

Complete farm projects on 50% of properties identified as needing enhancements (e.g., livestock exclusion, manure storage, pasture management) where there are bacteria impairments.

What		How Much		Where		Who	When					Cost
Action	Program	Level of Effort	10-year measurable Outcome	Targeted Resources	Other Resources	Lead/ Supporting entities	2023-2024	2025-2026	2027-2028	2029-2030	2031-2032	Total 10-year cost
Develop whole farm plans/comprehensive manure management plans for 4 priority farms	C	WBIF/ Other	4 plans completed	E. coli impaired streams Swan River Watershed, Upper Sand		SWCD / MDA, NRCS	✓					
Implement at least 4 practices that prevent runoff or control access of livestock to streams	C	WBIF / Other	4 practices implemented	E. coli impaired streams Swan River Watershed, Upper Sand		SWCDs / MDA, Extension & NRCS						
Develop and implement an Education and Outreach campaign to livestock owners in priority areas.	E&O	WBIF / Other	Developed and implemented outreach campaign	Bacteria Impaired Waters	SSL	St. Louis & Carlton SWCDs / MDA, Extension & NRCS	✓	✓	✓	✓	✓	
Continue the enforcement of Open lot runoff management to meet 7020 rules	Policy	Baseline	Continued Enforcement	Watershed Wide	Watershed Wide	MPCA	✓	✓	✓	✓	✓	

50% of municipalities with identified bacteria impairments are implementing plans to reduce bacteria in surface waters.

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Develop and implement a pet waste education program	E&O	WBIF	1 program implemented	Municipalities in Swan and Sand Watershed		SWCDs / RSPT	✓	✓	✓	✓	✓	
Outreach to 9 municipalities	E&O	WBIF	9 municipalities contacted	Municipalities in Swan and Sand Watershed		SWCDs / RSPT municipalities	✓	✓	✓	✓	✓	\$30000+
Implement x projects to reduce bacteria to surface waters	C	WBIF	X projects implemented	Municipalities in Swan and Sand Watershed		SWCDs / Municipalities		✓	✓			
Assist with planning for 2 municipalities in Swan River and 3 municipalities in Upper Sand River watershed	C	WBIF	5 plans	Municipalities in Swan and Sand Watershed		SWCDs / Municipalities	✓					
Genetic study to identify source of E. coli	Data	Other	1 study completed	E. coli impaired streams Swan River Watershed, Upper Sand		MPCA, MDH			✓			
Work with other municipalities, townships, and organizations (with or without impairments) to implement Bacteria reduction strategies.	C	WBIF / Other	4 projects implemented	E. coli impaired streams Swan River Watershed,		North St. Louis SWCD	✓	✓	✓	✓	✓	

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				Upper Sand								
Provide outreach to municipalities for the MPCA Green Steps and Adopt a Drain programs	E&O	WBIF	2 programs adopted	E. coli impaired streams Swan River Watershed, Upper Sand	DUA	North St. Louis SWCD	✓	✓	✓	✓	✓	

Manage chlorides reaching surface and ground water from road salts and water softener salts by ensuring 50% of municipalities have Smart Salt Certified Staff, 50% Communities achieved Level 2 Certified & education & outreach to 100% of priority landowners.

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Outreach to 9 municipalities	E&O	WBIF	9 municipalities contacted	Municipalities in Swan and Sand Watershed		SWCDs / RSPT municipalities						
Assist with providing level 2 Smart Salt training for 2 municipalities in Swan River and 3 municipalities in Upper Sand River watershed	C	WBIF / Other	Training for 5 municipalities	Municipalities in Swan and Sand Watershed		SWCDs / Municipalities, MPCA						
Identify high priority private landowners and target outreach	E&O	WBIF	1 targeted outreach campaign implemented	Municipalities in Swan and Sand Watershed		SWCD/ RSPT						
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	Counties, Municipalities	✓	✓	✓	✓	✓	

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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	✓	✓				

Protect groundwater quality by sealing 20 unused, unsealed wells watershed wide

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Provide cost share to seal 20 unused wells	C	WBIF	20 sealed wells	1 mile buffer area around DWSMAs		SWCDs / MDH	✓	✓	✓	✓	✓	
Develop/update surface water source protection plans for municipalities (Virginia, Eveleth, Hoyt Lakes, Biwabik, Aurora & Chisholm)	Data	Other	6 plans updated or developed	Virginia, Eveleth, Hoyt Lakes, Biwabik, Aurora & Chisholm		MDH						
Develop and implement a groundwater monitoring program	D	Other	1 monitoring developed and implemented	Watershed Wide	Watershed Wide	SWCDs / MDH			✓	✓	✓	

Promote the implementation of low impact development techniques to reduce stormwater runoff, volume and rate control in 50% of communities

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Complete stormwater plans for 5 municipalities	C	WBIF	5 plans completed	Surface Water – Drinking Water supply areas		North St. Louis SWCD / County						
Develop and implement a homeowner program for help with design and implementation of BMPS's such as rain gardens and urban forestry	C	WBIF	1 program implemented	Municipalities in Swan and Sand Watershed	DUA, SLS	North St. Louis SWCD	✓	✓	✓	✓	✓	
Look for opportunities to reduce flood risk and associated infrastructure damage	C	Other		Municipalities in Swan and Sand Watershed	Watershed Wide	North St. Louis SWCD						
Work with road authorities to educate and implement stormwater BMPs associated with roadside ditches to help slow the flow and minimize will minimize un-vegetated channels and associated erosion	C	WBIF	5 projects implemented	Municipalities in Swan and Sand Watershed	DUA, SLS	North St. Louis SWCD, St. Louis County, Road Authorities	✓	✓	✓	✓	✓	

Reconnect 3 miles of priority streams and tributaries to benefit aquatic life and improve water quality.

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Complete fish friendly culvert design for 2 culverts	C	WBIF	2 designs	Swan River Watershed		North St. Louis SWCD		✓				
Outreach to road authorities in the Swan River watershed	E&O	WBIF	X meetings with road authorities	Swan River Watershed		North St. Louis SWCD	✓					
Complete culvert inventory in Upper Sand watershed	Data	WBIF	1 inventory completed	Upper Sand Watershed		North St. Louis SWCD						
Complete feasibility study and preliminary design of dam removal on Ely Creek	C	WBIF	1 feasibility study completed	Ely Creek/Ely Lake		North St. Louis SWCD / DNR						
Use road authorities 5–10-year plans to coordinate with crossing upgrades	C	Baseline	Annual Plan Review	Trout Streams & Tributaries	Watershed Wide	Counties / SWCDs	✓	✓	✓	✓	✓	

Restore stream reaches that have been altered by human activity, including impounded, straightened, and incised stream reaches on 2000 Linear Feet of high priority streams and tributaries.

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Inventory priority reaches to prioritize restoration sites including, if possible, info on which restorations would also help reduce costs associated with major flooding	Data	WBIF	1 completed inventory	Swan and Upper Sand Watersheds		North St. Louis SWCD	✓	✓				
Restore 2000 linear feet of stream	Data	WBIF	2000 feet restored	Swan and Upper Sand Watersheds		North St. Louis SWCD			✓	✓	✓	

Maintain current acre/feet of watershed storage by restoring wetlands in identified priority areas where they have been lost and/or altered due to ditching or development activities.

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Coordinate x meetings with ditch authorities to discuss possible options for ditch decommissioning/stream restoration	C	WBIF	X meetings	Swan and Upper Sand Watersheds		North St. Louis SWCD / St. Louis County						

Protect & manage 4000 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 for 4000 acres of privately owned forest (~47 plans)	C	WBIF / Other	4000 acres planned	High RAQ score parcels		North St. Louis SWCD, Private Foresters / DNR, NRCS	✓	✓	✓	✓	✓	
Target outreach to 200 priority landowners	E&O	WBIF	200 landowners contracted	High RAQ score parcels		North St. Louis SWCD, Private Foresters / DNR, NRCS	✓	✓	✓	✓	✓	
Enroll 4000 acres of privately owned forest in SFIA or easements	C	Other	4000 acres protected	High RAQ score parcels		North St. Louis SWCD, Private Foresters / DNR, NRCS		✓	✓	✓	✓	
Develop and implement an education and outreach campaign for forest landowners.	E&O	WBIF	1 outreach campaign developed and implemented	RAQ prioritized parcels	Watershed Wide	St. Louis & Carlton SWCDs/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	SWCD / DNR & NRCS	✓	✓	✓	✓	✓	

1500 Linear 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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Targeted outreach and workshops to shoreline owners and operators.	E&O	WBIF	1 campaign implemented	Swan & Upper Sand Watershed		North St. Louis SWCD						
Design and Implement 1500 linear feet of shoreland restoration	C	WBIF	1500 restored	Swan and Upper Sand Watershed		North St. Louis SWCD						
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	✓	✓	✓	✓	✓	