



Environment and Natural Resources Trust Fund

M.L. 2023 Final Work Plan

General Information

ID Number: 2023-129

Staff Lead: Michael Varien

Date this document submitted to LCCMR: June 14, 2023

Project Title: Brightsdale Dam Channel Restoration

Project Budget: \$1,004,000

Project Manager Information

Name: Riley Buley

Organization: Fillmore County Soil and Water Conservation District

Office Telephone: (507) 765-3878

Email: riley.buley@fillmoreswcd.org

Web Address: www.fillmoreswcd.org

Project Reporting

Reporting Schedule: April 1 / October 1 of each year.

Project Completion: September 30, 2025

Final Report Due Date: November 14, 2025

Legal Information

Legal Citation: M.L. 2023, Chp. 60, Art. 2, Sec. 2, Subd. 04g

Appropriation Language: \$1,004,000 the first year is from the trust fund to the commissioner of natural resources for an agreement with Fillmore County Soil and Water Conservation District to reduce sedimentation and improve aquatic habitat by restoring a channel of the north branch of the Root River at the site of a failed hydroelectric power dam that was removed in 2003.

Appropriation End Date: June 30, 2026

Narrative

Project Summary: Restore the channel of the North Branch Root River at the site of a former hydro power dam that failed and was removed in 2003.

Describe the opportunity or problem your proposal seeks to address. Include any relevant background information.

The hydro power facility was constructed by the Root River Power and Light Company in 1913-14. Two dams were constructed at the site. The upper dam was 164 ft-wide and diverted flow into a side channel. A dam on the side channel was 40 ft-wide and 12 ft-high. This dam diverted water into a 1,750 ft-long tunnel cut through the bluff (Figure 1). The tunnel remains today serving as a bat sanctuary. The hydro power dam failed in the early 1990's and the dam was removed in 2003. However, the channel was not stabilized after dam removal and this has caused significant channel downcutting and bank erosion. A headcut has migrated 4,000 ft upstream and has caused sedimentation and habitat loss. An estimated 540 tons of sediment is being eroded annually from a 2,800 ft-long bank section downstream of the former dam. This erosion is occurring because the channel is forced into an extreme meander due to lasting effects of the dam. This reach of the North Branch Root River is listed as impaired for sediment and macroinvertebrates. This project will help address these impairments while improving aquatic habitat and recreational opportunities.

What is your proposed solution to the problem or opportunity discussed above? Introduce us to the work you are seeking funding to do. You will be asked to expand on this proposed solution in Activities & Milestones.

The river channel at the project location has been unstable since removal of the dam. We will excavate a new section of channel to restore the proper meander pattern. Existing eroded banks will be sloped and stabilized with toe-wood and sod mats. Two grade control riffles will be constructed to maintain the proper channel gradient through the project reach. A section of the current channel will no longer have flow and will be filled-in providing the opportunity to restore some of the native prairie that has been lost to erosion. Aquatic habitat will be improved by the addition of cover from toe wood and root wads as well as a reduction in sedimentation which will improve macroinvertebrate and fish spawning habitat.

What are the specific project outcomes as they relate to the public purpose of protection, conservation, preservation, and enhancement of the state's natural resources?

The channel will be placed in a stable form that has not occurred since dam construction in the early 1900's. Aquatic habitat for fish, macroinvertebrates, and freshwater mussels will be improved. Lake Sturgeon and the Ellipse mussel, both state listed species, will benefit from reduced sedimentation. The project would improve angling opportunities for Smallmouth Bass, Walleye, and Brown Trout as well as nongame species. The history of the hydropower facility presents an intriguing story about the long lasting effects of dams. The site will be used for educational purposes for the public and Eagle Bluff Environmental Center.

Project Location

What is the best scale for describing where your work will take place?

County(s): Fillmore

What is the best scale to describe the area impacted by your work?

Watershed(s): Root River

When will the work impact occur?

During the Project and In the Future

Activities and Milestones

Activity 1: Project administration, design, bid, and award

Activity Budget: \$17,600

Activity Description:

Develop an RFP for hiring a consulting engineer to develop a construction plan set, identify permit requirements, and develop bidding materials. The bid packet will be advertised, a pre-bid meeting will be held, and the construction award will be granted to a contractor. Outcomes will be a project plan set and the hiring of an engineer and construction contractor. The engineer will be responsible for obtaining all necessary permits. A DNR Public Waters Work permit will be required for all work below the ordinary high water mark. An Environmental Assessment Worksheet will be required with Fillmore County serving as the Responsible Government Unit. A U.S. Army Corps of Engineers permit will be required due to the channel realignment. A State Historical Preservation site inspection will be necessary due to the historical nature of the site and potential discovery of Native American artifacts.

Activity Milestones:

Description	Approximate Completion Date
Submit a RFP for hiring a consulting engineer	August 31, 2023
Hire a consultant	October 31, 2023
Develop an engineered plan set to be used for contractor bidding	December 31, 2023
Contractor hiring and onboarding	March 31, 2024
All permitting compliance completed	April 30, 2024

Activity 2: Project construction

Activity Budget: \$986,400

Activity Description:

Construct the project according to design plans. The project will require tree clearing which will provide rootwads for bank stabilization. A 1,000 ft-long new channel and floodplain will be excavated. The present channel will be disconnected from flow and filled creating 1.5 acres for prairie restoration. Approximately 2,800 ft. of eroding banks will be sloped and toewood will be installed for stabilization. Two 50+ ft-long riffles will be constructed using boulders to create cross vanes. The riffles will stabilize the channel slope and prevent headcutting. Extensive erosion control measures will be used including silt fence, straw logs and mulch, and erosion control blanket. The site will be seeded with a variety of mixes depending upon the location. Live stake willows will also be installed to further protect the river banks from erosion

Activity Milestones:

Description	Approximate Completion Date
Site preparation	May 31, 2024
Excavate new channel and construct riffles	July 31, 2024
Slope banks; install toe wood and root wads; slope and seed	August 31, 2024
Open new channel to flow and block old channel section	June 30, 2025
Fill old channel; plant with native prairie	July 31, 2025
Final grading and seeding	August 31, 2025
Final site inspection	September 30, 2025

Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Jeff Weiss	Minnesota Department of Natural Resources	Project coordination and technical advise	No
Colleen Foehrenbacher	Eagle Bluff Environmental Learning Center	Developing educational materials and programming	No
Brian Provost	Private landowner	Construction access and prairie restoration	No

Dissemination

Describe your plans for dissemination, presentation, documentation, or sharing of data, results, samples, physical collections, and other products and how they will follow ENRTF Acknowledgement Requirements and Guidelines.

MNDNR staff will conduct long term monitoring of the river channel to follow project performance over time. Results will be shared with MPCA water quality and biological monitoring staff as well as MNDNR staff who conduct dam removal and channel restoration projects statewide. What is learned from this project may help inform similar future projects statewide. The Board of Water and Soil Resources will be informed of the project as it helps address water quality impairments in the Root River One Watershed, One Plan planning area. The site is used as an outdoor classroom by Eagle Bluff Environmental Learning Center. The history of the hydroelectric facility, its effects on the river, and why our project was done will be incorporated into their curriculum. Informational kiosks will be developed in conjunction with Eagle Bluff to tell the story of the site and the project.

The Environmental and Natural Resources Trust Fund will be acknowledged in all media regarding the project. This includes print, video, social media, informational signs and kiosks, and verbally during public education events.

Long-Term Implementation and Funding

Describe how the results will be implemented and how any ongoing effort will be funded. If not already addressed as part of the project, how will findings, results, and products developed be implemented after project completion? If additional work is needed, how will this work be funded?

The project will be used for educational purposes for the public and for students attending Eagle Bluff ELC. Permanent channel monitoring cross-sections will be established and DNR staff will monitor changes to the channel over time. Established MPCA water quality and biological monitoring sites will be used to evaluate progress towards achieving water quality goals for the North Branch Root River. Monitoring results will be used to inform the implementation of future projects on larger rivers in southeast Minnesota. All monitoring work will be funded by DNR and MPCA appropriations and no additional funding is needed for monitoring.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
Personnel								
SWCD Administrator		Grant administration and fiscal management			30%	0.16		\$17,600
							Sub Total	\$17,600
Contracts and Services								
TBD	Professional or Technical Service Contract	The consulting engineering company will be responsible for developing engineered project plans and hiring a construction contractor. They will also be responsible for permit compliance and construction oversight.				1		\$137,000
TBD	Professional or Technical Service Contract	The contractor will be responsible for constructing the project according to engineered plans following permitting requirements (approx. \$662K). They will also be responsible for procurement of all construction materials and supplies (approx. \$187k), which includes materials for riffle construction (\$105,000 approx.), and erosion control (\$50400 approx.)				4		\$849,400
							Sub Total	\$986,400
Equipment, Tools, and Supplies								
							Sub Total	-
Capital Expenditures								
							Sub Total	-
Acquisitions and Stewardship								
							Sub Total	-

Travel In Minnesota								
							Sub Total	-
Travel Outside Minnesota								
							Sub Total	-
Printing and Publication								
							Sub Total	-
Other Expenses								
							Sub Total	-
							Grand Total	\$1,004,000

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
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Non ENRTF Funds

Category	Specific Source	Use	Status	\$ Amount
State				
In-Kind	Clean Water Fund	MNDNR clean water program staff will provide in-kind technical services and permitting and compliance support. MNDNR staff will conduct long-term project monitoring.	Secured	\$42,669
			State Sub Total	\$42,669
Non-State				
			Non State Sub Total	-
			Funds Total	\$42,669

Acquisition and Restoration

Parcel List

Name	County	Site Significance	Activity	Acres	Miles	Estimated Cost	Type of Landowner	Easement or Title Holder	Status of Work
Brightdale Dam	Fillmore	Native prairie has been lost to bank erosion; severe erosion is occurring on 2,800 ft. of river channel causing habitat degradation for two state listed species; the site receives high public use for angling and water recreation and is adjacent to state forest land	Restoration	1	0.1	-	Private	NA	Has Not Begun
Private 1	Fillmore	Native prairie lost to bank erosion; remainder channel; slope and stabilize 2,800 ft of eroding bank to reduce sediment loading	Restoration	3	0.5	-	Private		Has Not Begun
Totals				4	0.6	-			

Restoration

1. Provide a statement confirming that all restoration activities completed with these funds will occur on land permanently protected by a conservation easement or public ownership.

All private lands are permanently enrolled in the MN Land Trust. State forest land is adjacent to the project location and provides public access to the river including a parking area. Adjacent prairie is in the CRP program.

2. Summarize the components and expected outcomes of restoration and management plans for the parcels to be restored by your organization, how these plans are kept on file by your organization, and overall strategies for long-term plan implementation.

Channel restoration will reduce sediment loading by 546 tons annually. Bank erosion has caused the loss of approximately 1.5 acres of native prairie that will be restored. Habitat for gamefish, Lake Sturgeon, and the Ellipse mussel will be improved by the project. Most of the area to be restored is the actual river channel and not a specific parcel but also includes .5 acres of prairie. The prairie is managed under the CRP program through the USDA Farm Services Agency. Aquatic habitat and fisheries management is detailed in the DNR Fisheries Management Plan for the North Branch Root River.

3. Describe how restoration efforts will utilize and follow the Board of Soil and Water Resources “Native Vegetation Establishment and Enhancement Guidelines” in order to ensure ecological integrity and pollinator enhancement.

Seed mixtures will include mesic prairie species and a riparian seed mixture that includes plant species for enhancing pollinator habitat. An oats cover crop will be planted to help hold soil in place in the short term until prairie species become established. Anchored straw mulch will be placed on top of the seeding to control erosion and keep seed in place. In addition to prairie seeding, bare root shrubs and live willow staking will be used for soil and river bank stabilization.

4. Describe how the long-term maintenance and management needs of the parcel being restored with these funds will be met and financed into the future.

Maintenance of the native prairie is done by the private landowner who has the land enrolled in the CRP program. All river channel work will be monitored annually by DNR Fisheries and Clean Water Program Staff as well as the Fillmore County SWCD. DNR staff will establish a long-term monitoring plan for the site including permanent channel cross-sections to follow project performance over time and determine if/when maintenance is needed. Project maintenance work may be funded by multiple sources depending on repair costs. These include BWSR Clean Water Implementation Funds for the Root River, DNR stream habitat program maintenance funds, and contributions from the private landowner.

5. Describe how consideration will be given to contracting with Conservation Corps of Minnesota for any restoration activities.

We will consider contracting live willow staking and shrub planting with CCM stationed in Rochester. The private landowner may be interested in contracting annual prairie maintenance as well.

6. Provide a statement indicating that evaluations will be completed on parcels where activities were implemented both 1) initially after activity completion and 2) three years later as a follow-up. Evaluations should analyze improvements to the parcel and whether goals have been met, identify any problems with the implementation, and identify any findings that can be used to improve implementation of future restoration efforts at the site or elsewhere.

After initial completion, the project will be inspected to make certain that all erosion control measures are in place and properly installed. A long-term project monitoring plan will be implemented 1-year after project completion. This will include surveying permanent channel cross-sections, a longitudinal channel profile, and evaluating sediment composition annually for the first five years post construction. After this period monitoring frequency will be reviewed and adjusted accordingly. Surveying will also be done after flood events to evaluate project performance and longevity. Restoration of native prairie on restored riparian lands will be monitored during annual inspections by SWCD and DNR

staff as well as the landowner. Long-term monitoring of this project will provide information that can be used to inform future similar projects and will provide a measure of progress towards meeting sediment reduction goals for the North Branch Root River.

Attachments

Required Attachments

Map

File: [a70028cd-34c.pdf](#)

Alternate Text for Map

Map image showing location of eroding banks, prairie restoration areas, locations of former dams, and parcel ownership....

Board Resolution or Letter

Title	File
SWCD Board Authorization	e0ba9f82-37e.pdf

Optional Attachments

Support Letter, Photos, Media, Other

Title	File
MNDNR Letter of Support	c50004eb-d2b.pdf
Project Proposal	e3169fe4-f1f.pdf
TNC Letter of Support	af71a995-a76.pdf
Friends of the Root River-Letter of Support	5f38cc1a-30a.pdf
Completed Background Check Form	19baf36d-543.pdf

Difference between Proposal and Work Plan

Describe changes from Proposal to Work Plan Stage

- 1) Changed the dollar amount for Milestone 1 to \$17,600 to match grant administration costs for the Fillmore County SWCD
- 2) Changed the dollar amount for Milestone 2 to \$986,400 to include the cost of materials and supplies.
- 3) Reduced the budget for contractor cost by \$16,000 so that the total budget matches the amount recommended by the Commission.
- 4) Changed the Project Administrator to Mindy Williamson with the Fillmore County SWCD.
- 5) Updated the project location to Fillmore County and the Root River watershed.
- 6) Added information about project dissemination upon completion.

6/14/23 Budget now summarized as requested.

Additional Acknowledgements and Conditions:

The following are acknowledgements and conditions beyond those already included in the above workplan:

Do you understand and acknowledge the ENRTF repayment requirements if the use of capital equipment changes?

N/A

Do you agree travel expenses must follow the "Commissioner's Plan" promulgated by the Commissioner of Management of Budget or, for University of Minnesota projects, the University of Minnesota plan?

N/A

Does your project have potential for royalties, copyrights, patents, or sale of products and assets?

No

Do you understand and acknowledge IP and revenue-return and sharing requirements in 116P.10?

N/A

Do you wish to request reinvestment of any revenues into your project instead of returning revenue to the ENRTF?

N/A

Does your project include original, hypothesis-driven research?

No

Does the organization have a fiscal agent for this project?

No