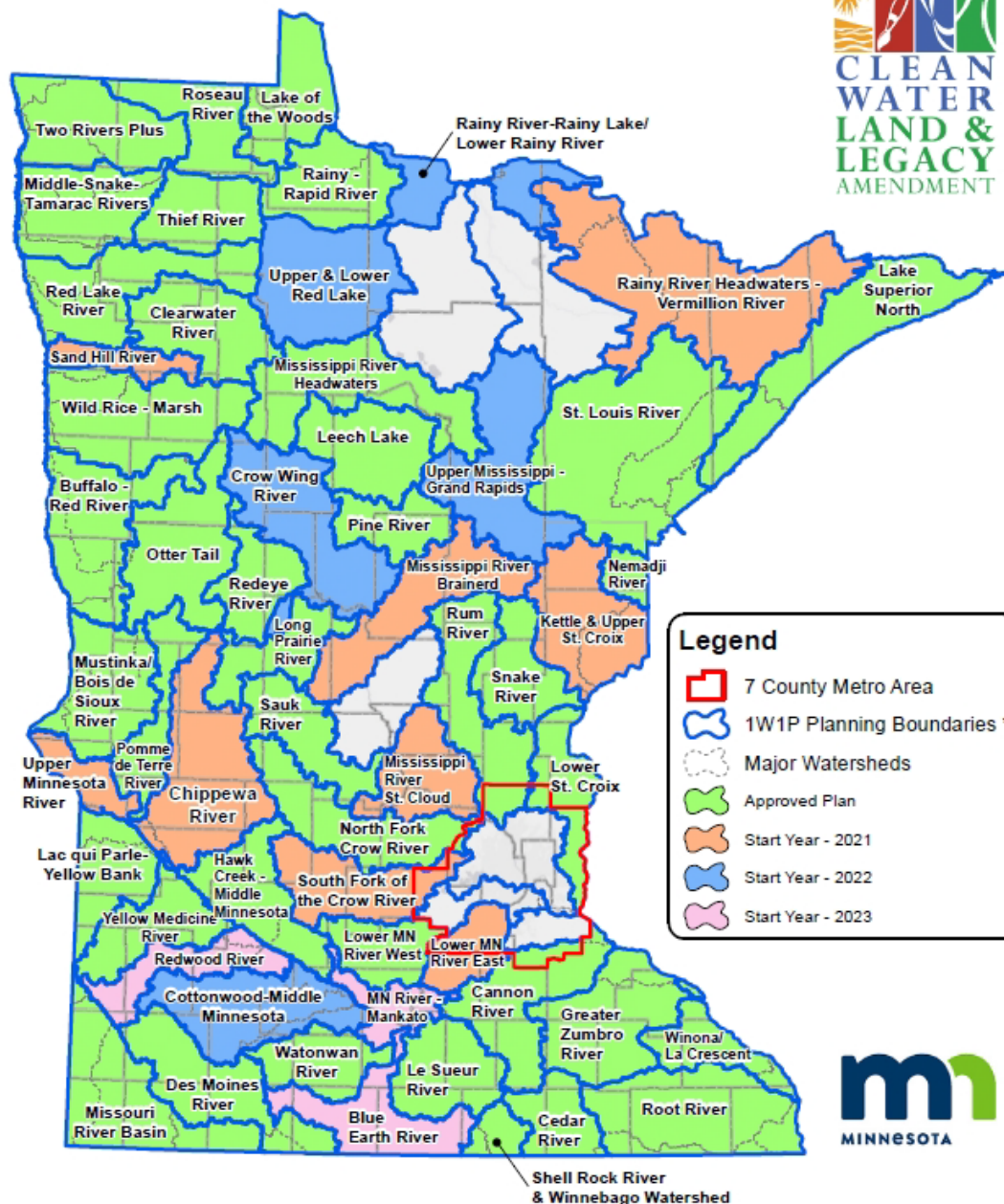


Figure 1: One Watershed One Plan Status Map (note that Mississippi River Brainerd, in orange, is now approved)

Landscape Stewardship Plans (LSPs)

Landscape Stewardship Plans are DNR-funded forestry plans focused on private forest landowners that own more than 20 acres of forest land. They provide forest protection and forest management recommendations for One Watershed One Plans. Two of these were completed in TSA8 in 2023:

- Mississippi River Grand Rapids 1w1p: Wrapped up in fall 2023
- Crow Wing River 1w1p: Wrapped up in fall 2023

The Riparian, Adjacency, Quality (RAQ) scoring framework was also completed for both LSPs. See Figure 2 (next page) for a status map of the cumulative areas that have been RAQ scored (primarily through the LSP process):

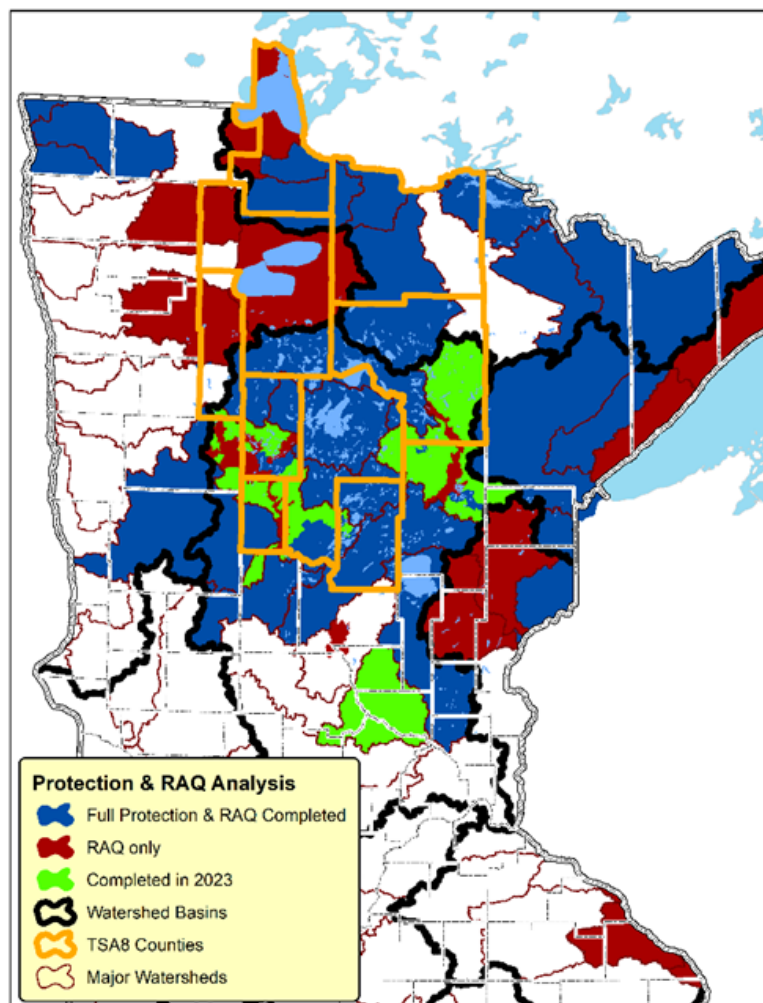


Figure 2: Protection & RAQ Scoring Areas in Minnesota (blue & green indicates LSP watersheds)

Other GIS Mapping Accomplishments:

- Annually acquired and updated parcel data with landowner address, public land status, SFIA, forest stewardship, and land value data for all counties within TSA8
- Mapped various individual protection/easement projects and calculated their effect on the overall watershed protection amount (to show how much the needle moved)
- Created maps for the Mississippi Headwaters Board Biennial Conference
- Updated lake prioritization table for Itasca SWCD
- Updated various GIS datasets, including: priority wild rice, nearly-barely impaired, lake water quality trends, lakes of phosphorus sensitivity, DNR natural heritage/rare species (for RAQ scoring), etc.
- Attended meetings on the LIDAR update project in MN
- Obtained new tribal land cessions data, environmental justice layers, Camp Ripley, and Census Bureau data
- Completed various individual mapping projects for SWCDS as requested
- Wadena SWCD: culvert inventory webapp/field maps setup
- Built and/or maintained RAQ scoring interactive web applications for the following projects: Bigfork River Watershed RAQ Scoring, Lake of the Woods Watershed RAQ Scoring, Mississippi River – Brainerd Watershed RAQ Scoring, Rainy River Rainy Lake Watersheds RAQ Scoring, Rapid River - Lower Rainy River Watershed RAQ Scoring, Leech-Pine Priority Watersheds & RAQ Scoring, Mississippi Headwaters Habitat Corridor Project (MHB), Crow Wing R. Watershed RAQ Scoring, Mississippi River Grand Rapids Wshd RAQ Scoring
- Began development of priority watersheds webapp (from completed 1w1ps)
- 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 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, conservation easements, wetlands on private lands, other conservation lands (NGOs, etc.) and lands enrolled in SFIA.
- Completed GIS data and Excel spreadsheet showing protection amounts by watershed (HUC10 subwatershed and HUC14 minor watershed scales). See Figure 3 for a current map of the % of protected lands in TSA8 by minor watershed.
- Used Cass County Wetland Delineation data to draft a white paper summarizing the deficiencies of the National Wetland Inventory (NWI) to adequately count wetlands for protection analysis.
- Used watershed protection data to create a report of progress made from 2016 to 2022 (including an interactive webmap).
- Developed a dozen or more 1-2 page success story factsheets showing watershed protection gains by smaller sub/minor watersheds in key areas throughout TSA8 (moving the needle)
- Worked with Dan Steward and Dain Erickson (Red Canoe Cre8tive) to produce a 13-page Mississippi River Basin “Resource Protection” Report that focused on solidifying the forest-water connection, showed the history of protection efforts, highlighted success stories, and made a pitch for focusing additional protection efforts in the watersheds of priority lakes in the Upper Mississippi River basin identified in 1w1ps.

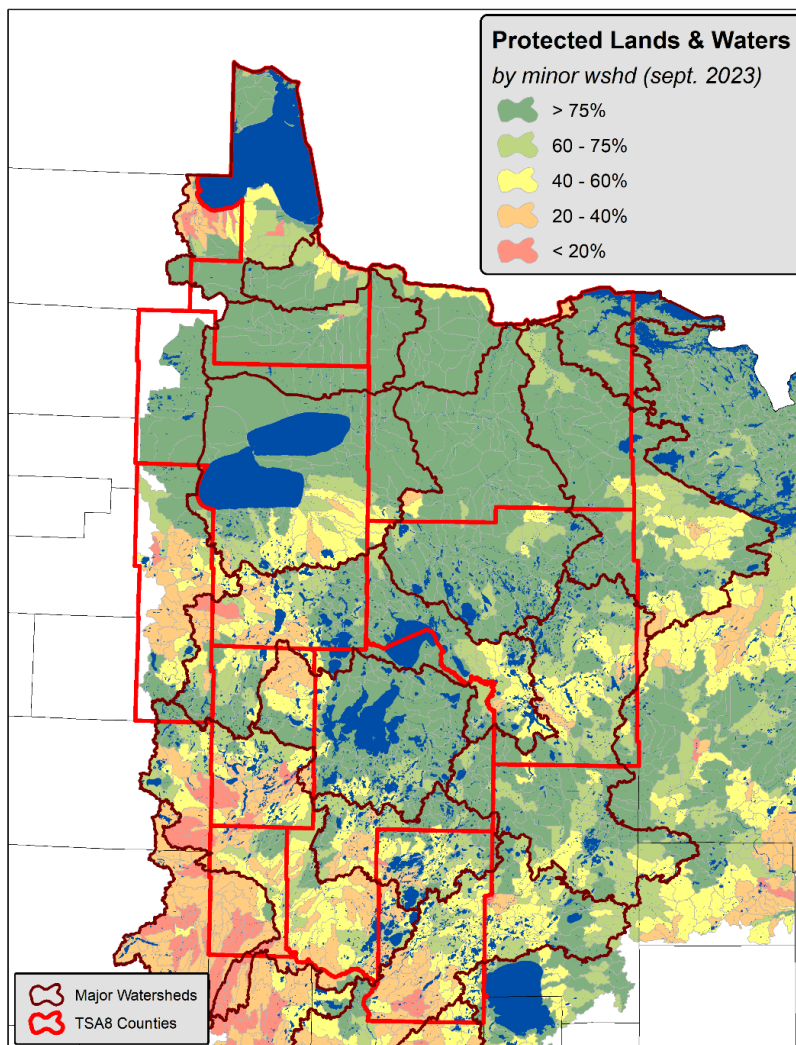


Figure 3: Protected Lands Status Map (fall 2023)

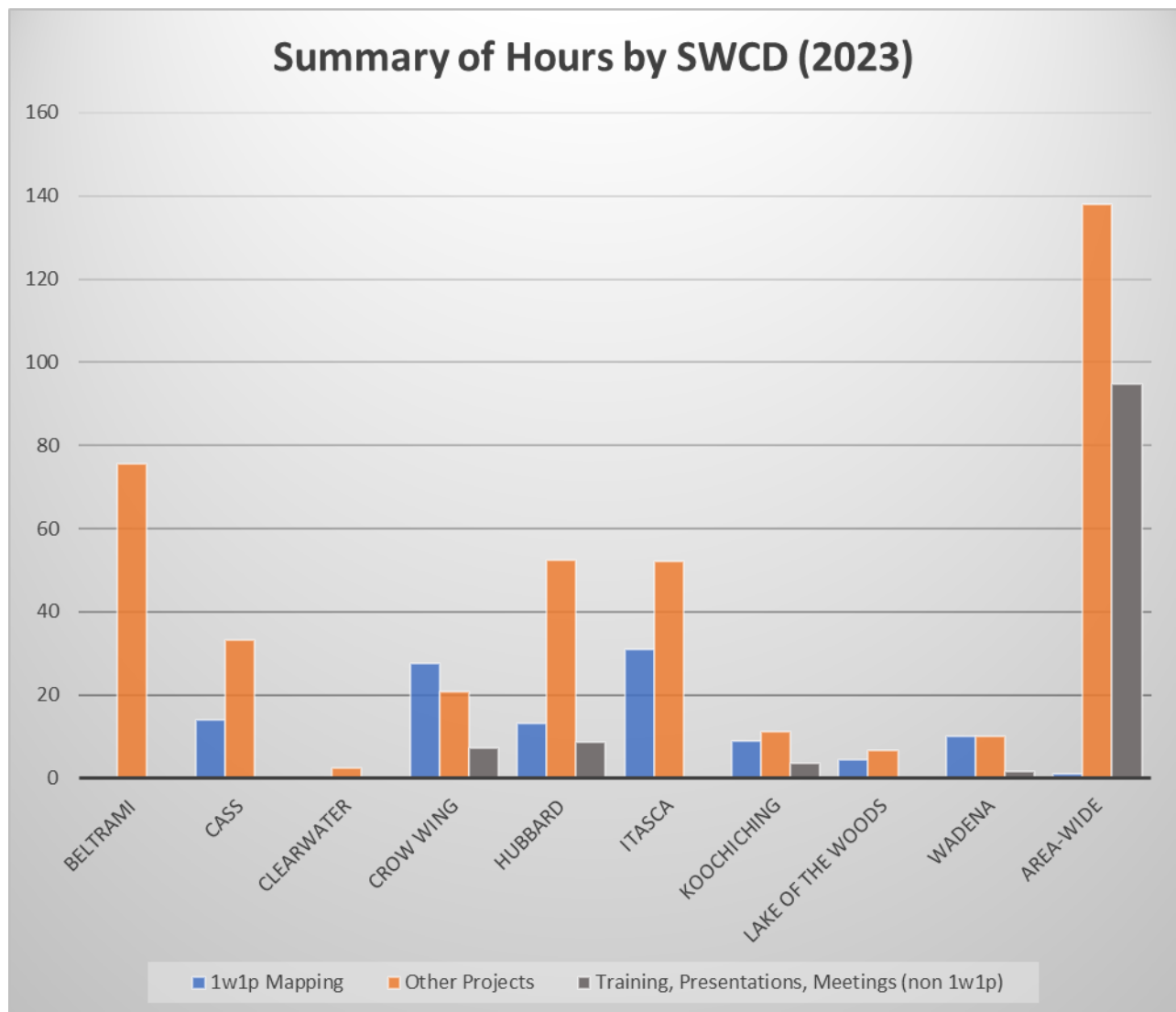
3. Presentations, Trainings, Meetings

Telling the story of protection successes and showing examples of where our collective conservation efforts have moved the needle is important to keeping the momentum going. I participated in a number of events in addition to other general GIS-related trainings (listed in order chronologically):

- Mississippi Headwaters Board (MHB) planning session (January 2023)
- Co-presented to Lessard-Sams Outdoor Heritage Fund (LSOHC) staff (February 2023)
- Co-presented at Crow Wing SWCD Landowner's Event (February 2023)
- Presented at TSA8 North-central Joint Powers Board (March 2023)
- Attended MN Implementers online presentations (January – April 2023)
- Forestry Funding/Easement meeting with Justin Hanson of BWSR (May 2023)
- Presented at/attended TSA8 Fall Meeting & Tour (October 2023)
- Co-presented at BWSR Academy with Dan Steward (BWSR-retired), Gary Michel (DNR Forestry):
Moving the Needle for Forestry Implementation – Making it Happen (October 2023)
- Project Tracking (using ArcGIS online): Presentation by Ben Ruley of Stearns SWCD (December 2023)
- Presented Protection Update at North-central Conservation Collaborative (NCCR) meeting (December 2023)
- Co-presented Protection Update/Success Stories to Minnesota Legislative Water Commission staff Jim Stark (December 2023)

2023 Hours Worked Summary

District	Work Plan Items			Total
	1w1p Mapping	Other Projects	Training, Presentations, Meetings <i>(non 1w1p)</i>	
Beltrami	0	75.5	0	75.5
Cass	14	33.25	0	47.25
Clearwater	0	2.25	0	2.25
Crow Wing	27.5	20.75	7.25	55.5
Hubbard	13.25	52.25	8.5	74
Itasca	31	52	0	83
Koochiching	9	11	3.5	23.5
Lake of the Woods	4.5	6.5	0	11
Wadena	10	10	1.5	21.5
Area-wide	1	138	94.75	233.75
Totals	110.25	401.5	115.5	627.3



Next Steps: Plans for 2024

My plans for 2024 include efforts related to planning, implementation, and tracking/measuring:

Planning:

Continue to provide GIS analysis and mapping support for the following One Watershed One Plans:

- Crow Wing River Watershed
- Mississippi River Grand Rapids Watershed
- Rainy River Rainy Lake Watershed

Start GIS analysis and mapping support for:

- Upper/Lower Red Lakes Watershed

Implementation:

- Continue to update RAQ scoring, 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
- Convert many of the One Water One Plans into web-based GIS applications where the user can search for their address and quickly determine if their property falls in any priority resource location and where SWCDs can quickly determine the implementation goals for a given area
- Maintain overall priority areas GIS web-application

Tracking/Measuring:

- Use annually updated protection data to highlight success stories that demonstrate moving the needle
- Continue to explore and build project tracking GIS web-applications. There is tremendous interest in project tracking web-based GIS applications. I have been exploring this in the fall of 2023 and will likely be building several apps in 2024.