



Please note the meeting will be held in the County Board Room at the Carver County Government Center, 600 East 4th Street, Chaska, MN.

LOWER MINNESOTA RIVER WATERSHED DISTRICT

Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting

Wednesday, October 24, 2018

Agenda Item

Item 6. E. - LMRWD Projects

Prepared By

Linda Loomis, Administrator

Summary

Staff is beginning work on projects contained in the CIP (Capital Improvement Plan) that is in the Watershed Management Plan. Work plans for projects that have Clean Water Funds under the Metro-area Watershed Based Funding Pilot Program were shared with the Board in Item 4.D. - Metro-area Watershed Based Funding Grant Agreement of this meeting packet.

- i. Eden Prairie Area #3 Stabilization**
No new information since last update
- ii. Riley Creek Cooperative project/Lower Riley Creek restoration**
The Cooperative Agreement was executed after the September Board meeting and sent to the Riley/Purgatory/Bluff Creek Watershed District.
- iii. Seminary Fen ravine stabilization project**
The District is awaiting the final payment for this grant. Once payment has been received, payment will be made to the City of Chaska.
- iv. East Chaska Creek (Carver County Watershed Based Funding)**
The work plan for this project can be found with Item 4.D. of this agenda packet.
- v. Schroeder Acres Park (Scott County Watershed Based Funding)**
The work plan for this project can be found with Item 4.D. of this agenda packet.
- vi. Shakopee Downtown BMO Retrofit (Scott County Watershed Based Funding)**
The work plan for this project can be found with Item 4.D. of this agenda packet.
- vii. PLOC (Prior Lake Outlet Channel) Restoration (Scott County Watershed Based Funding)**
The work plan for this project can be found with Item 4.D. of this agenda packet.
- viii. Dakota County Fen Gap Analysis and Conceptual Model (Dakota County Watershed Based Funding)**
The work plan for this project can be found with Item 4.D. of this agenda packet.
- ix. Hennepin County Chloride Project (Hennepin County Watershed Based Funding)**
Stakeholders from Hennepin County are meeting to prepare this work plan.

x. Vegetation Management Plan

Development of a vegetation management plan/standard for the District is identified in the District's Watershed Management Plan under Goal 7: Erosion and Sediment Control Policy 7.2: Adopt Vegetation Management Standard. Strategy 7.2.1 calls for the District to develop a Vegetation Management Standard/Plan. This strategy consists of the District undertaking an effort in partnership with the DNR, USFWS, BWSR, NRCS, and NGOs (e.g. Great River Greening), to develop a vegetation management standard/plan for unique natural resources within the District. Staff has developed a work plan for this task, which is attached.

This is a task that has been in the District's Plan for a number of years. \$10,000 of the 2013 budget was allocated for this, and \$15,000 was allocated each year in 2014, 2015 and 2016, for a total of \$55,000.

xi. Sustainable Lake Management Plan - Trout Lakes

Sustainable lake management plans (SLMPs) will be developed for trout lakes in the District. These SLMPs will assess the following:

- Aquatic plant coverage and management
- Exotic species issues and management
- Shoreline condition and management
- Nutrient and temperature dynamics and management
- Stormwater runoff and groundwater contributions and management
- Roles and responsibilities for management
- Implementation schedule and plan
- Recreational opportunities (pier, public access, etc....)

Staff has developed a work plan for this task, which is attached. \$50,000 was allocated in the 2018 budget for this project.

xii. Geomorphic Assessment of Trout Streams

This is another program identified in the implementation plan of District's Watershed Management Plan. A work plan has been developed by staff and is attached. \$50,000 was included in the 2018 budget for this project.

Attachments

Vegetation Management Plan/Standard work plan

Sustainable Lake Management Plan - Trout Lakes work plan

Geomorphic Assessment of Trout Streams work plan

Recommended Action

Motion to authorize all work plans - either separately or collectively

Lower Minnesota River Watershed District (LMRWD) Vegetation Management Plan (VMP) DRAFT Workplan

Policy 7.2.1: Develop a Vegetation Management Standard/Plan

This strategy consists of the District undertaking an effort in partnership with the DNR, USFWS, BWSR, NRCS, and NGOs (e.g. Great River Greening), to develop a vegetation management standard/plan for unique natural resources within the District. This plan would be functional for all who live, work, and invest in the District.

While many of the cities and counties within the District has vegetation management standards, the standards are inconsistent. In addition, the District has not established vegetation management standards addressing practices such as vegetative cutting, clearing on bluffs, and steep slopes.

Summary

Outcome: Vegetation Management Plan for the LMRWD

Timeline for Completion of Project: 2019

Project Partners: DNR, USFWS, BWSR, NRCS, University of Minnesota

Audience/who is this plan intended for? Residents of the LMRWD, resource professionals, land use planners

Total Project Budget: \$50,000.00

Objective 1. Project Management

Task 1: Project plan development. Finalize the workplan; assign project tasks; determine if additional resources are needed; set dates for deliverables; generate Gantt.

Task 2: Contact potential project partners. Determine what role/tasks they will be asked to fulfill on the project (review of draft plan, meeting to discuss specific management practices, etc.). Reach out to the following list of partners: DNR, USFWS, BWSR, NRCS, and University of Minnesota

Determine best contact for each entity, interest/engagement level going forward, and relay estimated timeline for project (Ex: if reviewing plan draft, approx.. when that will be ready for their comments).

Timeline for Completion: ongoing

Estimated Objective 1 Budget: \$2,500.00

Objective 2. Evaluate Existing Vegetation Management Plans

Task 1: Generate an inventory of all vegetation management plans in the LMRWD and surrounding area.

This will include 14 communities and 5 metro counties, not all will have a VMP. Check with other LGUs, local organizations, and state agencies to determine if they have generated a VMP for any of the unique natural resources.

Task 2: Evaluate existing VMPs. Compare plans for variances in technique, approaches, priorities, enforcement means and methods.

Task 3: Work with partners to gather their GIS data of the vegetation and invasive species. This will provide a graphic representation of what data is available within the District.

Timeline for Completion: 5-6 weeks

Estimated Objective 2 Budget: \$27,500.00

Objective 3. Draft LMRWD Vegetation Management Plan

Task: Utilize information gathered from the unique natural resources inventory and evaluation of existing VMPs to draft the VMP for the LMRWD. **Ensure entire plan compliments the District Plan, no conflicting standards

Components of the VMP

- Vegetative cutting
- Clearing of vegetation on steep slopes and bluffs
- Cost-shares for perennial, native plant projects
- Native plant communities for wildlife
- Prescribed burning
- Invasive species removal
 - Appropriate/effective removal techniques, strategies, timing
 - Disposal of invasive species once removed
 - Maintenance
 - Integrated Pest Management (IPM) approach?
- Are detailed, site-specific VMPs needed for high value resources? – beyond the scope of this project
- When establishing a site, diversity species to ensure resilience
- Are there cultural/use considerations?
 - Height of plant species impacting views
 - Attracting/deterring wildlife (ex: geese prefer lawns to native grasses)
 - Educational?
 - Diversity of plants
 - Teaching about importance of pollinators, etc.
 - Level of maintenance required

Timeline for Objective Completion: 3 weeks

Estimated Objective 3 Budget: \$15,000.00

Objective 4. Draft Review Process with Project Partners

Task 1: Circulate draft among project partners for written feedback. Set date for return comments.

Timeline for Task 1 Completion: 10 - 14 days

Task 2: Review feedback on draft LMRWD Vegetation Management Plan. Incorporate edits as needed.

Timeline for Task 2 Completion: 1 week

Task 3: Send final draft to project partners with incorporated edits to partners for final review. Set date for return comments.

Timeline for Task 3 Completion: 1 week

Timeline for Objective 4 Completion: 3-4 weeks

Estimated Objective 4 Budget: \$4,000.00

Objective 5. Submit draft to LMRWD Board for Adoption

Task: Submit final draft of LMRWD Vegetation Management Plan to the LMRWD Board for approval and adoption. Upon approval/adoption, post plan on District's website.

Timeline for Objective Completion: NA

Estimated Objective 5 Budget: \$1,000.00

Sustainable Lake Management Plans (SLMP) of Trout Lakes in the Lower Minnesota River Watershed District (LMRWD) DRAFT Workplan

Sustainable lake management plans (SLMPs) will be developed for trout lakes in the District. These SLMPs will assess the following:

- *Aquatic plant coverage and management*
- *Exotic species issues and management*
- *Shoreline condition and management*
- *Nutrient and temperature dynamics and management*
- *Stormwater runoff and groundwater contributions and management*
- *Roles and responsibilities for management*
- *Implementation schedule and plan*
- *Recreational opportunities (pier, public access, etc.)*

Summary

Outcome: SLMPs for all trout lakes in the LMRWD. Each plan will address the list of topics cited above.

Timeline for Completion of Project: 2020-2021

Project Partners: BWSR, DNR, MPCA

Audience/who is this plan intended for: Resource professionals, Land use planners

Total Project Budget: \$50,000.00

Objective 1. Project Management

Task 1: Project plan development. Finalize the workplan; assign project tasks; determine if additional resources are needed; set dates for deliverables; generate Gantt.

Task 2: Contact potential project partners. Determine what role/tasks they will be asked to fulfill on the project (review of draft plan, etc.). Reach out to the following list of partners: BWSR, DNR, MPCA

Determine best contact for each entity, interest/engagement level going forward, and relay estimated timeline for project (Ex: if reviewing plan draft, approx. when that will be ready for their comments).

Timeline for Completion: ongoing

Estimated Objective 1 Budget: \$2,500.00

Objective 2. Gather and Review Data

Task 1: Determine what information currently exists on each trout lake. Work with project partners as needed to gather this information. This task will highlight any data gaps, and inform task 2.

Task 2: Gather additional information on each trout lake. This may require the completion of vegetation and fish surveys. The body of information assembled at the end of this objective should be sufficient to generate a thorough SLMP for each trout lake in the District.

Timeline for Completion: 5-6 weeks

Estimated Objective 2 Budget: \$27,500.00

Objective 3. Drafting of LMRWD Trout Lake SLMPs

Task: Used research attained to draft SLMPs for each trout lake. Ensure consistency among the District's SLMPs by utilizing the same template.

The following outline is a general recommendation:

1. Acknowledgements
2. Introduction & Brief Background
3. Watershed Features
 - a. History
 - b. Soils
 - c. Wetlands
 - d. Minnesota River
 - e. Non-trout Lakes
4. Trout Lake Features
 - a. Shoreline Condition Inventory & Management
 - b. Lake Depth
 - c. Fish Survey
 - d. Aquatic Vegetation Coverage & Management
 - e. Exotic Species Issues & Management
 - f. Nutrient & Temperature Dynamics and Management
 - g. Stormwater Runoff & Groundwater Contributions and Management
 - h. Recreational Opportunities
5. Goals for ___ Lake
 - a. Goals/Objectives/Strategies
6. Implementation Schedule & Plan
 - a. Roles and Responsibilities for Management

Timeline for Completion: 3 weeks

Estimated Objective 3 Budget: \$15,000.00

Objective 4. Draft Review Process with Project Partners

Task 1: Circulate drafts among project partners for written feedback. Set date for return comments.

Timeline for Task 1 Completion: 10 - 14 days

Task 2: Review feedback on draft SLMPs. Incorporate edits as needed.

Timeline for Task 2 Completion: 1 week

Task 3: Send final draft to project partners with incorporated edits to partners for final review. Set date for return comments.

Timeline for Task 3 Completion: 1 week

Timeline for Objective 4 Completion: 3-4 weeks

Estimated Objective 4 Budget: \$4,000.00

Objective 5. Submit draft to LMRWD Board for Adoption

Task: Submit final drafts of the Sustainable Lake Management Plans to the LMRWD Board for approval and adoption.

Timeline for Objective Completion: NA

Estimated Objective 5 Budget: \$1,000.00

Lower Minnesota River Watershed District Geomorphic Assessment of Trout Streams DRAFT Workplan

The geomorphic assessments will consider changes in trout stream alignment, confluence point(s), or geometry, and stream reaches upstream and downstream of the confluence point(s). Stream width-to-depth ratios, stream bed slope, meander pattern, and other bed features shall be modeled according to a stable reference reach. Reference reaches are nearby, hydrologically, and geomorphically-stable stream segments. A reference reach could be upstream or downstream, or in a nearby watershed. Assessment of the current and future discharge and sediment regimes shall be based on watershed conditions that are above stream or as close as possible to the stream.

Summary

Outcome: Geomorphic Assessment of all Trout Streams in the LMRWD: Assumption Creek, Harnack Creek (Unnamed #1), Eagle Creek, Kennaley's Creek, Trout Stream #4 in Burnsville, Black Dog Creek, Unnamed Stream SW of Black Dog Lake North Fen, Unnamed Creek NE of Black Dog Lake Fen, Ike's Creek, unidentified creek S of Old Shakopee Rd E

Timeline for Completion of Project: 2018-2020

Project Partners: DNR, USFWS, MPCA, Trout Unlimited, City of Burnsville, City of Eagan, City of Bloomington, City of Savage, City of Shakopee, City of Chaska, City of Chanhassen, University of Minnesota, Dakota County, Carver County, Scott County, Hennepin County

Audience/who is this plan intended for: Resource professionals, Land use planners

Total Project Budget: \$100,000.00

Objective 1. Project Management

Task 1: Project plan development. Finalize the workplan; assign project tasks; determine if additional resources are needed; set dates for deliverables; generate Gantt.

Task 2: Contact potential project partners. Determine what role/tasks they will be asked to fulfill on the project (review of draft report, supplying existing data on stream reaches, etc.). Reach out to the following list of partners: DNR, USFWS, MPCA, Trout Unlimited, City of Burnsville, City of Eagan, City of Bloomington, City of Savage, City of Shakopee, City of Chaska, City of Chanhassen, University of Minnesota, Dakota County, Carver County, Scott County, Hennepin County

Determine best contact for each entity, interest/engagement level going forward, and relay estimated timeline for project (Ex: if reviewing report draft, approx.. when that will be ready for their comments, etc.).

Timeline for Completion: ongoing

Estimated Objective 1 Budget: \$5,000.00

Objective 2. Collect and Review Data

Task 1: Partner Kick-off Meeting. Review the proposed process and objectives with partners for their endorsement. Learn how their expertise and knowledge of the resource can lend itself to the project.

Task 2: Collect existing data/modeling on LMRWD all trout streams as outlined in the project scope. Determine gaps in the data that need to be supplemented to successfully complete a geomorphic assessment.

Task 3: Identify means/methods to address data gaps. Work with local partners to determine what support they can provide to avoid redundant efforts.

Timeline for Completion: 5-7 weeks

Estimated Objective 2 Budget: \$10,000.00

Objective 3. Trout Stream Data Modeling

Task: Conduct geomorphic assessment on all trout streams in the LMRWD. For ease of assessment, trout streams within the District can be approached in the following five cluster groups: (1) Ike's Creek, (2) Seminary Fen area, (3) Savage Fen area, (4) Black Dog Fen/Nicols Meadow Fen area, and (5) Gun Club Lake Fen. Refer to the following direction provided by the LMRWD on the details of this assessment:

The geomorphic assessments will consider changes in trout stream alignment, confluence point(s), or geometry, and stream reaches upstream and downstream of the confluence point(s). Stream width-to-depth ratios, stream bed slope, meander pattern, and other bed features shall be modeled according to a stable reference reach. Reference reaches are nearby, hydrologically, and geomorphically-stable stream segments. A reference reach could be upstream or downstream, or in a nearby watershed. Assessment of the current and future discharge and sediment regimes shall be based on watershed conditions that are above stream or as close as possible to the stream.

Subtask 1. Phase 1: Remote Sensing. Gather data from topographic maps, aerial photos of the District, and any existing studies.

Subtask 2. Phase 2: Rapid Field Assessment. Collect field data, both measurements and observations, at the reach scale.

Subtask 3. Phase 3: Survey-level Field Assessment. Collect detailed field data at the sub-reach or river site scale. This should include quantitative measurements of the channel dimension, profile, pattern, and sediments present.

Timeline for Completion: 10 – 18 months

Estimated Objective 3 Budget: \$65,000.00

Objective 4. Draft Report of Trout Stream Geomorphic Assessments

Task: Draft a report detailing the geomorphic assessment conducted and its findings.

Timeline for Objective Completion: 8 weeks

Estimated Objective 4 Budget: \$15,000.00

Objective 5. Draft Review Process with Project Partners

Task 1: Circulate draft among project partners for written feedback. Set date for return comments.

Timeline for Task 1 Completion: 2 weeks

Task 2: Review feedback on draft of the Geomorphic Assessment of Trout Streams in the LMRWD. Incorporate edits as needed.

Timeline for Task 2 Completion: 2 weeks

Task 3: Send final draft to project partners with incorporated edits for final review. Set date for return comments.

Timeline for Task 3 Completion: 1 week

Timeline for Objective 5 Completion: 3-4 weeks

Estimated Objective 5 Budget: \$4,000.00

Objective 6. Submit draft report to LMRWD Board

Task: Submit final Geomorphic Assessment of Trout Streams report to the LMRWD Board for approval and adoption. Upon approval/adoption, post plan on District's website.

Timeline for Objective Completion: NA

Estimated Objective 6 Budget: \$1,000.00