

**Environment and Natural Resources Trust Fund**

# 2023 Request for Proposal

## **General Information**

**Proposal ID:** 2023-022

**Proposal Title:** Regional Assessment of Project Outcomes in the RRB

## **Project Manager Information**

**Name:** Andrew Graham

**Organization:** Red River Basin Flood Damage Reduction Work Group

**Office Telephone:** (218) 606-0128

**Email:** andrew.graham@state.mn.us

## **Project Basic Information**

**Project Summary:** Carry out multi-resource monitoring at flood damage reduction and natural resource enhancement projects across the Red River Basin to evaluate outcomes and improve design of future projects at regional scale.

**Funds Requested:** $954,000

**Proposed Project Completion:** June 30, 2028

**LCCMR Funding Category:** Water Resources (B)

## **Project Location**

**What is the best scale for describing where your work will take place?** Region(s): NW

**What is the best scale to describe the area impacted by your work?** Region(s): NW

**When will the work impact occur?** In the Future

## **Narrative**

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

Since 1998 the FDRWG has coordinated a collaborative, project-planning process that provides flood damage reduction (FDR) and natural resource enhancement (NRE) across Minnesota's portion of the Red River Basin (RRB). Projects completed and those currently being planned include flood storage impoundments; improved water-level controls in pools managed for wildlife; rehabilitation and restoration of stream channels and floodplains; creation of wetland-like features, and planting of associated uplands with native seed mixes. The FDRWG has a long-standing interest in monitoring the outcomes of projects developed under this program, but has lacked consistent funding for this activity. Monitoring has been performed at some project sites, but has not been conceived or executed in the context of a larger regional vision to produce programmatic benefits across the Red River Basin.

**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 FDRWG and its Monitoring Committee would use LCCMR funding to plan and carry out a five-year monitoring program (four years of actual monitoring) at FDR/NRE project sites, in collaboration with local watershed districts and their project-development teams across the Minnesota portion of the Red River Basin (18 counties). This includes three main activities: 1) Develop and coordinate site-specific monitoring plans in collaboration with local watershed districts and their project teams; 2) monitor resource conditions and project outcomes at completed project sites and resource conditions at sites now in the development stage; and 3) share results regionally and statewide to improve outcomes. The monitoring plans will reflect the range of resource types enhanced by the underlying FDR/NRE projects, such as aquatic and wetland habitat; upland habitat, water quality conditions and loading; and stream channel stability. Approximately 20 project sites encompassing dry impoundments, wet impoundments, wetlands, upland areas and stream channel restorations will be considered, and a subset of 10 to 12 of these sites will be selected for monitoring to enable assessment of multiple project types.

**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 monitoring program will enable the FDRWG and its partners to: 1) evaluate the outcomes of past projects to better understand how well they are achieving their original objectives for natural resource enhancement; 2) determine whether re-investment in existing project features, and/or adjustment of project operations could improve outcomes at existing projects; and 3) improve the planning, design and operation of new FDR/NRE projects that will be developed across the RRB in the future.

## **Activities and Milestones**

### **Activity 1: Project Startup and Develop Monitoring Plans**

**Activity Budget:** $62,000

**Activity Description:**The objective of this activity is to develop strategic monitoring plans to assess the habitat and water quality outcomes of Red River Basin flood damage reduction projects. Tasks include refinement of a prioritized list of existing and proposed projects to be monitored, development of project-specific monitoring plans, and scheduling monitoring activities using multi-site routes for maximum efficiency. Tasks will be implemented by a technical team familiar with the projects and with expertise in water quality and habitat including wetlands, grasslands, wildlife, and stream channels. This technical team will coordinate monitoring plans with local project sponsors (watershed districts). The products of this activity will be strategic four year monitoring plans for 10 - 12 projects throughout the Red River Basin. Water quality monitoring plans will include condition monitoring and load monitoring upstream and downstream of projects. Habitat condition monitoring plans will include assessment of the quantity and community diversity of wetland and grassland habitats, Stream habitat monitoring plans will include assessment of current stream morphology. All monitoring efforts will be coordinated to optimize the understanding of the habitat and water quality outcomes of priority projects.

**Activity Milestones:**

|  |  |
| --- | --- |
| **Description** | **Completion Date** |
| Develop monitoring plan templates by project category | December 31, 2023 |
| Review existing data from site areas | December 31, 2023 |
| Develop site-specific monitoring plans with local sponsor input | February 28, 2024 |
| Procure field contractors and laboratory services | March 31, 2024 |
| Prepare all-sites monitoring schedule/routes | April 30, 2024 |
| Prepare linkages for uploading data to State databases | July 31, 2024 |

### **Activity 2: Site Monitoring**

**Activity Budget:** $676,000

**Activity Description:**The objective of this activity is to monitor projects to assess their water quality and habitat outcomes. The tasks needed to accomplish this objective vary across the types of projects selected and will include a combination of seasonal/annual monitoring of water quality and stream flow, assessment of grassland and wetland habitat quality, and assessment of stream habitat quality including channel condition and stability. The monitoring to be completed each year/season will be based on the strategic monitoring plan and schedule developed in Activity 1. Water quality monitoring will include condition monitoring to determine general effects of select projects as well as load monitoring to quantify the direct effects of projects (e.g. impoundments) on sediment and nutrient loads. Wetland and grassland habitat monitoring will quantify the amount of habitat at project sites, changes over time, and determine the quality of the habitat. Stream habitat monitoring will quantify changes in habitat quality and stream channel stability at the present time compared to the original, as-built conditions. Private-sector environmental services firms will perform the monitoring using established standardized methods. Data and results will be recorded, summarized, and incorporated into existing state and federal databases.

**Activity Milestones:**

|  |  |
| --- | --- |
| **Description** | **Completion Date** |
| Review air photos and LiDAR | July 31, 2024 |
| Stream flow monitoring to support water-quality load monitoring | July 31, 2026 |
| Water-quality load monitoring | December 31, 2027 |
| Water-quality condition monitoring | December 31, 2027 |
| Floristic quality assessments (habitat focus) | December 31, 2027 |
| Channel condition assessments (habitat focus) | December 31, 2027 |

### **Activity 3: Report and disseminate outcomes and provide guidance for future projects**

**Activity Budget:** $216,000

**Activity Description:**The objective of this activity is to synthesize and summarize the monitoring data, report the project specific outcomes, and provide written guidance for future projects in the Red River Basin to optimize achievement of natural resource goals (water quality, habitat). The tasks include statistical analysis of monitoring data, narrative summaries and reporting of water quality and habitat outcomes of projects, and development of guidance for future flood damage reduction projects so that they optimize their potential for natural resource benefits (i.e. adaptive management at the regional program scale). A workshop will be hosted and recorded to report project results and engage watershed districts, consulting engineers, and agency staff working on Red River Basin "project teams" to encourage the use of the recommendations in planning future projects. Where applicable, changes in ongoing operations or re-investment in existing facilities will be recommended at the existing projects. While the overall focus of this project is the Minnesota portion of the Red River Basin, the guidance developed in this activity can be applied to the siting, design, and operations of water-resource projects statewide, including water-storage projects, wetland restorations, stream channel restorations and similar projects.

**Activity Milestones:**

|  |  |
| --- | --- |
| **Description** | **Completion Date** |
| Analyze monitoring data | March 31, 2028 |
| Prepare written reports and guidance | June 30, 2028 |
| Hold workshop for project teams, agencies and others | June 30, 2028 |
| Contract management (5-year period) | June 30, 2028 |

## **Project Partners and Collaborators**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Organization** | **Role** | **Receiving Funds** |
| Henry Van Offelen | Minnesota Board of Water and Soil Resources | Technical Advisor. Henry has been involved in project planning and development with the FDRWG since approximately 2000 and has on-the-ground familiarity with nearly every project that will be monitored if this application is funded. He will provide technical input on monitoring fish and wildlife habitat, water quality and streamflow. | No |
| Jim Courneya | Minnesota Pollution Control Agency | Technical Advisor. Jim represents the MPCA on the FDRWG and is an active member of the FDRWG Monitoring Committee. He will provide technical input on monitoring water quality conditions and will serve as a gateway to additional technical expertise within the MPCA as needed. | No |
| Danni Halvorson | International Water Institute | Field Team Oversight. Danni will coordinate field and laboratory services performed by the contractors on this project. | Yes |
| Corey Hanson | Red Lake Watershed District | Corey will help the project team coordinate monitoring activities for projects within the Red Lake Watershed District and will share data the District has on water quality, stream flow and related conditions. | No |
| Tracy Halstengard | Roseau River Watershed District | Tracy and her staff will help the project team coordinate monitoring activities for projects within the Roseau River Watershed District and will share data the District has on water quality, stream flow and related conditions. | No |
| Kristine Altrichter | Buffalo-Red River Watershed District | Kristine and her staff will help the project team coordinate monitoring activities for projects within the Red Lake Watershed District and will share data the District has on water quality, stream flow and related conditions. | No |
| Morteza Maher | Middle-Snake-Tamarac Watershed District | Morteza and his staff will help the project team coordinate monitoring activities for projects within the Middle-Snake-Tamarac Watershed District and will share data the District has on water quality, stream flow and related conditions. | No |
| Tara Jensen | Wild Rice Watershed District | Tara and her staff will help the project team coordinate monitoring activities for projects within the Wild Rice Watershed District and will share data the District has on water quality, stream flow and related conditions. | No |
| Dan Money | Two Rivers Watershed District | Dan and hisstaff will help the project team coordinate monitoring activities for projects within the Two Rivers Watershed District and will share data the District has on water quality, stream flow and related conditions. | No |
| Dr. Dan Svedarsky | U of M - Crookston (retired) | Technical Advisor. Dan will provide input on monitoring wildlife habitat conditions at project sites. | No |
| Nick Brown | Minnesota DNR - Wildlife. | Technical Advisor. Nick will provide input on monitoring wildlife habitat conditions at project sites. | No |
| Dr. Nicholas Kludt | Minnesota DNR, Fish and Wildlife Division | Technical Advisor for issues relating to fish and aquatic habitat. | No |
| Rob Sip | Red River Watershed Management Board (Exec. Director) | Rob will lead fiscal agent responsibilities, and will provide a gateway to the RRWMB's seven member watershed districts to collaborate in this project's activities, information sharing, and eventual guidance for planning and developing flood damage reduction and natural resource enhancement projects across the Red River Basin of Minnesota. | Yes |

## **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 FDRWG will use information gained from this monitoring program to make recommendations to watershed districts on planning, designing and operating new and existing projects. In addition, the five-year period requested for LCCMR funding is expected to demonstrate the value of monitoring for providing meaningful and actionable information to improve existing and future project outcomes. Assuming this proves true, then the FDRWG may seek to extend the monitoring program further into the future. In that case we would seek ongoing funding from State or federal sources, or transition fully to in-kind services from state and local partners.

## **Project Manager and Organization Qualifications**

**Project Manager Name:** Andrew Graham

**Job Title:** Red River Basin Coordinator

**Provide description of the project manager’s qualifications to manage the proposed project.**Andrew has extensive project-management experience derived from a 34-year career in water-resources and natural resources. From 1997-2019 he served as a project manager and eventually the water resources program lead for Washington State offices of a large, international engineering firm. In that role he managed over 75 projects ranging in value from $100K to $4M for local, state and federal agencies including: U.S. Bureau of Reclamation, WA Dept. of Ecology, WA Dept. of Health, OR Dept. of Water Resources as well as various local governments. Project management activities in that period included developing work-breakdown structures; budgeting; resource scheduling; internal and external project communications, status reviews, progress reporting, earned-value monitoring, and problem-solving. Since joining the Minnesota DNR in 2019, he has coordinated the activities of the Red River Basin Flood Damage Reduction Work Group, including liaison among the DNR, other state agencies, USDA-NRCS, the U.S. Army Corps of Engineers, and local Watershed Districts throughout the Red River Basin. Among other duties, he has coordinated inter-agency development of several technical reports, program guidance documents and standard operating procedures; and manages the activities of two technical advisory committees/panels serving the FDRWG and Red River Watershed Management Board respectively.

**Organization:** Red River Basin Flood Damage Reduction Work Group

**Organization Description:**Since1998, the Red River Basin Flood Damage Reduction Workgroup (FDRWG) has coordinated the planning and development of flood damage reduction and natural resource enhancement projects throughout the Minnesota portion of the Red River Basin. It operates under a 1998 agreement that established overarching goals for flood damage reduction and natural resource enhancement, and outlined a multi-step process for planning and developing projects at the watershed level. The keys to this approach include clearly identified problems and goals, direct connection to local watershed plans, early consultation and collaboration among agencies and stakeholders, and a cooperative approach to planning, permitting, and funding projects. Co-Chaired by the Minnesota Department of Natural Resources (DNR) and Red River Basin Watershed Management Board (RRWMB), the FDRWG includes representatives from the DNR, BWSR, MPCA, MDA, USDA-NRCS, USACE and RRWMB as well as local counties, SWCDs, farmers and citizens. The Work Group coordinates and guides development of projects and provides recommendations for funding these projects from bond funds administered statewide by DNR.
The RRWMB serves as FDRWG's fiscal agent, receiving and disbursing funding each year from legislative appropriations and other sources. The RRWMB would receive and manage the funds awarded by the LCCMR in connection with this application.

## **Budget Summary**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Category / Name** | **Subcategory or Type** | **Description** | **Purpose** | **Gen. Ineli gible** | **% Bene fits** | **# FTE** | **Class ified Staff?** | **$ Amount** |
| **Personnel** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | **Sub Total** | **-** |
| **Contracts and Services** |  |  |  |  |  |  |  |  |
| International Water Institute | Sub award | Activity 1 - Technical input to plan the monitoring activities (Portions of Tasks 1-01 to 1-05) |  |  |  | 0.07 |  | $17,000 |
| International Water Institute | Sub award | Activity 2 - Technical support for oversight of contracted field monitoring and laboratory services (portions of Tasks 2-01 to 2-07) |  |  |  | 0.12 |  | $35,000 |
| International Water Institute | Sub award | Activity 3 - Technical oversight of analysis, reporting & workshop (Tasks 3-01 to 3-03), plus support of contract oversight performed by the sponsoring organization (Task 3-04). |  |  |  | 0.19 |  | $43,000 |
| TBD - Activity 1 Services | Professional or Technical Service Contract | Technical services to review available data and develop the monitoring plans and schedules under tasks 1-01, 1-02, 1-03, and 1-05. |  |  |  | 0.15 |  | $50,000 |
| TBD - Activity 2 services | Professional or Technical Service Contract | Technical services to deliver all of the field monitoring services in Activity 2 (Tasks 2-01 to 2-07). Includes air photo review, LiDAR review, water quality monitoring, stream flow rating curve development & stream flow monitoring, floristic quality assessments, and stream channel assessments. |  |  |  | 1.76 |  | $624,000 |
| TBD - Activity 3 services | Professional or Technical Service Contract | Technical services to analyze all field data collected, and to deliver the reports, guidance and workshop presentations in Activity 3 (Tasks 3-01 to 3-03), and to perform project management. |  |  |  | 0.28 |  | $159,000 |
| TBD - Laboratory services and associated shipping. | Professional or Technical Service Contract | Laboratory analysis of all field samples collected in Activity 2 (Tasks 2-03 to 2-05); plus shipping of samples from field areas to laboratory. |  |  |  | 0 |  | $10,000 |
|  |  |  |  |  |  |  | **Sub Total** | **$938,000** |
| **Equipment, Tools, and Supplies** |  |  |  |  |  |  |  |  |
|  | Tools and Supplies | Water quality sample containers, labels, etc. plus other miscellaneous supplies needed for field activities in Activity 2 | Enable collection of field data using standardized and accepted methodologies. |  |  |  |  | $4,000 |
|  | Equipment | 2 control pads for water-quality monitoring Sondes. (Does not include cost of 10, $15,000 Sondes to be provided by MPCA at no charge) | Download data from water quality monitoring Sondes. |  |  |  |  | $4,000 |
|  |  |  |  |  |  |  | **Sub Total** | **$8,000** |
| **Capital Expenditures** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | **Sub Total** | **-** |
| **Acquisitions and Stewardship** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | **Sub Total** | **-** |
| **Travel In Minnesota** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | **Sub Total** | **-** |
| **Travel Outside Minnesota** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | **Sub Total** | **-** |
| **Printing and Publication** |  |  |  |  |  |  |  |  |
|  | Printing | Hard-copy presentations and supplemental materials for attendees of final project workshop. | Disseminate results of the project to watershed districts, state and federal agencies, and interested parties in the Red River Basin and from other areas of the state. |  |  |  |  | $1,000 |
|  |  |  |  |  |  |  | **Sub Total** | **$1,000** |
| **Other Expenses** |  |  |  |  |  |  |  |  |
|  |  | One full-day workshop to present results. Assume 50 attendees, plus 10 presenters/organizers. Cost is for rental of hotel venue in Moorhead, MN. | Disseminate results of the monitoring program, with reference to planning and design of similar projects across the Red River Basin and in other areas of the state |  |  |  |  | $7,000 |
|  |  |  |  |  |  |  | **Sub Total** | **$7,000** |
|  |  |  |  |  |  |  | **Grand Total** | **$954,000** |

### **Classified Staff or Generally Ineligible Expenses**

|  |  |  |  |
| --- | --- | --- | --- |
| **Category/Name** | **Subcategory or Type** | **Description** | **Justification Ineligible Expense or Classified Staff Request** |

### **Non ENRTF Funds**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Specific Source** | **Use** | **Status** | **Amount** |
| **State** |  |  |  |  |
| In-Kind | DNR Red River Basin Coordinator role as overall Project Manager. State agency staff participation on a Technical Advisory Committee to be formed for input to this project. | Routine activities per State agencies biennial appropriations (DNR, PCA, BWSR). | Potential | $30,000 |
| In-Kind | Routine appropriations to DNR for activities of the Red River Basin Coordinator. | Routine activities per State agencies biennial appropriations (DNR). | Potential | $30,000 |
|  |  |  | **State Sub Total** | **$60,000** |
| **Non-State** |  |  |  |  |
| In-Kind | Watershed district levies for routine administration/operations. | Staff from up to seven watershed districts in the RRB will help to coordinate assembly of existing data and coordinate field activities associated with the existing on-site projects that they own and operate. Some with particular expertise will also serve on the Technical Advisory Committee for this project. | Potential | $27,000 |
|  |  |  | **Non State Sub Total** | **$27,000** |
|  |  |  | **Funds Total** | **$87,000** |

## **Attachments**

### **Required Attachments**

#### ***Visual Component***

File: [55147559-353.pdf](https://lccmrprojectmgmt.leg.mn/media/map/55147559-353.pdf)

#### ***Alternate Text for Visual Component***

Map of Minnesota's portion of the Red River Basin, with project sites indicated. Table listing 20 candidate sites for monitoring per the LCCMR proposal. Photos showing; stream-monitoring activity; a filled flood-storage impoundment and associated restored stream channel; and a wetland complex....

#### ***Board Resolution or Letter***

|  |  |
| --- | --- |
| **Title** | **File** |
| RRWMB Resolution 748 (2022-04-19) | [d4629347-955.pdf](https://lccmrprojectmgmt.leg.mn/media/attachments/d4629347-955.pdf) |
| RRWMB Letter - Fiscal Agent for FDRWG funding application | [c6422101-baa.pdf](https://lccmrprojectmgmt.leg.mn/media/attachments/c6422101-baa.pdf) |
| FDRWG Co-Chairs Affirmation | [91443dd8-807.pdf](https://lccmrprojectmgmt.leg.mn/media/attachments/91443dd8-807.pdf) |

### **Optional Attachments**

#### ***Support Letter or Other***

|  |  |
| --- | --- |
| **Title** | **File** |
| RRWMB (FDRWG Fiscal Agent) Audited Financial Statements CY2020 | [900852cf-7d3.pdf](https://lccmrprojectmgmt.leg.mn/media/attachments/900852cf-7d3.pdf) |
| Red Lake Watershed District letter of support | [c1f61fa8-d81.pdf](https://lccmrprojectmgmt.leg.mn/media/attachments/c1f61fa8-d81.pdf) |
| Middle-Snake-Tamarac Rivers WD letter of support | [30bf9931-f98.pdf](https://lccmrprojectmgmt.leg.mn/media/attachments/30bf9931-f98.pdf) |

## **Administrative Use**

**Does your project include restoration or acquisition of land rights?**
 No

**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?**
 Yes, Red River Watershed Management Board