LOWER MINNESOTA RIVER
WATERSHED DISTRICT

August 2018 Administrator report
From: Linda Loomis, Administrator
To: LMRWD Board of Managers

In addition to items on the meeting agenda, work continues on the following District projects and issues:

Metro-area Watershed Based Funding
Projects have been submitted to BWSR and approved. Staff will begin preparing work plans. Copies of the spreadsheets submitted by Carver, Dakota and Scott Counties are attached. In Hennepin County the Watershed Districts within the Minnesota River Watershed pooled allocations to use for a project to reduce Chlorides. (Dakota County only shows the LMRWD project)

Minnesota River Basin Integrated Watershed Spin-off Studies
I have received notice from the US Army Corp of Engineers that they have submitted a request for funding for one of the studies and will let us know progress/success.

Closing of Upper St. Anthony Lock
The US Army Corp of Engineers has closed the Upper St. Anthony Lock on the Mississippi River. They are currently taking public comment about the possible disposition of the lock and dam. After a conversation that I had with Russ Eichman, Executive Director, Upper Mississippi Waterway Association, I plan to send comments to the Corp.

The discussion we had was about the impact not maintaining the navigation channel on the Mississippi River would have on the Minnesota River. I asked my contacts at the Corp and Taylor Luke at LS Marine, if they had any idea what the effect would be on the collection of sediment at the confluence of the two rivers. I also checked in the Joel Groten of the USGS, who agreed with me that questioning the impact is not unreasonable.

Upcoming meetings/events

- USACE River Resource Forum - Monday, August 20 - Tuesday, August 21, 2018; Lansing Iowa
- MN Aquatic Invasive Species Research & Management Showcase - September 12, University of Minnesota, Continuing Education and Conference Center, 1890 Buford Avenue, St. Paul, MN
- Metro Children's Water Festival - Wednesday, September 26, 2018, 8:00am to 3:00pm, MN State Fair Grounds
- Pollinator Summit 2018 - Friday, October 12, 2018, 9:00am to 4:30pm, Minnesota Landscape Arboretum
- Minnesota Water Resource Conference - Tuesday, October 16 - Wednesday, October 17, 2018; River Centre, St. Paul

- Climate Adaption Conference - November 14, 2018, University of Minnesota, Continuing Education and Conference Center, 1890 Buford Avenue, St. Paul, MN

Carver County Collaborative Project List

Responsible Party/Agency	Name of Activity/Project/Program	Description of Activity/Project/Program	Plan reference	Water Resource(s)	Timeframe for implementation	Grant funds requested	Local match (min. 10%)	Total project cost	Measurable Outcomes	Other Notes (if needed)
CCWMO	Lake Waconia Stormwater Main Retrofits	The proposed project will include a series of stormwater main retrofits that ultimately outlet directly to Lake Waconia. Specifically, four outlet pipes will be retrofitted and equipped with SAFL Baffles. Currently, these outlets discharge untreated stormwater runoff from nearly ten acres from downtown Waconia directly to the lake.	CCWMO Plan: Table 4-3 (p. 4.28 - ID 31)	Lake Waconia is considered to be a high priority protection lake by the CCWMO. Carver Creek flows through Lake Waconia, which has downstream AUID segments that are impaired for river eutrophication	2019	$90,000.00	$22,500.00	$112,500.00	Project will provide TP load removal of 24.97 lbs/yr that is currently entering the lake. In addition, the retrofits will decrease the annual Total Suspended Solid (TSS) load entering the lake by 7,134 lbs/yr.	Ten-year TP average analysis suggests Lake Waconia is on the fringe of impairment, averaging just below the 40ug/L threshold over that period. CCWMO considers Waconia to be a high priority protection lake.
CCWMO	Grace Chain of Lakes Subwatershed Analysis Implementation	This project will help improve the water quality of these lakes through a series of BMPs that have been identified in the "Grace Lake Chain Sub-watershed: Stormwater Retrofit Analysis" (2014). Water quality improvements will be achieved by the reduction in total phosphorus, total suspended solids, and total surface volume discharging to the Chain of Lakes. This proposal will fund a total of 11 specific BMPs, including 8 SAFL Baffles, 3 pond modifications - 2 with iron enhanced sand filters, and 1 with a modified outlet to increase storage.	CCWMO Plan: Table 4-3 (p. 4.29 - ID 37); City of Chaska Water Plan: Section 4.8.1 (pgs 66-67) and 6.8 (pg 109)	Lake Grace (AUID 10-0218), Jonathan (AUID 10-0217), and Hazeltine (AUID 10-0014) are 303d listed for 'Nutrient Eutrophication Biological Indicators' Pollutant and Stressor. They discharge into East Chaska Creek, which is listed as impaired for 'Turbidity', 'Fish Bioassessments', and 'Fecal coliform'.	2019-2020	$150,000.00	$37,500.00	$187,500.00	Because the sub-watershed analysis has been completed, these projects are Prioritized, Targeted, and Measureable. The SAFL Baffles will reduce phosphorus loading by 12 lbs/yr and pond modifications 3.5 lbs/yr. IESF benches and raising NWL will remove an additional 5.5 lbs/yr.	
CCWMO	West Chaska Creek Restoration Re-Meander	The project will re-meander approximately 1,100 linear feet of a ditched segment of West Chaska Creek. Lengthening the channel will reduce water speeds, lower sheer stress on the banks, reconnect the stream to its floodplain, and reduce the amount of sediment transported downstream. Based on upstream reference reaches and changes observed since the stream was straightened, the re-meander project will reduce total suspended solids by an estimated 4,400 lbs/yr.	CCWMO Plan: Table 4-3 (p. 4.28 - ID 32 and p.4.29 - ID 39); City of Chaska Water Plan: Section 4.7 (pgs 62 - 63) and 6.8 (pg 109, 114-115)	West Chaska Creek (AUID 07020012-802) is near the threshold for turbidity impairment. This section of stream is also a contributor of excess sediments to the Lower Minnesota River (AUID 07020012-505) which is on the 303d Impairment list for turbidity.	2019-2020	$150,000.00	$37,500.00	$187,500.00	Based on upstream reference reaches and changes observed since the stream was straightened, the re-meander project will reduce total suspended solids by an estimated 4,400 pounds per year.	Re-meandering the stream will increase its length, reduce shear stress on stream banks, reduce sedimentation and decrease the number of bank failures. The stream will be reconnected to its floodplain, allowing more sediment to drop out of the water column as flow rates are decreased in the floodplain.
CCWMO	Lake Bavaria South Shore BMP Retrofits	The proposed project will include projects in two locations along Rhoy Ave with a total of 5 BMPs, ultimately protecting Lake Bavaria (MN DNR ID# 10001900) from further eutrophication, and to enhance shoreline/upland habitat. Untreated stormwater runoff entering Lake Bavaria has been identified as the primary threat to its continued eutrophication. The Carver County Water Management Organization (CCWMO) has identified five potential BMP retrofits that include four new sumps with SAFL Baffles and one biofiltration basin.	CCWMO Plan: Table 4-3 (p. 4.28 - ID 31); City of Chaska Surface Water Management Plan: section 6.8 (pg 105).	Lake Bavaria (MN DNR ID #10001900) is classified as a deep lake located in the eastern portion of Carver County. Ten-year TP average analysis suggests Lake Bavaria is on the fringe of impairment. CCWMO considers Bavaria to be a high priority protection lake.	2018-2020	$47,979.00	$12,500.00	$60,479.00	Estimates of existing conditions show that roughly 8000 pounds of sediment and 32 pounds of phosphorus discharge untreated to Lake Bavaria. This project will reduce this by roughly 1000 pounds of sediment and 3 pounds of phosphorus a year.	
CCWMO	Lake Bavaria Stormwater Pond Retrofits	The proposed project will include retrofits of a series of two stormwater ponds (on City of Victoria property) that outlet directly to Lake Bavaria. The ponds were designed to NURP standards, and the proposed project will add sand/iron filtration trenches. The ponds together receive stormwater runoff from a drainage area of 100 acres. Monitoring data collected at the pond series outlet entering Lake Bavaria has shown Total Phosphorus (TP) concentrations nearing 200ug/L.	CCWMO Plan: Table 4-3 (p. 4.29 - ID 38)	Lake Bavaria (MN DNR ID #10001900) is classified as a deep lake located in the eastern portion of Carver County. Ten-year TP average analysis suggests Lake Bavaria is on the fringe of impairment. CCWMO considers Bavaria to be a high priority protection lake.	2019-2020	$80,000.00	$20,000.00	$100,000.00	Retrofitting two of these stormwater ponds with 600 linear feet of sand-iron filtration trenches will provide an annual TP load removal of 19.42 pounds currently entering Lake Bavaria. In addition, the retrofits will decrease the annual Total Suspended Solid (TSS) load entering the lake by 100 lbs	A pollutant (TP) reduction goal has not been established for Lake Bavaria, as it has not necessitated a restoration plan due to it currently meeting state water quality standards. The ten-year TP average however is just under the 40ug/L threshold.
MCWD	Wassermann West Restoration	Lake Wassermann is an impaired waterbody requiring substantial internal and watershed load control. This project will address a hot spot of phosphorus export, a 6 acre pond adjacent to the Lake on a property owned by the District, through alum treatment, as well as ravine stabilization south of property in a degraded channel.	"Wassermann West External Load Reduction and Landscape Restoration" MCWD 2017 WMP, pg. 560	Lake Wassermann; Wassermann West Wetland	first treatment 2018; Monitoring 2019; second treatment 2020	$93,879.00	$11,821.00	$105,700.00	35 lbs P/year	A feasibility study will need to be approved by BWSR prior to funds being spent on these activities.
LMRWD	East Chaska Creek Restoration Project	Channel Stabilizations/Constructed wetland along Chaska Blvd. *See additional information in the attached word document.	Part of Implementation plan contained in the Strategic Resource Inventory	East Chaska Creek/Minnesota River	2018/2019	$25,472.00	$143,028.00	$168,500.00	Address various impairments on the Creek/Mitigate sediment transport to MN River *See additional information in the attached word document.	A Feasibility Study for East Chaska Creek was performed as part of the District's SRE in 2012 (Appendix B). Reaches of the stream were actively eroding or had outside bend erosion during a field visit conducted on August 28, 2012. Recommended that localized problems at outfalls and crossings be addressed with grade control structures and bank stabilization measures.
RPBCWD	Wetland restoration and Flood Mitigation Project	Restore 7 acres of wetlands and enhance remainder of wetland. Grant funds will be used for wetland restoration activities (not acquisition).	Section 6.2 (2018), Section 9.2 (2018)	Bluff Creek Watershed	2018-2021	$111,870.00	$350,000.00	$461,870.00	Remove 3 properties from flood zone, restore 7 acres of wetlands, connect public with resource, reduce volume, rate, pollution loads to Bluff Creek	City of Chanhassen is a partner for this project. CCSWCD is a partner on this project.
					Totals:	$749,200.00	$634,849.00	$1,384,049.00		

(BACK-UP) Carver County Collaborative Project List

Responsible Party/Agency	Name of Activity/Project/Program	Description of Activity/Project/Program	Plan reference	Water Resource(s)	Timeframe for implementation	Grant funds requested	Local match (min. 10%)	Total project cost	Measurable Outcomes	Other Notes (if needed)
CCWMO (Back-up)	Implementation of Lake Waconia Subwatershed Assessment	Identify and implement strategies identified in the Lake Waconia Sub-Watershed Analysis Feasibility Study to preserve and protect the quality of Lake Waconia. These strategies will help the CCWMO meet the goal of maintaining or improving the condition of surface water resources in the lakeshed.	CCWMO Project #7 (Table 4-3)	Lake Waconia	2019-2020	$100,000.00	$25,000.00	$125,000.00	Total project costs will allow for the installation of 10 - 36 practices as outlined in the Lake Waconia SWA, resulting in a reduction of 40 - 705 pounds of phosphorous.	
CCWMO (Back-up)	Carver Creek Dahlgren Township Gully Stabilization	Carver Creek Gully Blowout. Stabilize a large gully on Carver Creek in Section 26, Dahlgren Township.	CCWMO Project #22 (Table 4-3)	Carver Creek	2019-2020	$30,000.00	$10,000.00	$40,000.00	Repairing a gully forming along a bluff next to Carver Creek will reduce the amount of total suspended solids by 566 tons.	
CCWMO (Back-up)	Feasibility and Implementation of Internal Load Reductions on Hazeltine Lake	Implement methods to reduce internal loads and improve water quality in Hazeltine Lake as identified in the Feasibility Study.	CCWMO Project #16 (Table 4-3)	Hazeltine Lake	2019-2020	$100,000.00	$25,000.00	$125,000.00	Hazeltine Lake has a high internal load impacting water quality, this project will identify and prioritize implementation practices to meet the goal of 2,721 pounds or 91% total reduction of internal loading.	A feasibility study will need to be reviewed and approved by BWSR prior to funds being spent on these activities.
LMRWD (Back-up)	Seminary Fen Restoration and Ravine stabilization	Colloborate with the city of Chaska to acquire 3.61 acres of wetland for protection and restoration, disable wetland drainage system and restoring vegetation. Stabilize ravines that are discharging sediment into fen complex. *See additional information in the attached word document	Seminary Fen Restoration and Ravine Stabilization at Seminary Fen are in the LMRWD CIP	Seminary Fen	2019-2020	$25,472.00	$384,528.00	$410,000.00	Property acquistion would enable removal of invasive species that threaten previously restored areas of Seminary fen. Removal of drainage system would restore hydrology and may have secondary benefit of rducing the flashy flows to Assumption Creek, a designated trout water. Ravine stabilization would address active erosion and reduce sediment load to the Seminary fen wetland complex.	1) Purchase of property at Engler and Audubon, design and construction = $75,000; 2) Restore a 17 acre swath of wetland from Falls Curve Road to Old Highway 12 = $75,000; 3) Area C-2 Ravine study = $30,000; Design/Construction = $75,000 - $100,000; 4) Area C-3 Ravine study = $30,000; Design/Construction = $75,000 - $100,000 (Funds would not be used for property acquisition; see additional information in attached word document.)
MCWD (Back-up)	East Auburn Wetland Restoration	East Aburn is an impaired waterbody requiring a total reduction of 626 lbs phosphorus, 410 of which are from watershed sources. This project will include feasibility, restoration design, and implementation of one (1) wetland restoration targeting nutrient reduction.	"East Auburn Wetland Restoration" MCWD 2017 WMP, pg. 563	East Auburn Lake and tributary wetland complexes	Feasibility 2019; Design construction 2020-2021	$93,879	$456,121.00	$550,000.00	TBD via feasibility. Total load reduction target across three wetlands is approx. 410 lbs/year	Costs are approximate pending feasibility in 2019. Total cost includes: Feasibility: $50,000; Design: $100,000; Construction: $400,000. If this project moves forward with grant funding all grant criteria will be met and workplans and details will be completed prior to any funds being spent.
RPBCWD (Back-up)	Upper Riley Creek Stabilization	Stabilize upper Riley Creek	Section 8.2 (2018)	Riley Creek Watershed	2018-2021	$111,870.00	$1,625,000.00	$1,736,870.00	Stabilize streambank which would reduce in sediment and nutrient load reductions into Lake Susan and the lower half of the Riley Creek Watershed, restore habitat, educate the public. Estimated reductions of 231 lbs/yr of TP; and 401,500 lbs/yr of TSS.	City of Chanhassen is a partner for this project. CCSWCD is a partner on this project. Additional details will be provided in the workplan prior to any grant funds being spent on this project.
					Totals:	$461,221.00	$2,525,649.00	$2,986,870.00		

Dakota Collaborative Implementation Plan - Lower Minnesota River Watershed District

Major Watershed	Entity	Name of Activity (List in order of Priority)	Description of Activity	Plan Reference(s)	Targeted Water Resource(s)	Timeframe For Implementation	Grant Funds Requested	Local Match Amount (Minimum 10%)	Total Project Cost	Preferred Fiscal Agent (Grantee)	Preferred Grant Reporting (Admin)	Measurable Outcomes	Comments
Minn R - East Lower (56)	**Lower MN WD**	Dakota County Fen Study/Management Plan	Complete a gaps analysis in coordination with the DNR to assist in the protection of groundwater-dependent resources. End goal is to develop (along with the DNR) a managment plan for all fens in the LMRWD. This project would assist the development of rules and a permitting program for activity in High Value Resource Areas identified in the LMRWD Watershed Management Plan Amendment.	LMRWD Plan Section 1.6.4-Fens; Section2.4.6 - Issue 6-Groundwater; Strategy 2.2.1-Watershed Management Standards-Water Appropriation Standard: Section 3.4, Goal 3-Groundwater Management to Protect and Promote Groundwater Quality and Quantity; Section 4.3.5-Monitoring;	Dakota County Fens - Fort Snelling, Nichols, Quarry Island & Black Dog	2018/2019	65,450	54,550	120,000	**Dakota SWCD**	**Dakota SWCD**	The measurable outcome would be a completed gaps analysis	Since 2007, District has monitored fen wells in cooperation with Dakota County SWCD. Monitoring has indicated declining water levels in several of the wells. In 2015, the District conducted a cursory analysis of the Dakota County fens. Since that analysis the District has engaged the MN DNR to develop a strategy to define the approximate horizontal extent of the recharge zones for each of the four fens and provide a method of identifying proposed groundwater withdrawls that could induce a one foot or greater decline in the hydrologic head at one or more of the four fens. This will help the LMRWD develop rules for the High Value Resource areas
						Totals:	**65,450**	**54,550**	**120,000**				

Scott County Collaborative Project List

Responsible Party/Agency	Name of Activity/Project/Program	Description of Activity/Project/Program	Plan reference	Water Resource(s)	Timeframe for implementation	Grant funds requested	Local match funds (minimum 10%)	Total project cost	Measurable Outcomes	Other Notes (if needed)
LMRWD	Prior Lake Outlet Channel Realignment/Wetland restoration	This project incudes a feasibility study to determine potential water quality benefits to Dean Lake that would result from restoration of the Prior Lake Outlet Channel including altering the alignment (creating meanders) and constructing a flow-through wetland complex to slow the flow of water. Funds will also be used towards the construction of identified activities/BMP's that will benefit water quality in Dean Lake and, subsequently, the Minnesota River downstream.	Strategy 2.2.5: Dean Lake Feasibility/Diagnostic Study. Dean Lake has poor overall water quality. This project would evaluated the potential of meandering the PLOC upstream from Dean Lake. Table 4-4 LMRWD Capital Improvement Projects calls for water quality treatment BMPs in the upstream watershed of Dean Lake	Dean Lake/Minnesota River	2019 through 2020	**$71,570.00**	**$7,157.00**	$78,727.00	The outcome would be a report to evaluate the cost and potential for water quality improvement and retention of water in a wetland complex upstream of Dean Lake. It is estimated that this project if supported by the feasibility report could remove 30-50 lbs. of TP annually and 75,000 to 100,000 lbs. of TSS annually.	The total projected cost of implementation of this project contained in the City of Shakopee's CIP is $800,000. Watershed Based Funding will only capture a portion of this project (est. $20,000 for feasibility report and $51,550 for project implementation). Of the total cost, $15,000 is coming out the $150,000 allocation designated by the Partnership for "Collaborative Projects". When the feasibility study is completed, the Work Plan will be amended to include specific implementation activities that will benefit water quality. The Prior Lake Outlet Channel Partnership will be informed of the findings of the study and the Partnership will be included as appropriate.
LMRWD	Schroeder Acres Park/Eagle Creek sub-watershed stormwater study	This project would be a study to look at the stormwater wetland design and the opportunity to re-use stormwater for irrigation. The project will conduct a subwatershed assessment to ascertain whether or not current system is treating water as intended and determine what changes are needed to prevent nutrients do not reach Eagle Creek, a designated trout stream. The project will also address the temperature of water flowing from regional stormwater treatment chain to Eagle Creek. The project will include development of concept and preliminary designs.	Section 3.3 Goal 2: Surface Water Management - To Protect, Improve and Restore Surface Water Quality. This project would fall under the Unique Natural Resource Category as it is in the Eagle Creek sub-watershed of the District.	Eagle Creek/Minnesota River	2019 through 2020	$60,000.00	$6,000.00	$66,000.00	The outcome would be a report that could be used to evaluate the potential for improvement of Eagle Creek to support trout.	
LMRWD	Targeted BMP for downtown Shakopee area	This project would analyze current stormwater system in Shakopee and identify opportunities to implement BMPs before stormwater is discharged into the Minnesota River.	Section 3.3 Goal 2: Surface Water Management - To Protect, Improve and Restore Surface Water Quality. Specifically Strategy 2.2.4 Water Quality Restoration Program, which provides financial assistance to LGU's within the District to implement BMPs or carry out studies which will aid in protecting and improving water resource within the District.	Minnesota River	2019 through 2020	$25,000.00	$2,500.00	$27,500.00	The outcome would a report that analyzes the current stormwater system in downtown Shakopee and identifies possible BMPs to treat and improve the quality of stormwater before it reaches the Minnesota River.	
PLSLWD	Comprehensive Carp Management in Spring and Upper Prior Lake	Both Upper Prior and Spring Lakes have a TMDL for nutrients. The proposed project will maximize water quality restoration by removing the majority of carp in the system through tracking, seining, installation of carp barriers and community outreach and involvement.	4.2.2.6 Fish Management (p 4-34)	Upper Prior and Spring Lake	2019-2021	**$140,000.00**	**$14,000.00**	$154,000.00	The project is anticipated to remove as much as 600 pounds of phosphorus from Spring and Upper Prior Lakes and effectively managing carp populations. Through outreach, residents will understand the influence of common carp on water quality.	
PLSLWD	Spring Lake West Subwatershed Feasibility Study	The Feasibility Study will investigate stormwater BMP alternatives for treatment of the subwatershed. The subwatershed is drained via a ditch running from the Scott County Highway Department to the west side of Spring Lake. Monitoring results indicate high phosphorus, conductivity, chlorides e-coli and nitrates.	4.2.3.6 Feasibility Reports (p 4-45)	Spring Lake	2019-2021	$20,000.00	$2,000.00	$22,000.00	Study will develop concept plans for up to 2 BMPs, preparation of refined cost estimates and result in the selection of preferred options.	Funds for this activity come out of the $150,000 allocation designated by the Partnership for "Collaborative Projects".
PLSLWD	Lower Prior Lake Subwatersheds 6 and 36 Retrofit Feasibilty Study	The Feasibility Study will investigate the potential for retrofit water quality BMPs in this subwatershed demonstrating high pollutant loads.	4.2.3.6 Feasibility Reports (p 4-45)	Lower Prior Lake	2019-2021	$15,000.00	$1,500.00	$16,500.00	Study will develop concept plans for up to 2 BMPs, preparation of refined cost estimates and result in the selection of preferred options.	Funds for this activity come out of the $150,000 allocation designated by the Partnership for "Collaborative Projects".
PLSLWD	Targeted BMP Study for Regional BMPs--Blue Lake Channel Cooperative Regional Storm Pond	The Feasibility Study (1/3 funded by PLSLWD) will investigate the possibility of constructing a joint regional stormwater pond and/or other BMP's in partnership with SMSC on the on the Blue Lake Channel prior to outletting to the Prior Lake Outlet Channel, for the intent and purpose of creating downstream water quality improvements.	4.2.3.6 Feasibility Reports (p 4-45)	Minnesota River	2019-2021	$10,000.00	$1,000.00	$11,000.00	Study will result in the selection of preferred options.	
SWMO	Expand Technical Assistance and Cost Share (TACS) program	Consists of expanding the existing TACS program of the Scott WMO, in areas outside of the Sand Creek Watershed where available resources over the next few years are low. The TACS program provides technical and financial assistance to property owners and public entities to address water quality issues, and install practices. The program is guided by the approved Comprehensive Water Resources Management Plan of the Scott WMO with targeting guided by additional special studies or subwatershed assessments completed by the WMO or the Scott SWCD. For this effort targeting will be guided by the Credit River Protection Plan completed by the Scott WMO, the Cleary Lake Subwatershed Assessment being completed in 2018, and the assessments for chloride, Roberts Creek and Thole Lake listed as additional collaborative projects below. Practice eligibility and standards are guided by the Conservation Practice Financial Assistance Program Policy Manual which currently includes 24 practices (including Innovative Practices), and is reviewed and updated annually by the Scott WMO and the Scott SWCD. Match will come from landowner and/or public entities cost share.	Multiple strategies are included in the current SWMO Plan regarding the provision of technical assistance and cost share/incentives, these include: Strategy 1.3.1 Incentive Payments (for wetland restoration) page 3-9; Strategy 1.3.4: Targeted Wetland Restoration/Riparian Reforestation page 3-10; Strategy 2.2.2: Cost Share for Innovative Practices page 3-15: Strategy 2.3.1: Cost Share and Incentive Program for Existing Land Uses page 3-16; Strategy 2.3.3: Technical Assistance page 3-32; Strategy 2.3.9: Credit River Protection Plan page 3-42. In addition, Scott WMO new draft Plan (currently out for comment with approval anticipated by the end of 2018) includes strategies for Cost Share & Incentives, Innovation, Targeting and Technical Assistance (section 4).	Credit River, Roberts Creek, O-Dowd, Thole and Cleary Lakes	2019 through 2021	$140,000.00	$14,000.00	$154,000.00	Number and type of practices completed. Annual trophic state monitoring of the three lakes, and assessment of trends. Credit River monitoring completed by Met Council and assessment of trends (when Met Council updates trends). Annual calculation of watershed yield for the Credit River using data from the Met Council site. Estimated total reductions when fully implemented are 3,500 lbs. phosphorus and 3,500 tons sediment per the average cost efficiency and assumptions in the Other Notes column.	The TACS program has historically operated (including staff time) at a cost between $17 and $250 per pound of estimated phosphorus reduction over the life of the practices. The average is estimated $40/lb. phosphorus. Assume 1 lbs. phosphorus per 1 ton sediment.
SWMO	Chlorides Assessment	In the Scott WMO, Sand Creek, Credit River and Raven Stream are all listed as impaired for aquatic life due to chlorides. In the LMRWD, PLSLWD, and VRWJPO, chloride is not specifically called out as an impairment. However, chloride concentrations in lakes and streams are becoming an increasing concern not only in Scott County but throughout the entire metro area so taking both restorative and preventative actions is important. This project consists of completing chloride applicator trainings and assessments, and follow-up coaching designed to help both public and private deicing operations plan to reduce chloride application and identify priority actions to get started or to improve. The first task consists of completing 8 to 12 chloride applicator trainings over the next three years starting the fall of 2018. These trainings would be a mix of road and parking lots trainings including both Levels 1 and 2. The second task consists of having "coaching" assistance or demonstrations available for entities who had staff that completed the training. Coaching could consist of being able to call with questions, or visits to interpret results of Level 2 assessments and to help entities get started. For this, time would be reserved with the consultant completing the trainings, and with a public works professional with experience in chloride alternatives. Demonstrations would be hosted for things like calibration equipment, mixing brine, and/or other topics requested by the training participants. The third task is coordinating and scheduling the trainings, demonstrations, and coaching; and managing the project. Match will be provided as in-kind time by the Scott WMO.	SWMO: This effort will assist cities develop plans and actions necessary to complete Strategy 2.7.2: Salt and Sanding Best Management Practices in Local Water Plans page 3-50. It will also provide technical assistance to both public and private entities involved in deicing per Strategy 2.3.3: Technical Assistance (page 3-32) which calls for "providing staffing to provide technical assistance to landowners and municipalities interested in conservation." LMRWD: Section 2.2.3 Water Quality; Issue 3 (p 2-3) - Water Quality; Non-point sources, where the plans states "Salt leached from soil by irrigation practices and from road and parking lot application"... The Plan also lists in the Section E 3.2 Watershed Purpose (p E-3), "Identify and plan for means to effectively protect and improve surface and groundwater quality and Section E 3.3 Goals; Goal 2 "To protect, preserve and restore surface water quality". Strategy 2.2.1 Watershed management standards - Stormwater Management Standard (p 3-12) "Protect and improve natural resources within the watershed to prevent further degradation" and Strategy 2.2.4 Water Quality Restoration Program (p 3-25). "...to provide financial assistance to....implement BMPs...which will aid in protecting and improving water resources within the District".	Credit River, Sand Creek, and Raven Stream (Restoration) Prior Lake Chain of Lakes, Eagle Creek, Vermillion River, Minnesota River and minor tributaries in Scott County (Protection)	2018 through 2020	$45,000.00	$4,500.00	$49,500.00	Completion of 8 to 12 trainings as scheduled/planned with a goal of 50 - 60 attendees total. Pre-and post-training surveys of participating entities to be completed to identify and document behaviors and practices as related to chloride use and BMP adoption.	Funds for this activity come out of the $150,000 allocation designated by the Partnership for "Collaborative Projects".
SWMO	Expand Education/Outreach efforts directed at bacteria and chlorides	This project consists of expanding education and outreach efforts mostly directed at the private landowners and commercial applicators with respect to bacteria and chlorides pollution. This is an area that has not had a lot of focus in the existing outreach efforts in the county. However, recent assessments have found an increase in the number of waters in the county that will be listed for these parameters. Efforts will be designed to increase awareness, and what can be done to address the impairments. It will be implemented through the Scott Clean Water Education Program (SCWEP) which is a partnership of the Scott SWCD, Watershed Organizations in the County, Scott County and some of the cities and townships in the county. Match will be provided by the SCWEP partners.	SWMO: Policy 5.3: Provide Education and Marketing to Foster Sustainable Behaviors and Environmental Stewardship includes a number of strategies on pages 3-68 and 3-69 for education and outreach including: Strategy 5.3.2: Specific Information and Education Materials, Strategy 5.3.3: Promote a Variety of Education Programs, and Strategy 5.3.4: Use Multiple Outlets to Distribute Information. LMRWD: Policy 9.2: Provide Education and Marketing to Foster Sustainable Behavior and Environmental Stewardship (p 3-7) PLSLWD: Section 4.2.6. Education and Outreach (p 4-68 - 4-72)	Waters impaired for bacteria and chloride including: Raven Stream, Sand Creek, Porter Creek, Credit River, Vermillion River, Eagle Creek, Minnesota River, Roberts Creek, and Brewery Creek.	2018 through 2021	$35,000.00	$3,500.00	$38,500.00	Produce 2-4 articles annually reaching 55,000+ households with each publication; develop web page dedicated to chloride and bacteria information on county/WMO website and share link to all LGU's; post 2-4 articles/year on social media platforms and encourage sharing among all LGU's; develop subject-matter banner and take-away materials to use with existing SCWEP display; participate in 3-6 public events with goal of reaching 2000+ people.	Funds for this activity come out of the $150,000 allocation designated by the Partnership for "Collaborative Projects".
SWMO	Complete Subwatershed Assessments to Identify Future Potential Projects and Guide Targeting the TACS program	This effort consists of completing two subwatershed assessments designed to identify and prioritize potential BMPs. The two subwatersheds to be completed include the Thole Lake and Roberts Creek subwatersheds. The Thole Lake assessment will focus on identifying practices that control phosphorus. The Roberts Creek assessment will focus on nitrates, bacteria and total suspended solids. Match will be provided as in-kind time from the Scott WMO.	Strategy 2.4.1 "Complete Diagnostic Studies/TMDL's and Subwatershed Assessments leading to targeted implementation and monitoring" calls for the completion of additional subwatershed "assessments for other known problem areas." page 3-45. Strategy regarding Information & Studies is also included in the new Draft SWMO Plan.	Thole Lake and Roberts Creek	One assessment each in 2019 and 2020	$30,000.00	$3,000.00	$33,000.00	Completion of the Assessments	
SWMO	Feasibility Studies for Incorporating Water Quality Functions in Regional Stormwater Facilities	This effort consists of including feasibility assessments for the incorporation of water quality components in regional stormwater management facilities being contemplated by the City of Shakopee (city projects 19-03 and 22-002). Match provided by the City of Shakopee.	Strategy 2.4.1 "Complete Diagnostic Studies/TMDL's and Subwatershed Assessments leading to targeted implementation and monitoring" page 3-45; Strategy 4.4.1 Promoting and Facilitating Regional Stormwater Management page 3-59; Strategy 7.7.4: Share Cost with LGU's for Projects with Inter-jurisdictional Benefits and/or Impacts (fits as these areas drain to the Prior Lake Outlet Channel and other Watershed Organizations)	Dean Lake and Minnesota River	2019 for project 19-003, and 2021 for project 22-002	**$20,000.00**	**$2,000.00**	$22,000.00	Completion of Feasibility Studies	One of the two areas crosses into LMRWD, and so cost was split with LMRWD with another $5,000 coming from their allocation.
SWMO	Twin Lakes Stormwater Reuse Feasibility Study	This efforts consists of completing a feasibility study regarding runoff volume control (including the reuse of stormwater) in the Twin Lakes area of the City of Savage. Completion of such a project is being contemplated in a couple of years. Match will be provided by the City of Savage.	Strategy 2.2.2: Cost Share for Innovative Practices page 3-15 specifically mentions stormwater reuse. Strategy 2.4.1 "Complete Diagnostic Studies/TMDL's and Subwatershed Assessments leading to targeted implementation and monitoring" also is intended to support the completion of necessary studies leading to implementation.	Twin Lakes, Credit River, and groundwater	2018-2019	$20,000.00	$2,000.00	$22,000.00	Completion of Feasibility Study	Of the total cost, $5000 is coming out of the $150,000 allocation designated by the Partnership for "Collaborative Projects".
SWMO	Updating Sand Creek water quality assessments and implementation plan	This effort consists of updating the Sand Creek implementation plan. A Diagnostic Study, and Implementation Plan were completed in 2010 focusing on reducing sediment and phosphorus pollution for Sand Creek and Cedar and McMahon Lakes. Much of the plan has been implemented, and new data has been collected by the MPCA (in support of developing WRAPS and TMDL's), Met Council, and the SWMO. The update will revise current strategies and flesh out additional strategies identified in pending Wraps and TMDL's. It will then be used to guide targeted implementation. Match will be provided by the Scott WMO.	Strategy 2.4.1 "Complete Diagnostic Studies/TMDL's and Subwatershed Assessments leading to targeted implementation and monitoring" calls for the completion of additional subwatershed "assessments for other known problem areas." page 3-45. Strategy regarding Information & Studies is also included in the new Draft SWMO Plan.	Sand Creek and its tributaries (Porter Creek, Picha Creek, Raven Stream) and lakes in the Sand Creek watershed (Cedar, McMahon, Pepin, Sanborn, Phelps, Cody, Pleasant, Rice, Cynthia, and St. Catherine).	2019-2020	$15,000.00	$1,500.00	$16,500.00	Completion of an update to the 2010 Sand Creek Feasibility Study and Implementation Plan - most likely in the form of a USEPA Section 319 9-Elements Plan.	We are doing this to inform additional targeted implementation, and the timing is right to combine this effort with MPCA's efforts for completing WRAPS and TMDL's in the Sand Creek Watershed. Our intent is also to do this with MPCA's assistance building on their WRAPS and TMDL effort since $15,000 is not enough collect additional data in addition to updating implementation targets. The product will likely be in the form of a USEPA Section 319 9-Elements Plan with that "plan" then forming the basis for a long-term commitment by USEPA and MPCA for a Section 319 Small Watershed grant. The product enabled by this effort is updated implementation targeting either compiled in a local report or as part of a Nine-Element Plan. Funds will not be used to develop grant applications. Funds for this activity are coming out of the $150,000 originally allocated by the Partnership for
SWMO	City of Prior Lake DWSMA Abandoned Well Assessment	Review City of Prior Lake Drinking Water Supply Management Area to develop a methodology for identifying probable locations of abandoned/unsealed wells. Methodology developed could then be used with other DWSMA's in the County. Results will also be used to target contacts for the well sealing cost share practice implementation through the TACS program. Match will be provided as in-kind time from the Scott WMO.	Strategy 3.1.3: Cost Share for Well Decommissioning page 3-51; Strategy 3.2.3: Support Wellhead Protection Efforts page 3-53 (note this past fall we had a request from LGU's/Water Utilities in the county to help with identifying abandoned wells and decommissioning them). Strategy regarding Information & Studies regarding groundwater management is also included in the new Draft SWMO Plan.	Groundwater, City of Prior Lake DWSMA	Either 2019, or 2020 depending on staff availability	$10,000.00	$1,000.00	$11,000.00	Completion of the Assessment, identification of locations of probable unsealed/abandoned wells, and methodology for future use in other DWSMA's.	
VRWJPO	Vermillion Wetland Restoration	To restore a six acre, partially drained wetland that is located in the highest tributary reach of the Vermillion River. The wetland area to be restored is located in an outlot owned by the City, which was platted as part of a subdivision known as the The Farm 3rd Addition. There is a field tile that runs in a northwest direction that is installed through the middle of the wetland, running the entire length. This tile currently drains the wetland between rainfall events. This field tile also serves as a drain for a farmed wetland further upstream on private property. It is unknown whether secondary tile lines connect to this tile and further drain the wetland. The City proposes to replace the field tile through this wetland with solid pipe (to maintain the upstream drainage) and construct an outlet structure to protect Webster/Zane Avenue from overtopping and provide a consistent normal water level. The restored water level would result in depths of 6 to 36 inches in the center of the wetland (deep marsh) and surface saturation to 6 inches deep at the edges (shallow marsh). The field has been used to raise alfalfa for decades, so emergent native wetland vegetation establishment below the resulting water level is proposed to be part of the design.	The first Goal of the Vermillion River Watershed Management Plan, June 2016; Goal A: Protect or restore water quality in lakes, streams, and wetlands p. 89. Page 93, Land & Water Treatment; 20.a. Prioritize projects that provide multiple benefits, multiple pollutant reductions, system-wide improvement, or synergy with other projects. 20b. Target project to water resources that have problems that are urgent, pose potential health risks, threaten public infrastructure, or adversely affect people, property, or natural resources. 23. Collaborate to reduce non-point source pollution from agricultural activities.	Whispering Creek & the Vermillion River	2019 - 2021	$67,000.00	$7,329.00	$74,329.00	Vermillion River monitoring and assessment of trends by the Dakota SWCD. Using the P8 Urban Catchment Model, the predicted removal amounts for Total Suspended Sediment (TSS), Total Phosphorus (TP) and Total Kjeldahl Nitrogen (TKN) are as follows: TSS - 11,063 lbs./yr.; TP - 26.4 lbs./yr.; TKN - 110.4 lbs./yr.	The Vermillion River has been listed on the 303(d) list for bacteria since 2009. This wetland restoration will help reduce possible bacteria in sediment that is being transported from the upstream farmland through the broken tile in project wetland. This project will result in increased water quality benefits to Whispering Creek and the Vermillion River. Using the P8 Urban Catchment Model, the predicted removal amounts for Total Suspended Sediment (TSS), Total Phosphorus (TP) and Total Kjeldahl Nitrogen (TKN) are as follows: TSS - 11,063 lbs./yr.; TP - 26.4 lbs./yr.; TKN - 110.4 lbs./yr. This project would offer benefits in addition to water quality improvements resulting from capture of sediments and nutrients. The restored emergent vegetation would improve wildlife habitat, enhance open space in the growing community, and exemplify the potential for future, additional wetland restoration upstream. Plat maps from before the turn of the 20th century depict a shallow lake titled "Vermillion Lake" in the drained and farmed wetland upstream of this project on the same tile line. As the community grows to encompass this area, restoration of the shallow lake is envisioned as the land would likely be unsuitable for development. The Webster wetland could be tied to this future shallow lake restoration via trails and

VRWJPO	Technical Assistance and Cost Share (TACS) program	The TACS program provides technical and financial assistance to property owners and public entities to address water quality issues, and install practices. The program is guided by the approved Vermillion River Watershed Management Plan with targeting guided by additional special studies or subwatershed assessments completed by the Scott SWCD. For this effort targeting wil be guided by the Vermillion River Subwatershed Assessment completed in 2014. Practice eligibility and standards are guided by the Conservation Practice Financial Assistance Program Policy Manual which currently includes 24 practices (including Innovative Practices), and is reviewed and updated annually by the Scott SWCD. Match will come from landowner and/or public entities cost share.	There are multiple references in the Vermillion River Watershed Management Plan for cost share. P.93, Land and Water Treatment, 18. Ensure that technical assistance is available to landowners considering BMPs for water quality or habitat improvement; 19. Provide cost-share and other incentives to watershed landowners implementing best management practices.; 20.a. Prioritize projects that provide multiple benefits, multiple pollutant reductions, system-wide improvement, or synergy with other projects.	Vermillion River	2018 - 2021	$17,630.00	$1,763.00	$19,393.00	Estimated total reductions are 440 lbs. of phosphorus, and 440 tons sediments per the average historic efficiency of the TACS program	
VRWJPO	IHT Septic System Upgrades	The Vermillion River was listed as impaired for bacteria since 2009. In 2017 the VRWJPO did DNA sampling along the river in the headwaters area to try to find the source of the bacteria impairment. Human DNA was found in two different locations in the river. We sent letters at the end of 2017 to landowners in the watershed with septic system upgrade information and will do it again in 2018. Cost assistance would only be offered to those with an imminent health threat and low income qualifying.	p. 93; Land and Water Treatment 20.b., Target projects to water resources that have problems that are urgent, pose potential health risks, threaten public infrastructure, or adversely affect people, property, or natural resources. (Bacteria pose health risks)	Vermillion River	2018 - 2021	$8,000.00	$22,000.00	$30,000.00	Estimated total reductions vary depending on whether the upgraded systems are classified as noncompliant or immanent health risks. The estimated range for two systems is 5 to 8 lbs./yr. total phosphorus using same assumptions as used by MPCA for draft Lake TMDL's in the area and septic effluent concentration from the U of M Onsite Sewage Treatment Program Manual. Upgrades will also reduce the discharge and migration of other parameters, of which bacteria is of particular interest because of the impairment listing, but information is not available to reliably estimate a numerical outcome for bacteria.	Anticipating 2 septic upgrades