

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 50% of non-compliant systems in priority areas with a high probability to impact water resources.

What		How Much		Where		Who	When					Cost
Action	Program	Level of Effort	10-year measurable Outcome	Targeted Resources	Other Areas	Lead/ Supporting entities	2023-2024	2025-2026	2027-2028	2029-2030	2031-2032	Total 10-year cost
Meet with stakeholders to discuss adding Grand Lake residents to WLSSD or creating community systems	E&O	WBIF	X meetings held	Grand Lake		SWCD, St. Louis County	✓					
Design and implement an education and outreach campaign to SSTS landowners and SSTS professionals in targeted areas.	E&O	WBIF / Baseline	1 campaign implemented	Impaired & Phosphorous Sensitive Lakes / Bacteria Impaired Waters	Watershed Wide	St. Louis & Lake Counties	✓	✓	✓	✓	✓	
Support enforcement follow-up for non-low-income systems	Policy	Baseline	Continued Local Program	See above	Watershed Wide	St. Louis & Lake Counties	✓	✓	✓	✓	✓	
Assistance to small communities to navigate public facilities authority funding	Policy	WBIF	X meetings	See above	Watershed Wide	St. Louis & Lake Counties						
Infrared surveys of septic system runoff into waterways in key areas	Data	Other	1 study completed	See above	Watershed Wide	MPCA			✓			
Work to address the list of imminent public health threats	C	WBIF	10 systems updated	See above	Watershed Wide	St. Louis & Lake Counties	✓	✓	✓	✓	✓	

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Create a publicly available GIS database for SSTS location, size and condition.	D	WBIF	1 web map created	See above	Watershed Wide	County	✓	✓				

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.

Comment [HJ(1): Need to replaces "x-es"

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Coordinate a Smart Salt training for township and county road authorities	E&O	WBIF	X trainings	Cloquet River, Lakes		RSPT / municipalities	✓		✓		✓	
Evaluate County's salt training with Smart Salt training and identify gaps.	D	WBIF	1 report	Watershed Wide	Watershed Wide	RSPT / municipalities	✓					
Development & implement a salt use reduction education and outreach campaign	E&O	WBIF	1 campaign implemented	Municipalities near public waters / Lakeshore owners	Watershed Wide	RSPT / municipalities	✓	✓	✓	✓	✓	
Track salt use to determine salt trends	D	Baseline	Continued Local Program	Watershed Wide	Watershed Wide	Road Authorities	✓	✓	✓	✓	✓	

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Make road salt alternatives (sand, grit) readily available to homeowners	C	WBIF	1 program developed	Municipalities near public waters	Watershed Wide	RSPT / municipalities	✓	✓	✓	✓	✓	
Include better planning for snow storage to keep roads and sidewalks cleared, minimize moving snow and protect stormwater BMPs	C	WBIF	1 plan developed	Watershed Wide	Watershed Wide	RSPT / municipalities	✓	✓				

Educate, increase stewardship and mitigate the water quality impacts of recreational land users and landowners to natural resources in 50% of high-use & high priority recreational areas.

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Collaborate with recreational land managers to inventory and assess high priority recreational sites	D	WBIF	5 meetings with stakeholders	Cloquet Headwaters		SWCDs / DNR, NFS, Counties, User Groups	✓	✓	✓	✓	✓	\$7,500
Develop and implement an education and outreach campaign to recreational land users and landowners	E&O	WBIF	1 campaign developed and implemented	Cloquet Headwaters		SWCDs	✓	✓	✓	✓	✓	\$1,500
Implement projects on 5 locations identified impacted water resources	C	WBIF	5 projects implemented	Cloquet Headwaters		SWCDs		✓	✓	✓	✓	

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

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Use geologic atlas to evaluate sand and gravel mining resources to determine if additional protections and create a tool for residents and governments to assess the impact of proposed gravel pits	D	Other	1 study completed	Cloquet Headwaters		St. Louis County			✓			
Form interagency work group for pilot studies using geologic atlas when it becomes available and include monitoring wells and streamflow to determine impacts.	D	Other	Work Group Formed	Lower Cloquet		DNR, MPCA / County				✓		
Enforcement of gravel mining ordinances.	Policy	Baseline	Continued Local Program	Watershed Wide		St. Louis County, DNR	✓	✓	✓	✓	✓	

Reconnect 40 miles of priority streams and tributaries to benefit aquatic life and improve water quality.

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Replace 2 of 3 priority crossings. Crossings include 2 on Beartrap Creek 1 on Hellwig Creek	C	WBIF / Other	2 projects completed	Lower Cloquet Watershed		South St. Louis SWCD						
Assess dams on Murphy Lake, Wilson Lake, Sullivan Lake, and Little Stone Lake to determine if they are altering natural hydrology and impeding fish and aquatic organism movement and affecting stream temperature.	D	WBIF	4 assessments completed	Cloquet Headwaters		Lake & North St. Louis SWCDs / DNR & NFS						\$10,000
Replace 1 priority crossing: crossings include 2 on Pine Creek and 1 on Pine Creek tributary	C	WBIF / Other	1 projects completed	Cloquet Headwaters		Lake SWCD		✓	✓	✓		\$200,000
Use assessment data to work with road authorities to prioritize replacement of 3 additional crossings	D	WBIF	3 assessments	Lower Cloquet Watershed		South St. Louis SWCD and St. Louis County		✓	✓			
Use road authorities 5–10-year plans to coordinate with crossing upgrades	C	Baseline	Annual Plan Review	Trout Streams & Tributaries, IBI Impaired streams	Watershed Wide	Counties / SWCDs	✓	✓	✓	✓	✓	

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.

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Geomorphic study of avulsion site on Upper Cloquet River	C	WBIF	1 completed study	Cloquet Headwaters		Lake and South St. Louis SWCD		✓	✓	✓		
Complete restoration studies on 2 reaches (Chalberg & Hellwig)	C	WBIF / Other	2 restorations completed	Lower Cloquet Watershed		South St. Louis SWCD						
Feasibility study of Pine Creek	C	WBIF	1 completed study	Cloquet Headwaters		Lake and South St. Louis SWCD		✓	✓	✓		
Restore 2 stream reaches (3000 linear feet) Cloquet and Pine in Cloquet Headwaters	C	WBIF / Other	2 restorations completed	Cloquet Headwaters and Lower Cloquet Watershed		Lake, South & North St. Louis SWCD		✓	✓	✓		

Protect & manage 6000 acres of private owned forests in areas that protect surface water, drinking/groundwater water quality and riparian habitat.

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Develop forest management plans and enroll 4200 acres of forest into SFIA, Easement in the Lower Cloquet Watershed	C	WBIF / Other	4250 acres protected	Lower Cloquet		South St. Louis SWCD & Private Foresters / DNR & NRCS	✓	✓	✓	✓	✓	\$180,000
Protect forests with SFIA, easements or acquisitions where they are protecting groundwater recharge areas for trout streams and are at risk for gravel pit development	C	WBIF / Other	X acres protected	Lower Cloquet		South St. Louis SWCD & Private Foresters / DNR & NRCS	✓	✓	✓	✓	✓	
Develop forest management plans and enroll 1800 acres of forest into SFIA, 2C or Easement in the Cloquet Headwaters Watershed	C	WBIF / Other	4250 acres protected	Cloquet Headwaters		Lake & North St. Louis SWCD & Private Foresters / DNR & NRCS	✓	✓	✓	✓	✓	\$80,000
Develop and education and outreach campaign for private forest owners	E&O	WBIF	1 campaign implemented	High RAQ Scored Parcels	Watershed Wide	Lake, North & South St. Louis / DNR & NRCS	✓	✓	✓	✓	✓	
Coordinate forestry activities within the watershed to promote forest health for water quality	C	WBIF	Ongoing coordination	High RAQ Scored Parcels	Watershed Wide	Lake, North & South St. Louis SWCD / DNR & NRCS	✓	✓	✓	✓	✓	

2000 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..

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Work with 1 livestock producer to exclude livestock from Beartrap Creek	C	WBIF / Other	1 project implemented	Beartrap Creek		South St. Louis SWCD / MDA, NRCS		✓				
Outreach to 3 livestock producers in Beartrap Creek	E&O	WBIF / Other	3 mailings	Beartrap Creek		South St. Louis SWCD / MDA, NRCS	✓		✓		✓	
Restore/establish 2000 feet of vegetated shoreline in riparian and lakeshore areas	C	WBIF / Other	1000 feet restored	Cloquet Headwaters		Lake & North St. Louis SWCD	✓	✓	✓	✓	✓	\$200,000
Enforce shoreland setbacks/buffers in all parts of the watershed	Policy	Baseline	Continued Local Program	Watershed Wide	Watershed Wide	Counties, Cities, Townships	✓	✓	✓	✓	✓	
Develop and implement a BMP education and outreach campaign to shoreline landowners in targeted areas	E&O	WBIF	1 Campaign implemented	Trout Streams & Tributaries, Wild Rice Waters	Watershed Wide	SWCD	✓	✓	✓	✓	✓	
Use RIM program to protect indicator species habitat	C	Other	See Forest Protection Action	Trout Streams & Tributaries, Wild Rice Waters, Wood Turtle	Watershed Wide	SWCD	✓	✓	✓	✓	✓	
Support sturgeon stocking by completing a feasibility study of LKS spawning habitat improvement at specific	C	Other	1 feasibility study	Below Island Lake dam		DNR / Fond du Lac						

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

What	How Much	Where	Who	When	Cost
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Collaborate with forest service to protect wild rice	C	WBIF	2 meetings	Upper Cloquet		Lake & North St. Louis SWCD / NFS & 1854 Treaty Authority, FDL, Bois Forte and Grand Portage bands	✓		✓			
Work with private landowners to protect shoreline areas on wild rice waters	C	WBIF	5 projects implemented	Grand Lake, Leora Lake		South St. Louis SWCD		✓				
Develop and implement an education and outreach campaign pm wild rice protection and value	E&O	WBIF	1 campaign developed and implemented	Grand Lake, Leora Lake	FDL, DUA	South St. Louis SWCD,	✓	✓	✓	✓	✓	