



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

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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 his staff 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:

Since 1998, 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. Ineligible	% Benefits	# FTE	Classified 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
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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](#)

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
RRWMB Letter - Fiscal Agent for FDRWG funding application	c6422101-baa.pdf
FDRWG Co-Chairs Affirmation	91443dd8-807.pdf

Optional Attachments

Support Letter or Other

Title	File
RRWMB (FDRWG Fiscal Agent) Audited Financial Statements CY2020	900852cf-7d3.pdf
Red Lake Watershed District letter of support	c1f61fa8-d81.pdf
Middle-Snake-Tamarac Rivers WD letter of support	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?

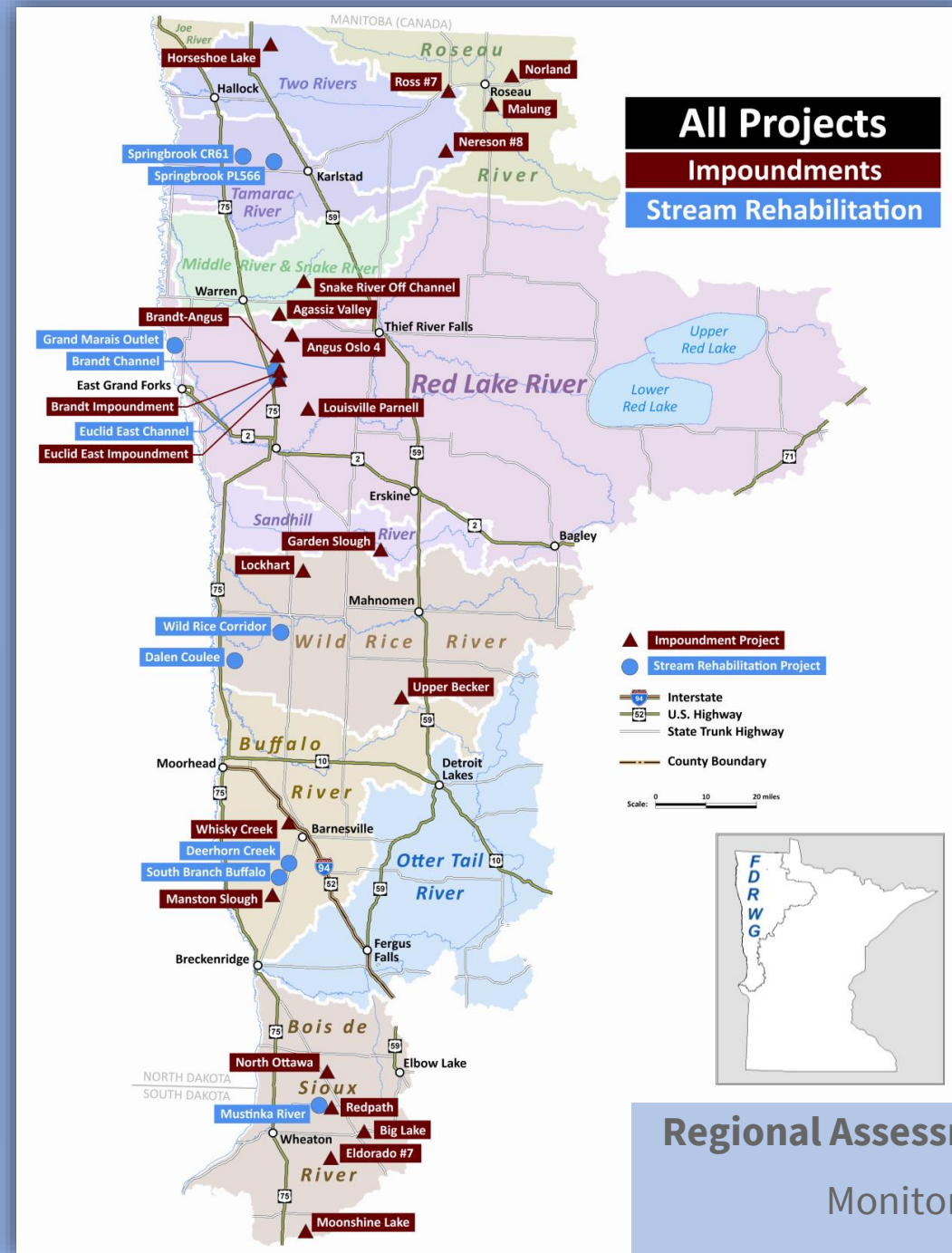
N/A

Does your project include original, hypothesis-driven research?

No

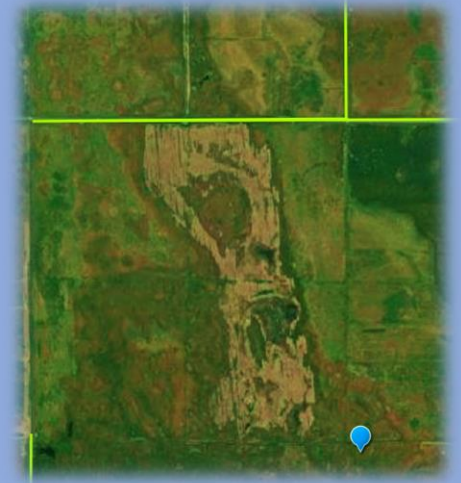
Does the organization have a fiscal agent for this project?

Yes, Red River Watershed Management Board



All Projects
Impoundments
Stream Rehabilitation

Candidate Sites for Water Quality, Habitat, and Stream Stability		
Project Name	Project Type	Monitoring Options
Parnell	Dry	WQ-C, Habitat
Brandt Impoundment	Dry	WQ-L, Habitat
Ross	Dry	WQ-L, Stream, Habitat
Hay Creek/Norland Impoundment)	Dry	WQ-L, Habitat
Klondike	Dry	WQ-C, Stream
Warren PL566 impoundment	Dry	WQ-C, Stream, Habitat
Angus Oslo 4	Dry	WQ-L, Stream
Redpath	Dry + stream	WQ-L, Habitat
Stony Creek	Dry + stream	WQ-C, Stream
Wolverton Creek	Stream/floodplain	WQ-C, Stream
Dalen Coulee	Stream/floodplain	WQ-C, Stream
Lower Grand Marais Creek	Stream/floodplain	WQ-C, Stream
Springbrook	Stream/floodplain	WQ-C, Stream
Deerhorn Creek	Stream/floodplain	WQ-L, Stream
Swift Coulee	Stream/floodplain	WQ-L, Habitat
Burnham Creek	Wet	WQ-L, Stream, Habitat
Nelson Slough	Wet	WQ-L, Habitat
Roseau Lake	Wet	WQ-C, Stream
Goose Prairie	Wet	WQ-C, Stream, Habitat
North Ottawa	Wet / Dry	WQ-L, Habitat



Regional Assessment of Project Outcomes in the RRB
 Monitor – Understand -Learn - Adapt

