

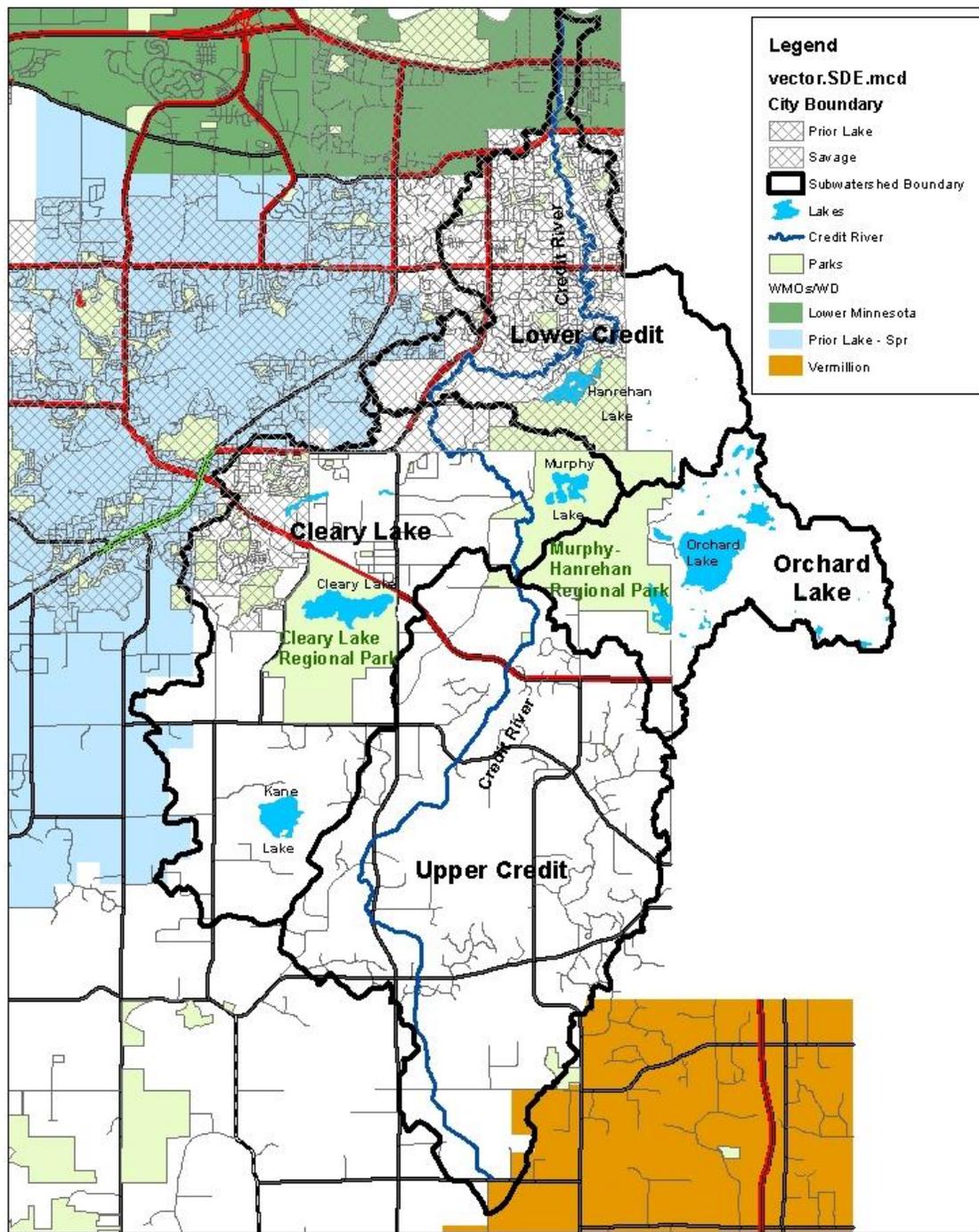
Section 5: Implementation Plan

Introduction

This section presents the implementation plan for protecting the Credit River. The Plan was developed considering the existing management efforts and gaps identified in Section 4, and the advice of the Technical Advisory Committee. Advice on the Plan was also solicited from the Scott Watershed Management Organization's (Scott WMO) Watershed Planning Commission. This Commission is made up of citizens appointed to advise the County/Scott WMO Board, and acts as the Citizen Advisory Committee for the Scott WMO. The Watershed Planning Commission considered implementation plan elements at their April, May and June 2011 meetings. A Public Open House was also held to obtain input on the Plan April 26, 2011.

The Plan includes the continuation of existing management efforts, as well as new efforts designed to either focus existing efforts on unique aspects of the Credit River, or fill gaps in existing efforts. The Plan is organized by subwatersheds so that readers and implementers of the Plan can quickly find what is planned for their particular area of the watershed. This makes sense as there are topographic, landuse, and suspended solids load differences between the subwatersheds. The subwatersheds are shown in Figure 5-1 and described below.

- **Lower Credit River subwatershed** extends from 154th Street W. to the confluence with the Minnesota River. It is predominately urban, includes the Minnesota River valley bluffs and is the area with the highest suspended solids loads. It also includes a portion of Murphy-Hanrehan Regional Park.
- **Cleary Lake subwatershed** includes areas tributary to Clearly Lake, a small portion of Murphy-Hanrehan Regional Park, and areas immediately tributary to the Credit River upstream of 154th Street W. This subwatershed with the exception of the areas downstream of Cleary Lake and the Regional Park, is guided for development as rural residential. Areas downstream of Cleary Lake are guided for urban expansion, meaning that the area is zoned as 40 acre lots until annexed or services are provided which is anticipated for sometime after 2030.



Credit River Subwatersheds



0 0.5 1 2 Miles

Figure 5-1. Credit River Subwatersheds

- **Upper Credit River subwatershed** covers the headwaters in New Market Township downstream to 175th Street E. This subwatershed is primarily guided for development as rural residential, and currently contains the most agriculture.
- **Orchard Lake subwatershed** includes the area draining to Orchard Lake and portions of Murphy-Hanrehan Regional Park.

In addition to the four subwatersheds, an implementation component is also presented for common efforts across the entire watershed called “All Subwatersheds”. Thus, the following Plan is organized into five components, one covering common implementation efforts across the entire watershed, and four components detailing unique efforts for the subwatersheds.

Implementation Elements

The overall Plan and each subwatershed Plan are organized into program elements as follows:

- Programs
- Projects
- Regulations
- Monitoring
- Inventory and Assessment

Tables 5-2 through 5-5 present the Implementation Plans. Less detailed is presented on management efforts in the Black Dog WMO and City of Lakeville portions of the watershed since study results showed these areas do not contribute much toward suspended solids and turbidity problems in the river.

One of the main elements of an overall approach is targeting of the Technical Assistance and Cost Share (TACS) Program of the Scott WMO. Table 5-6 provides a summary of how the TACS program will be promoted and targeted by subwatershed. The Scott WMO maintains a docket that describes eligible practices under the program, and updates the docket annually (Appendix I). Active promotion will include aggressive marketing of the practices and land

owner contacts or mailings. Passive promotion includes general advertising of the program on websites, in local newspapers, and the Scott County SCENE.

Another key component of the Plan is starting an education and technical assistance program for small acreage (hobby farm) land owners. This will be an emphasis for the Cleary Lake and the Upper Credit River subwatersheds. Planning for such an effort will start in the fall of 2011 with kick-off in 2012. The education program will also be used to help market the actively promoted BMPs for the various subwatersheds. In particular the Scott WMO anticipates a focused effort on the benefit of riparian vegetation over the next few years.

Table 5-1. Credit River Implementation Plan: All Subwatersheds

Element	Targeted Effort	Schedule
Programs		
TACS Program	Passively Promote BMPs in the Scott WMO Docket that are not actively promoted in the individual subwatersheds. See subwatershed plans for actively promoted BMPs.	Update Docket annually and promote through the Scott County SCENE and press releases.
Targeted CIPs	None known at this time.	Consider additional CIPs when identified through bi-annual CIP update and Plan Amendments.
Education	Implement general SCWEP efforts, and City of Lakeville, Black Dog WMO, and Lower Minnesota River Watershed District education programs.	On-going
Regulation		
Existing Stormwater Standards	Continue to implement existing standards.	On-going
MS4 NPDES Permits	Continue to implement existing permits.	On-going. Complete revised SWPPPs in 2012.
Land Use Planning	Continue to implement existing Land Use Plans.	On-going
Monitoring		
MPCA Intensive Watershed Monitoring	Comprehensive effort by the MPCA including biomonitoring.	Scheduled for 2014
Well Water Level Monitoring	Increase the number of monitoring sites. Coordinate with DNR for operation.	Consider in 2011 as part of the County Ground Water Plan update.
Assessment		
Track Protection Plan Implementation	Create a metric specific to implementation of the Credit River Protection Plan.	Complete annually as part of the Scott WMO Annual Report.
Review and update the Protection Plan	Make a part of the Scott WMO Plan, and update concurrent with the next Scott WMO Plan update.	The Protection Plan has already been added to the Scott WMO Plan as an implementation strategy by an Amendment approved the BWSR April 2011. The next scheduled update will be adopted in 2019 with planning efforts occurring in 2018.
MPCA Watershed Assessment	Assess data collected as part of the MPCA Intensive Watershed Monitoring effort and other available data.	Scheduled for 2016
MLCCS update	Update land cover characteristics (MLCCS). Areas to	Scheduled for 2013

	update are not known at this time. Will likely focus on those areas with the most change (i.e., development) over the past 10 years.	
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Table 5-2. Credit River Implementation Plan: Lower Credit River Subwatershed

Element	Targeted Effort	Schedule
Programs		
TACS Programs	Actively promote rain gardens, and riparian vegetation management in the Scott WMO. Lower Minnesota River Watershed District (LMRWD) to start a cost share program.	Complete a minimum of two one-year cycles actively promoting listed BMPs for this subwatershed between 2012 and 2018 through the Scott WMO TACS program. LMRWD to start cost share program in 2012.
Targeted CIPs	None known at this time.	Consider additional CIPs when identified through bi-annual CIP update and Plan Amendments.
Education	Complete special education efforts focusing on the targeted BMPs in the TACS program.	Complete concurrent with the active promotion cycles.
Projects		
Subwatershed Assessment & Retrofit	Implement most beneficial practices depending on funding availability.	2011 – 2012 depending on funding.
Rain gardens	Promote through workshops and cost share. Coordinate with TACs program and City of Savage.	Planned and budgeted for 2011. Will evaluate effectiveness of 2011 efforts and depending on success consider for future years.
Geomorphic Study	Create database for tracking implementation and prioritize. Consider implementing high priorities as targeted TACS projects or as CIPs. Pursue medium and lower priorities passively through the TACS program.	Create database in 2011. Prioritize and start feasibility assessments in 2012.
Monitoring		
Outlet Monitoring	Continue MCES outlet monitoring and add biomonitoring.	MCES monitoring is on-going. Add biomonitoring for invertebrates for 2012, 2016, and 2018. Coordinate with MPCA basin monitoring for 2014.
Lakes	Three Rivers Park District to continue its monitoring efforts.	Annually

Assessment		
Water Quality Trend Analysis	Complete periodic trend analyses.	MCES currently is assessing trends in 2011, and again in 5 to 10 years. Will encourage MCES to complete analysis in 2017 or 2018 to inform the planning process for the Scott WMO Plan update scheduled for adoption in 2019.
Water Quality Data Analysis	Convert data collected into information, and make available to decision makers and the public.	MCES completes a summary of the outlet monitoring results annually or bi-annually. Three Rivers provide summary results annually to the Scott WMO who will post results on its website.
Sediment Delta Formation	Lower Minnesota River Watershed District to forward information regarding complaints.	As complaints are made.

Table 5-3. Credit River Implementation Plan: Cleary Lake (154) Subwatershed

Element	Targeted Effort	Schedule
Programs		
TACS Program	Actively promote livestock exclusion, riparian vegetation, wetland restoration and native grasses. Consider actively promoting additional targeted practices if the Cleary Lake TMDL shows a need.	Complete a minimum of two one-year cycles actively promoting listed BMPs for this subwatershed between 2012 and 2018. The Cleary Lake TMDL is scheduled to start in 2014.
Targeted CIPs	None known at this time. Consider CIPs if the Cleary Lake TMDL identifies any.	The Cleary Lake TMDL is scheduled to start in 2014.
Education	Start technical assistance program targeting small acreage (hobby farms) land owners. Complete special education efforts focusing on the targeted BMPs. Consider special education efforts based on results of the Cleary Lake TMDL.	Complete concurrent with the active promotion cycles, and following completion of the Cleary Lake TMDL. Start small acreage technical assistance in 2012.
Regulation		
Development Incentives	Implement Scott County Comprehensive Land Use Plan as planned with Public Values Incentives for wetland restoration, Natural Area Corridors protection, and LID practices.	On-going
Spring Lake Township LID	Implement as planned	On-going
Cleary Lake TMDL	Consider revising standards based on results of the TMDL.	The Cleary Lake TMDL is scheduled to start in 2014.
Hobby Farm Requirements	Consider the need for a regulatory approach.	To be considered in 2018 during the process to update the Protection Plan and the Scott WMO Plan.
Monitoring		
Lakes	Three Rivers Park District to continue its monitoring efforts.	Annually
Assessment		
Water Quality Trend Analysis	Complete periodic trend analyses.	Analyze trends as part of completing the Cleary Lake TMDL. The Cleary Lake TMDL is scheduled to start in

		2014.
Water Quality Data Analysis	Convert data collected into information, and make available to decision makers and the public.	Three Rivers to provide summary results annually to the Scott WMO who will post results on its website.

Table 5-4. Credit River Implementation Plan: Upper Credit River Subwatershed

Element	Targeted Effort	Schedule
Programs		
TACs Program	Actively promote livestock exclusion, riparian vegetation, wetland restoration and native grasses.	Complete a minimum of two one-year cycles actively promoting listed BMPs for this subwatershed between 2012 and 2018.
Targeted CIPs	None known at this time.	Consider additional CIPs when identified through bi-annual CIP update and Plan Amendments.
Education	Start technical assistance program targeting small acreage (hobby farms) land owners. Complete special education efforts focusing on the targeted BMPs.	Complete concurrent with the active promotion cycles. Start small acreage technical assistance in 2012.
Projects		
Geomorphic Study	Create database for tracking implementation and prioritize. Consider implementing high priorities as targeted TACS projects or as CIPs. Pursue medium and lower priorities passively through the TACS program.	Create database in 2011. Prioritize and start feasibility assessments in 2012.
Regulation		
Development Incentives	Implement Scott County Comprehensive Land Use Plan as planned with Public Values Incentives for wetland restoration, Natural Area Corridors protection, and LID practices.	On-going
Hobby Farm Requirements	Consider the need for a regulatory approach.	To be considered in 2018 during the process to update the Protection Plan and the Scott WMO Plan.

Table 5-5. Credit River Implementation Plan: Orchard Lake Subwatershed

Element	Targeted Effort	Schedule
Projects		
Orchard Lake Wetland Aeration	Continue wetland aeration project.	On-going
Orchard Lake Curlyleaf Pondweed Control	Continue Curlyleaf Pondweed control project.	On-going
Monitoring		
Lakes	Continue to monitor Orchard Lake using the CAMP program.	Annually
Assessment		
Water Quality Data Analysis	Convert data collected into information, and make available to decision makers and the public.	Lakeville/MCES to provide summary results annually to the Scott WMO who will post results on its website.

Table 5-6. Technical Assistance and Cost Share Targeting by Subwatershed

Subwatershed	Actively Promote	Passively Promote	Rationale
All	See subwatersheds	All practices in the docket not actively promoted for specific subwatershed	Specific practices for active promotion are identified by subwatershed, however, general practices in the docket may still be appropriate.
Lower Credit River	Rain gardens and riparian vegetation Management	Balance of the docket.	The urban environment precludes many of the practices in the docket. In addition, the geomorphic study found a number of potential riparian vegetation improvement projects along the river in this subwatershed.
Cleary	Livestock exclusion, riparian vegetation, wetland restoration and native grasses.	Balance of the docket.	The primary emphasis for the rural residential portions of the watershed is to improve riparian conditions and promote runoff volume reductions.
Upper Credit River	Livestock exclusion, riparian vegetation, wetland restoration and native grasses.	Balance of the docket.	The primary emphasis for the rural residential portions of the watershed is to improve riparian conditions and promote runoff volume reductions.
Orchard Lake	None	None	Most of the Orchard Lake subwatershed is not in the Scott WMO, and the Orchard Lake subwatershed does not appear to contribute to suspended sediment issues in the river.

Adapting and Updating

Results of implementation, monitoring data and the additional data collected will be periodically evaluated over the years. This will include trend analysis for turbidity and TSS, tracking and evaluation of individual practices, and tracking of public acceptance and participation. The Scott WMO performs an evaluation of its programs annually as part of developing its annual report. Water quality metrics tracked by the WMO are provided in Table 5-7. Additional metrics are tracked regarding wetland, and education and stewardship goals, and a specific metric regarding

implementation of this Protection Plan will be added. The Scott WMO also updates its cost share and incentive program docket annually based on previous year results. The Scott WMO consults with both its citizen based Watershed Planning Commission and its Technical Advisory Committee to help the Scott WMO learn and adapt. Partners from this project are invited to be part of the Technical Advisory Committee. Finally, the Plan includes provisions for updating once the Clear Lake Nutrient TMDL is complete, and for incorporating and updating concurrent with the next Scott WMO Comprehensive Water Plan update scheduled for 2019.

Table 5-7. Scott WMO Surface Water Quality Goal Metrics

Short Term Metrics	Long Term Metrics
<ul style="list-style-type: none"> • Number and types of practices approved and installed with the cost share and incentive program • Number and types of targeted projects completed • Completion of scheduled studies and TMDLs 	<ul style="list-style-type: none"> • Trends in water quality parameters as identified from monitoring efforts • Achievement of target levels or ranges for nutrients, sediments and bacteria as established by state water quality standards, ecoregion means, or specific goals established by TMDL studies.

Source: Scott WMO (2009) Comprehensive Water Resource Management Plan.

Funding

Funding for the effort will be opportunistic taking advantage of grants to the extent possible. The Scott WMO, the Lower Minnesota River Watershed District and the Black Dog Watershed Management Organization all have Water Resources Management Plans that identify potential levels of funding. However, the Lower Minnesota River Watershed District and the Black Dog Watershed Management Organization plans are currently in the process of being updated and funding levels are unknown. Likewise the State Clean Water Fund long term level of funding for protection efforts is also unknown. The current Senate version for the next biennium includes some funding for protection efforts, but the legislation has not been passed at this time.

The Scott WMO spends about \$700,000 to \$800,000 per year for land and water treatment (including the TACS program), and \$70,000 to \$100,000 annually for education. However, these budgets are for the entire Scott WMO and most of the funds go toward addressing impaired waters in other parts of the Scott WMO's jurisdiction. The Scott WMO also anticipates spending about \$50,000 to update the County's Minnesota Land Cover Classification System (MLCCS) GIS coverage in 2013, a portion of which will be in the Credit River Watershed. The City of Savage has also has \$15,000 to promote rain gardens in 2011.

State cost share and USDA/NRCS EQIP, WHIP and CRP funds will also be used as appropriate for promoting practices identified in the subwatershed implementation matrices. However, since agriculture is decreasing in the watershed and these programs generally have an agricultural focus it is anticipated that the use of these funds will decrease over time. The amount of agricultural land has already declined in the watershed such that the amount of highly erodible land being cultivated in low and is largely confined to the Upper Subwatershed where monitoring results have shown the suspended solids load is small (see Figure 2-4, Section 2)).

Finally, the institutional efforts being promoted through the Scott County Comprehensive Land Use Plan such as the incentives for preserving corridors and restoring wetlands, will be paid for through the on-going development review process. Erosion control inspections and stormwater rule compliance efforts by the Scott County are also paid for through the development review process and fees. Implementation of Local Water Plans by the City of Savage and Prior Lake are financed by the cities with the Scott WMO doing annual checks to make sure the plans are being implemented. MS4 program implementation is financed by each individual municipality.