



## Priority Issues

### 1. Introduction

The Nemadji Watershed is located just south of Carlton, MN. The waters flow from the headwaters located in Northern Pine County and Central Carlton County, MN to Lake Superior in Superior, WI. The watershed covers 473 square miles with 276 square miles in Minnesota, with 353 miles of stream and 35 lakes on the Minnesota side.

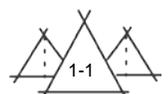
The **Nemadji One Watershed One Plan** (1W1P) is a planning partnership between Carlton SWCD, Carlton County, Pine SWCD, and Pine County, with a goal of **prioritizing** opportunities to protect the watershed's valuable resources along with **targeting** projects to help solve water quality problems. The result will be a **measurable** improvement in water quality and protection of this important resource for future generations.

The general 1W1P process is outlined in Figure 1. For the first step, which is to gather and prioritize opportunities/issues in the watershed, four topic meetings that bring together watershed and topic experts are being held. The meeting topics include 1) forestry, 2) wetlands & lakes, 3) streams and 4) agriculture. After the issues are gathered, they were prioritized, and measurable goals were developed. The Advisory Committee worked towards developing actions to help achieve the watershed's goals. This report summarizes the Actions Meeting held on March 11<sup>th</sup>, 2020.



*Figure 1. The 1W1P process is displayed above. The topical meetings are the first steps within the process (circled in gray).*

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 and SWCD. The Advisory Committee recommends the priority issues list to the Policy Committee for approval.



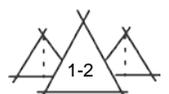
## 2. Actions

Each goal has a corresponding list of actions that will help make progress towards that goal. At the topic meetings, the groups brainstormed a list of actions, allowing topic experts an opportunity to add their ideas to the list. In addition, actions were gathered from previous reports along with the State Agency letters, and a draft list of actions were compiled under each goal. At the Actions Meeting, the Advisory Committee added any actions they thought were missing from the list along with including the following details:

- ✦ **Level of Effort** explains whether an action 1) will continue at the same level as is currently being done (**Current**), is already being done, but will be increased in the future (**Current +**) or is a new program (**New**)
- ✦ **Targeted Resources** describes where each action will be targeted (subwatersheds or specific lakes/streams)
- ✦ **Lead / Supporting Entities** explains who will oversee completing this task
- ✦ **When** estimates when in the next 10 years the work towards the action will start

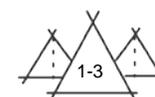
Specific numbers for each action, such as how much of each task will be completed and how much each action will cost, will be discussed at a future meeting.

The following tables show the first draft of the Action Table. Please remember this is only the first draft and will be updated at future meetings.

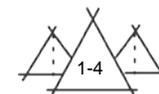


## Goal: Increase water storage by X acre-feet through wetland restoration

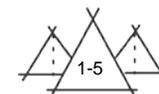
What		How Much		Where	Who	When					Cost
Action	Program	Level of Effort	10-year Measurable Outcome	Targeted Resources	Lead/ Supporting entities	2021-2022	2023-2024	2025-2026	2027-2028	2029-2030	Total 10-year cost
Continue to enforce the Wetland Conservation Act (WCA).	 Land Use Policy	Current		Watershed Wide	TEP: County SWCD, BWSR DNR US ACOE	★	★	★	★	★	
Investigate wetland banking opportunities in the Nemadji Watershed.	 Conservation	New		Watershed Wide	County BWSR & SWCD Consultants	★	★				
Assess/inventory drainage ditch and tiling for the watershed, including historic practices.	 Research, Data, Monitoring	New		Watershed Wide	SWCD Interns/Consultants	★	★				
Develop a prioritization framework to select wetlands for protection and restoration (use St Mary's Tool?).	 Conservation	New		Watershed Wide	SWCD Interns/Consultants	★	★				
Complete a functional analysis of wetlands in the watershed (a possible method was developed by Ralph Tiner at the U.S. Fish & Wildlife Service).	 Research, Data, Monitoring	New		Watershed Wide	Fish & Wildlife Service MPCA, DNR, Tribal Governments, TSA, SWCD		★	★			
Identify and prioritize wetland connectivity impacted by roads/trails/ditches.	 Research, Data, Monitoring	New		Watershed Wide	SWCD Interns/Consultants, County		★	★			



What		How Much		Where	Who	When					Cost
Action	Program	Level of Effort	10-year Measurable Outcome	Targeted Resources	Lead/ Supporting entities	2021-2022	2023-2024	2025-2026	2027-2028	2029-2030	Total 10-year cost
Restore wetlands in key subwatersheds to increase watershed storage and reduce bank erosion.	 Conservation	New		Nemadji Creek, Mud Creek, Clear Creek Subwatersheds	SWCD BWSR, DNR, NRCS, Fish & Wildlife Service, Tribal Governments			★	★	★	
Restore floodplain connectivity.	 Conservation	Current +		Nemadji Creek, Net River, Skunk Creek, South Fork Nemadji River, Headwaters Nemadji River	SWCD MPCA, DNR, TU, County, BWSR, Tribal Governments	★	★	★	★	★	
Provide education and outreach on the value of wetlands along with opportunities for restoration and protection.	 Education & Outreach	New		Watershed Wide	SWCD MPCA, BWSR, Schools, TU, County, Tribal Governments, Universities/ Colleges	★	★	★	★	★	
Collaborate with agencies/tribal governments/universities to share emerging wetland data and tools.	 Education & Outreach	New		Watershed Wide	DNR and BWSR MPCA, NRCS, Tribal Governments, Universities/ colleges, Fish & Wildlife, SWCD	★	★	★	★	★	



What		How Much		Where	Who	When					Cost
Action	Program	Level of Effort	10-year Measurable Outcome	Targeted Resources	Lead/ Supporting entities	2021-2022	2023-2024	2025-2026	2027-2028	2029-2030	Total 10-year cost
Engage partnerships to help build our understanding of wetland function and ecosystem services valuation.	 Education & Outreach	New		Watershed Wide	DNR and BWSR MPCA, NRCS, Tribal Governments, Universities/ colleges, Fish & Wildlife, SWCD	★	★	★	★	★	
Evaluate the current status of invasive species and species diversity in wetlands.	 Research, Data, Monitoring	New		Watershed Wide	County State Agencies Universities, SWCD, Citizen Monitoring, FDLTCC	★	★	★	★	★	

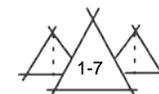


## Goal: Reconnect X miles of stream to benefit aquatic life and improve the road/stream interface

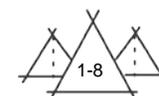
What		How Much		Where	Who	When					Cost
Action	Program	Level of Effort	10-year measurable Outcome	Targeted Resources	Lead/ Supporting entities	2021-2022	2023-2024	2025-2026	2027-2028	2029-2030	Total 10-year cost
Reconnect streams by removing barriers created by culverts (undersized, perched, misaligned).	 Conservation	Current +		Skunk Creek (319 funding) South Fork Nemadji (Silver Creek)	DOT & Townships Financial Support: SWCD, EPA, BWSR, TU, Land Department (Soo Line Trail)	★	★	★	★	★	
Reconnect streams by removing Red Clay Dams.	 Conservation	Current +		Skunk Creek & Deer Creek	SWCD EPA			★	★	★	
Feasibility Study for large Red Clay Dams (Elim & Hanson Dams)	 Conservation	New		Skunk Creek Subwatershed	SWCD Consultants	★	★				
Stabilize gravel roads in priority areas (steep slopes near streams) to reduce road material erosion into streams.	 Conservation	New		First Priority: County Road 103 (Skunk Creek & Nemadji River) Second Priority: CSAH 8	DOT	★	★	★	★		
Restore unstable stream reaches, focusing on protecting infrastructure and where benefits can be stacked	 Conservation	Current +		Blackhoof (Post Geomorph Study) Mainstem Nemadji River	DNR TU, Lessard-Sams, SOGL, DOT	★			★	★	

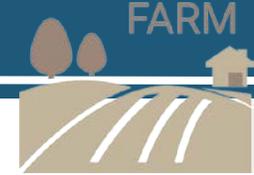


What		How Much		Where	Who	When					Cost
Action	Program	Level of Effort	10-year measurable Outcome	Targeted Resources	Lead/ Supporting entities	2021-2022	2023-2024	2025-2026	2027-2028	2029-2030	Total 10-year cost
Protect infrastructure by increasing watershed storage and floodplain connectivity.	 Conservation	New		Flashy Streams (Nemadji Creek, Clear Creek – South), Skunk Creek, Stony Brook) Upstream of problem culverts Net River, South Fork Nemadji River subwatersheds	County (Transportation, Land Department), SWCD	★	★	★	★	★	
Increase resiliency to climate change by incorporating future rainfall predictions into design standards.	 Conservation	Current +		Watershed Wide	County (Transportation), MN DOT, SWCD, NRCS, Townships	★	★	★	★	★	
When planning projects, increase collaboration between entities.	 Education & Outreach	Current +		Watershed Wide	Everyone	★	★	★	★	★	
Track benefits to watershed projects using a database which includes cost of both projects and consequences of not completing projects, such as road closures. Hold an annual meeting and maintain a web map.	 Research, Data, Monitoring	New		Watershed Wide	SWCD Partners	★	★	★	★	★	
Update culvert inventory on private and township roads.	 Research, Data, Monitoring	Current +		Watershed Wide – Township roads and private lands	SWCD County (County maintained township roads)	★	★	★	★	★	



What		How Much		Where	Who	When					Cost
Action	Program	Level of Effort	10-year measurable Outcome	Targeted Resources	Lead/ Supporting entities	2021-2022	2023-2024	2025-2026	2027-2028	2029-2030	Total 10-year cost
Learn where streams are unstable and collaborate with local educational institutions to better understand clay on bedrock.	 Research, Data, Monitoring	New		Skunk Creek & Blackhoof (Geomorph study) Mainstem Nemadji and South Fork	DNR TU, SWCD, Universities/colleges	★				★	
Increase the number of river gages on the Nemadji system for better culvert/stream project design.	 Research, Data, Monitoring	New		Skunk Creek, Blackhoof River, South Fork Nemadji	MPCA USGS	★	★				
Work with permitting authorities on project construction restriction dates.	 Conservation	Current		Watershed Wide	DNR, County	★	★	★	★	★	
Help townships, private landowners and other road authorities with culvert/road projects by providing technical assistance and funding	 Education & Outreach	Current +		First Priority: Holyoke, Wrenshall, Blackhoof Watershed wide	SWCD, County, Townships	★	★	★	★	★	
Provide education for road maintenance crews on ditch/grading for steep slopes.	 Education & Outreach	New		Watershed Wide	County SWCD	★	★	★	★	★	



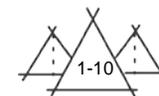


**Goal: Increase agricultural best management practices by X acres in priority areas.**

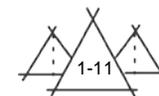
What		How Much		Where	Who	When					Cost
Action	Program	Level of Effort	10-year Measurable Outcome	Targeted Resources	Lead/ Supporting entities	2021-2022	2023-2024	2025-2026	2027-2028	2029-2030	Total 10-year cost
Improve buffers and riparian areas around farms.	 Conservation	Current +		Blackhoof, Nemadji Creek Subwatersheds First Priority, Clear Creek, Mud Creek, South Fork Nemadji	SWCD Extension, NRCS	★	★	★	★	★	
Increase the number of grazing management plans.	 Conservation	Current +		Blackhoof, Nemadji Creek Subwatersheds First Priority, Clear Creek, Mud Creek, South Fork Nemadji	SWCD Extension, NRCS		★	★	★	★	
Improve methods of wintering livestock and manure storage.	 Conservation	Current +		Blackhoof, Nemadji Creek Subwatersheds First Priority, Clear Creek, Mud Creek, South Fork Nemadji	SWCD Extension, NRCS, MDH	★	★	★	★	★	
Increase soil health/cover crop practices.	 Conservation	Current +		Clear Creek & Mud Creek Subwatersheds (Target Lost Storage)	SWCD Extension, NRCS, MDH	★	★	★	★	★	



What		How Much		Where	Who	When					Cost
Action	Program	Level of Effort	10-year Measurable Outcome	Targeted Resources	Lead/ Supporting entities	2021-2022	2023-2024	2025-2026	2027-2028	2029-2030	Total 10-year cost
Limit livestock access to streams and provide alternative watering sources.	 Conservation	Current +		Blackhoof, Nemadji Creek Subwatersheds First Priority, Clear Creek, Mud Creek, South Fork Nemadji	SWCD Extension, NRCS, MDH	★	★	★	★	★	
Increase one-on-one interactions with technical staff to increase BMPs.	 Education & Outreach	Current +		Watershed Wide	SWCD Extension, NRCS, MDH	★	★	★	★	★	
Increase water storage on non-productive/inactive farmland.	 Conservation	Current +		Clear Creek and Mud Creek	SWCD Extension, NRCS, County			★	★	★	
Conduct 1 workshops/outreach event per year to help livestock producers and farmers learn about the resources available.	 Education & Outreach	Current +		Watershed Wide – Target outreach to possible feedlots/registered feedlots	SWCD Extension, NRCS, MDA	★	★	★	★	★	
Work with classrooms and 4-H to educate youth.	 Education & Outreach	New		Watershed Wide	Extension	★	★	★	★	★	
Increase peer-to-peer networks.	 Education & Outreach	New		Possible Feedlot Owners Near Streams	Carlton SWCD Extension, Sustainable Farmers Association, Soil Health Coalition, NRCS, MDA	★	★	★	★	★	

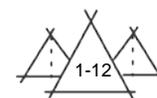


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Action	Program	Level of Effort	10-year Measurable Outcome	Targeted Resources	Lead/ Supporting entities	2021-2022	2023-2024	2025-2026	2027-2028	2029-2030	Total 10-year cost
Assist owners of historic farm sites with concerns such as: drainage ditches, closing old manure storage facilities, old dump sites, old well, etc.	 Education & Outreach	New		Watershed Wide	SWCD Universities, interns, NRCS, MDA			★	★	★	
Work with farmers to integrate forestry and farming.	 Education & Outreach	New		Watershed Wide	SWCD NRCS				★	★	
Encourage more detailed soil tests that include: •Cation exchange capacity •Base saturation •Ca/Mg/K And provide landowners assistance with understanding soil test results.	 Education & Outreach	New		Watershed Wide	Extension NRCS, Organic Farming Association, Sustainable Farming Association		★	★	★	★	



## Goal: Increase forest management by X% in priority areas.

What		How Much		Where	Who	When					Cost
Action	Program	Level of Effort	10-year Measurable Outcome	Targeted Resources	Lead/ Supporting entities	2021-2022	2023-2024	2025-2026	2027-2028	2029-2030	Total 10-year cost
Increase forest stewardship plans on private forests and provide outreach and technical assistance for forest management.	 Conservation	Current +	Acres	Blackhoof, Nemadji Creek, Headwaters Nemadji River and South Fork Nemadji Subwatersheds	SWCD MN DNR, NRCS, Consultants	★	★	★	★	★	
Increase the amount of SFIA enrolled forests.	 Conservation	Current +	Acres	Blackhoof, Nemadji Creek, Headwaters Nemadji River and South Fork Nemadji Subwatersheds	SWCD and Landowners County Assessor, MN Department of Revenue	★	★	★	★	★	
Include water quality discussions/watershed focus in Nemadji Forest Stewardship Plans.	 Conservation	New		Watershed Wide	DNR, BWSR	★	★	★	★	★	
Develop a community based social marketing strategy by defining specific actions for landowners, finding influential community members and through surveys and peer to peer outreach.	 Education & Outreach	New		Watershed Wide	SWCD & Woodland Council University of Minnesota, DNR	★	★	★	★	★	
Conduct forest BMP effectiveness monitoring on private lands.	 Research, Data, Monitoring	New		Watershed Wide	SWCD Interns, County				★	★	



What		How Much		Where	Who	When					Cost
Action	Program	Level of Effort	10-year Measurable Outcome	Targeted Resources	Lead/ Supporting entities	2021-2022	2023-2024	2025-2026	2027-2028	2029-2030	Total 10-year cost
Conduct harvest BMP monitoring on private lands	 Land Use Policy	New		Watershed Wide	MN Forest Resource Council	★	★	★	★	★	
Increase forest management coordination with all watershed entities (semi-annual meeting)	 Conservation	Current +		Watershed Wide	MN DNR, BWSR, SWCD, County, Private industry, MN Logger Education	★	★	★	★	★	
Provide new forest landowners and realtors information about forest management at point of sale.	 Education & Outreach	New		Watershed Wide	County Realtor Associations, SWCD/DNR, Certification Organizations			★	★	★	
Increase local capacity to support an enhanced private forestry program	 Conservation	Current +		Watershed Wide	SWCD BWSR, DNR, NRCS	★	★	★	★	★	
Work with elected officials to include the Nemadji Watershed in the coastal program.	 Land Use Policy	Current +		Watershed Wide	DNR Coastal Program Staff, SWCD, County, Sea Grant, Lake Superior Reserve	★	★				
Encourage the use of logging contracts on all timber sales to encourage BMP implementation.	 Conservation	New		Watershed Wide	SWCD NRCS, DNR	★	★	★	★	★	

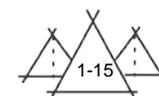


What		How Much		Where	Who	When					Cost
Action	Program	Level of Effort	10-year Measurable Outcome	Targeted Resources	Lead/ Supporting entities	2021-2022	2023-2024	2025-2026	2027-2028	2029-2030	Total 10-year cost
Manage forests to increase tree species diversity, enhance forest health, and mitigate future impacts from climate change and invasive species.	 Conservation	Current +		Watershed Wide	DNR, SWCD NRCS, County, Universities, Tribal Governments	★	★	★	★	★	
Inventory invasive species to assess risks; target high value land.	 Research, Data, Monitoring	Current +		Nemadji River, Nemadji Creek, Blackhoof	DNR, SWCD, County,	★	★	★	★	★	
Mitigate the effects of recreational ATV trail erosion.	 Education & Outreach	Current +		State Forest Lands (Net River & Upper Black) Private Lands- Watershed Wide	DNR, SWCD NRCS		★	★	★	★	
Use emerging data (LAMP dataset) to understand where shading will have the most impact protecting cold water fisheries with shading	 Research, Data, Monitoring	Current		Blackhoof River Others?	DNR (LAMP)	★	★				
Increase stream shading to protect cold water fishery habitat	 Conservation	New		Elim Creek, Blackhoof, Clear Creek North, Nemadji	SWCD NRCS, DNR, TU			★	★	★	



**Goal: Reduce phosphorus on impaired and declining lakes by X%.**

What		How Much		Where	Who	When					Cost
Action	Program	Level of Effort	10-year Measurable Outcome	Targeted Resources	Lead/ Supporting entities	2021-2022	2023-2024	2025-2026	2027-2028	2029-2030	Total 10-year cost
Develop individual lake management plans & target practices	 Conservation	New		Net Lake (Impaired) Hay Lake (Phosphorous Sensitive & Wild Rice) Sandy Lake (Phosphorous Sensitive) Chum Lake (Phosphorous Sensitive, Regionally Important)	SWCD & County MPCA, Lake Associations, DNR	★	★				
Gather data on impaired lakes and lakes with declining transparency trends including: DNR Score Your Shore, septic system inventories, ground truth upstream erosion issues	 Research, Data, Monitoring	Current +		Net Lake (Impaired) Hay Lake (Phosphorous Sensitive & Wild Rice) Sandy Lake (Phosphorous Sensitive) Chum Lake (Phosphorous Sensitive, Regionally Important)	SWCD & County MPCA, Lake Associations, DNR			★	★	★	



What		How Much		Where	Who	When					Cost
Action	Program	Level of Effort	10-year Measurable Outcome	Targeted Resources	Lead/ Supporting entities	2021-2022	2023-2024	2025-2026	2027-2028	2029-2030	Total 10-year cost
Implement stormwater management practices on lakeshore properties (such as rain gardens).	 Conservation	Current +		First Priority: Net Lake Chub Lake Second Priority: developed lakes with high phosphorus sensitivity	SWCD & County MPCA, Lake Associations, DNR, TSA			★	★	★	
Provide technical service for lakeshore landowners by continuing the work of local shoreland regulators and SWCDs	 Conservation	Current+		Watershed Wide	County, SWCD Lake Associations, DNR, MPCA	★	★	★	★	★	
Continue to enforce the shoreline ordinances.	 Land Use Policy	Current		Watershed Wide	County	★	★	★	★	★	
Encourage/empower lake associations and create a coalition of lake associations.	 Education & Outreach	Current +		Watershed Wide	SWCD Lake Associations, Townships		★	★			
Provide landowner workshops (1 per year). Produce flyers and factsheets to encourage lakeshore BMPs and educate them on lake issues including County Ordinances	 Education & Outreach	Current +		Watershed Wide	SWCD County, MPCA, Lake Associations, DNR, NRRI	★	★	★	★	★	
Educate outreach staff on University of Minnesota Extension Civic Engagement techniques to reach lakeshore landowners.	 Education & Outreach	New		Watershed Wide	SWCD Extension	★	★				



What		How Much		Where	Who	When					Cost
Action	Program	Level of Effort	10-year Measurable Outcome	Targeted Resources	Lead/ Supporting entities	2021-2022	2023-2024	2025-2026	2027-2028	2029-2030	Total 10-year cost
Collaborate with the tribe/1854 Treaty on wild rice assessments.	 Research, Data, Monitoring	Current +		Venoah, Net & Hay Lake	SWCD & 1854 Treaty	★	★	★	★	★	
Provide workshop/continuing education for realtors and contractors on lakeshore BMPs.	 Education & Outreach	Current (Pine) New (Carlton)		Watershed Wide	SWCD, Coutny	★	★	★	★	★	
Provide education to road salt applicators and owners of water softeners on the concerns of chloride in lakes.	 Education & Outreach	Current +		Watershed Wide	MPCA RSPT, SWCD, County, Townships, DOT, DNR, Lake Associations	★	★	★	★	★	
Encourage cost effective lake data collection using citizen monitors, interns, students, and conservation corps.	 Research, Data, Monitoring	Current +		Watershed Wide	MPCA, Lake Associations, CCM SWCD	★	★	★	★	★	



## Goal: Protect drinking water in areas of high pollution sensitivity.

What		How Much		Where	Who	When					Cost
Action	Program	Level of Effort	10-year measurable Outcome	Targeted Resources	Lead/ Supporting entities	2021-2022	2023-2024	2025-2026	2027-2028	2029-2030	Total 10-year cost
Continue sealing unused wells.	 Conservation	Current +		Watershed Wide	SWCD County, MDH	★	★	★	★	★	
Conduct DNA source testing of E. coli in streams.	 Research, Data, Monitoring	New		TMDL Impaired Waters, Waters of emerging concerns (Blackhoof, Skunk Creek, Net River)	MPCA UMD, SWCD	★	★				
Explore funding options for drinking water restoration and technical assistance.	 Conservation	New		Watershed Wide	SWCD MDH	★	★				
Consider point of sale well inspection county wide in Carlton County	 Land Use Policy	New		Watershed Wide	County MDH	★	★				
Consider point of sale septic inspections for all sales in Carlton County (Pine County already has this ordinance) or in areas of drinking water vulnerability.	 Land Use Policy	New (Carlton) Current (Pine)		Watershed Wide -or- Blackhoof and Net River Subwatersheds	County MDH	★	★				



What		How Much		Where	Who	When					Cost
Action	Program	Level of Effort	10-year measurable Outcome	Targeted Resources	Lead/ Supporting entities	2021-2022	2023-2024	2025-2026	2027-2028	2029-2030	Total 10-year cost
Compile existing well data to increase our understanding of drinking water quality (private and public).	 Research, Data, Monitoring	Current +		Watershed Wide	MDH MPCA, County	★	★				
Increase education and outreach to private well owners on well sealing, ground water vulnerability, and testing options.	 Education & Outreach	Current +		Watershed Wide	SWCD County, Extension, MDH, MPCA	★	★	★	★	★	
Gain a better understanding of artesian wells and springs.	 Research, Data, Monitoring	New		Watershed Wide	MDH, MPCA, DNR SWCD, Citizens, TU	★	★	★			
Start a drinking water monitoring program that tests a subset of watershed wells 3 times in 10 years to help understand trends. The Douglas County program could be used as a model, and MDH could help with program development.	 Research, Data, Monitoring	New		Watershed Wide	MDH, County	★	★	★	★	★	



**Goal: Increase protection by X% in sensitive areas in order to maintain stream stability and protect sensitive habitat**

What		How Much		Where	Who	When					Cost
Action	Program	Level of Effort	10-year measurable Outcome	Targeted Resources	Lead/ Supporting entities	2021-2022	2023-2024	2025-2026	2027-2028	2029-2030	Total 10-year cost
Protect older aged forests, riparian areas, lakes, lands at risk for conversion and areas to minimize habitat fragmentation using SFIA, 2C and targeted easements.	 Conservation	Current+		Skunk Creek (avoid habitat fragmentation), Nemadji Creek, South Fork Nemadji, Headwaters Nemadji (Ag Soils), Blackhoof, Mud Creek, Nemadji Creek (Development)	SWCD BWSR, DNR, NRCS	★	★	★	★	★	
Work towards 75% lands protection (public ownership, easements, SFIA) in sensitive areas.	 Conservation	Current +		First Priority-Blackhoof, South Fork Nemadji, North Fork Nemadji River, Nemadji Creek, Headwaters Nemadji River	SWCD BWSR, DNR, NRCS	★	★	★	★	★	



What		How Much		Where	Who	When					Cost
Action	Program	Level of Effort	10-year measurable Outcome	Targeted Resources	Lead/ Supporting entities	2021-2022	2023-2024	2025-2026	2027-2028	2029-2030	Total 10-year cost
Identify and prioritize trout streams for protection	 Research, Data, Monitoring	New		Watershed Wide	MPCA DNR, TU, NRRI	★	★				
Encourage RIM activities in forested areas.	 Conservation	New		Identified Cold Water input areas to trout streams	SWCD BWSR		★	★	★	★	
Prioritize protection actions (easements, SFIA ext.) based on groundwater recharge/drinking water vulnerability areas and drinking water protection for the City of Duluth.	 Conservation	New		Blackhoof, Net River subwatersheds	SWCD MDH, MPCA	★	★	★	★	★	
Protect forested wetlands and upland forests that help slow the flow using SFIA, 2C and targeted easements to help slow the flow	 Conservation	New		Use St Mary's Tool for specific parcels Blackhoof, Skunk Creek, North Fork Nemadji River, Clear Creek and Mud Creek	SWCD BWSR, DNR, NRCS	★	★	★	★	★	

