

Water Management Coordination and Communication Efforts in the Red River Basin of Minnesota

A Presentation to the Minnesota Drainage Work Group
August 11, 2022



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Red River Watershed Management Board

Topics

Red River Watershed Management Board (RRWMB) Overview

Coordination With the Minnesota Department of Natural Resources (DNR)

1998 Mediation Agreement and Flood Damage Reduction Work Group (FDRWG)

Technical Guidance and Tools

Communication Tools

Results of Consensus and Partnerships



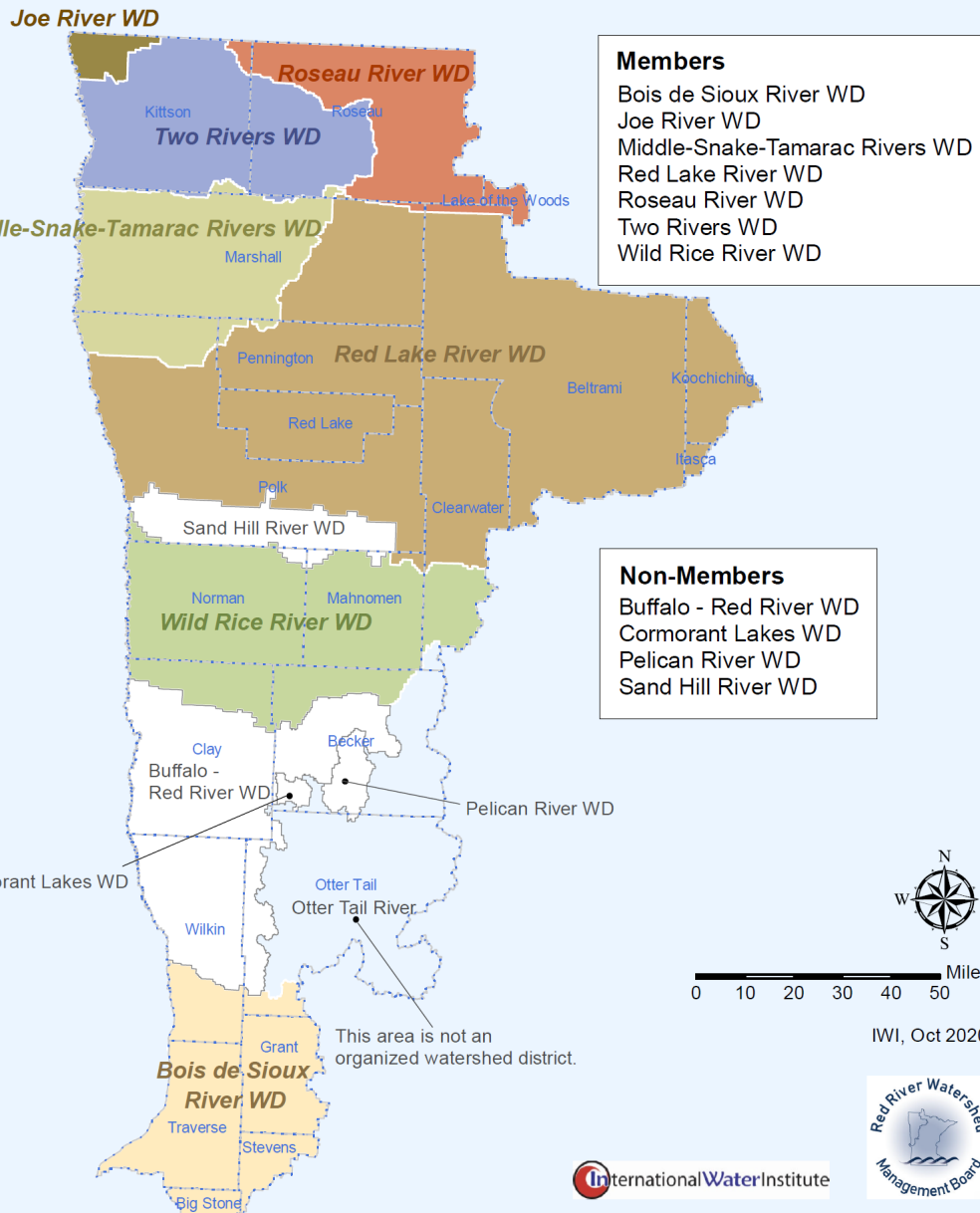
RRWMB Overview

- ▶ Formed in 1976 by the MN Legislature as the Lower Red River Watershed Management Board:
 - Original focus on flood control only.
- ▶ Joint Powers Agreement of watershed districts.
- ▶ Taxation authority up to 0.04836 percent.
- ▶ 1991 Legislative Adjustments:
 - Changed the name to the RRWMB.
 - Authority redefined to develop, construct, and maintain projects and programs of benefit to the Red River Basin (RRB).

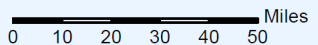


Red River Water Management Board

Member Watershed Districts



- Counties Partially or Fully Within the RRWMB
- Becker County
- Beltrami County
- Big Stone County
- Clay County
- Clearwater County
- Grant County
- Itasca County
- Kittson County
- Koochiching County
- Lake of the Woods County
- Mahnomen County
- Marshall County
- Norman County
- Otter Tail County
- Pennington County
- Polk County
- Red Lake County
- Roseau County
- Stevens County
- Traverse County
- Wilkin County



IWI, Oct 2020



Coordination With the DNR

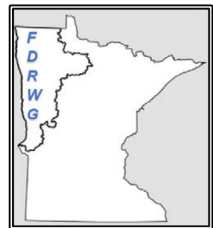
▶ RRB Coordinator Position:

- Position Created in 1979
- Jointly Funded Position Between RRWMB and State of Minnesota (LCMR and Later DNR)
- Facilitates:
 - FDRWG and Several of its Committees
 - RRWMB Technical Advisory Committee and Water Quality/Monitoring Advisory Committee
- Works With Local Project Teams
- Other Projects and Efforts as Necessary
- Regular Communication With DNR Region 1 Leadership is Constant



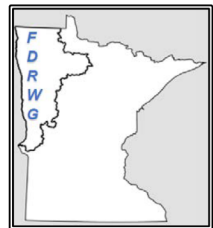
1998 Mediation Agreement and FDRWG

- ▶ The Agreement is a result of court ordered mediation in the early 1990's between the RRWMB/member watershed districts and the US Army Corps of Engineers/Minnesota DNR related to flood control projects in the RRB of Minnesota.
- ▶ RRWMB is the fiscal agent for the FDRWG – Funds pass through from DNR.
- ▶ The Agreement was a landmark milestone for local units of government and state and federal agencies to develop **consensus** and working **partnerships** on:
 - Planning, Design, and Funding;
 - Enhanced Coordination of RRB Flood Damage Reduction projects; and
 - Implementation of Natural Resource Enhancements (NRE).



Mediation Agreement Structure

- ▶ FDRWG oversees implementation of the Mediation Agreement and makes decisions about:
 - Annual Budget of \$264,000
 - State Funding Support for NREs (103F.161, subd. 3).
- ▶ Technical and Scientific Advisory Committee (TSAC)
- ▶ Several Internal Committees and Teams
- ▶ Watershed-based Local Project Teams and Project Team Handbook
- ▶ Advocate/promote/develop watershed-based approaches to water and natural resources management.



Who is Involved in the Mediation Agreement?


▶ Notes on FDRWG Membership:

- 9 of 11 watershed districts in the RRB of Minnesota have received funding through the FDRWG regardless of RRWMB membership.
- Project funding and development is spread across RRB counties.

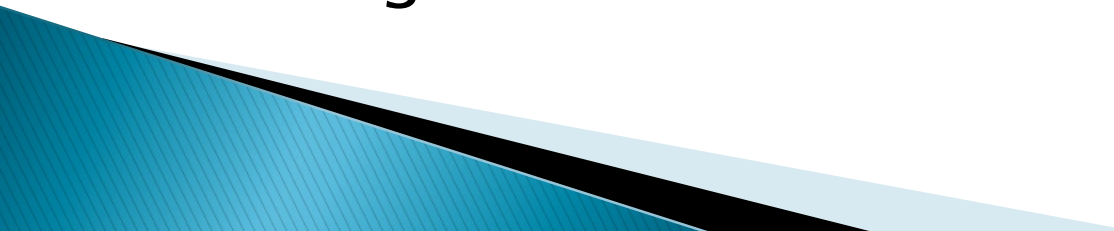
▶ Representatives From the Following Entities are Current Participants of the Mediation Agreement:

- RRWMB and Local Government (Counties and SWCD's)
- State Agencies – BWSR, DNR, MDA, MDH, and MPCA
- Federal Agencies – NRCS and US Army Corps of Engineers
- Environmental Groups and Red River Basin Citizens

Flood Damage Reduction Goals

- ▶ Prevent loss of human life.
 - ▶ Prevent damage to structures, homes, communities (100 yr).
 - ▶ Reduce damage to farmland (10 yr summer storm event, more if at minimal cost).
 - ▶ Reduce damage to transportation, water quality, social and economic factors.
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Natural Resource Goals

- ▶ Manage streams for natural characteristics.
 - ▶ Enhance flow regimes in streams for water supply, water quality, recreation.
 - ▶ Provide recreational opportunities.
 - ▶ Improve water quality.
 - ▶ Protect groundwater.
 - ▶ Manage lakes for natural characteristics.
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Incorporation of NREs Into FDR Projects



Waterfowl at the North Ottawa FDR
Project: Bois de Sioux Watershed District

- **Water Quality:** Better water quality by reducing nitrogen, phosphorous, sediment loading and erosion.
- **Wetlands:**
 - Protection and enhancement of naturally occurring wetlands.
 - Storage via restored wetlands to hold and retain water on the landscape for longer periods of time while providing agricultural drainage benefits.
- **Habitat:** Nesting, resting, feeding and brooding habitat areas for migrating waterfowl, shorebirds and fish.
- **Recreation:** Enhanced and increased bird and wildlife viewing opportunities.

▶ The state agencies and RRWMB recently recommitted to the Mediation Agreement.



**Addendum No. 1
To 1998 Mediation Agreement**

Red River Basin Flood Damage Reduction Work Group

Approved December 9, 2020

State Officers

By their signatures, the executive officers of Minnesota state agencies named below reaffirm the State's commitment to implementing the 1998 Red River Mediation Agreement, amended by Addendum No. 1 in December 2020. State actions will continue to be guided by the Memorandum of Understanding among the agencies dated June 2013.

Department of Natural Resources

Commissioner Sarah Strommen

Department of Agriculture

Commissioner Thom Petersen

Department of Health

Commissioner Jan Malcolm

Board of Water and Soil Resources

Executive Director John Jaschke

Pollution Control Agency

Commissioner Laura Bishop

Red River Watershed Management Board Officers

By their signatures, the officers of the Red River Watershed Management Board named below reaffirm the Board's commitment to implementing the 1998 Red River Mediation Agreement as amended by Addendum No. 1 in December 2020.

President John Finney

Vice-President Greg Holmvik

Technical Tools and Guidance

- ▶ LiDAR
- ▶ Technical and Scientific Advisory Committee:
 - 15 Technical Papers
- ▶ Basin Technical and Scientific Advisory Committee: 3 Technical Papers Related to Drainage
- ▶ RRWMB Model Watershed District Rules
- ▶ RRWMB Surface and Subsurface Drainage Guidance
- ▶ Long-term Flood Solutions and Flow Reduction Strategy
- ▶ DNR Watercourse Excavation Guidance



Red River Basin Project Team Handbook

SECTION 1.

Project Team Guidelines

This section of the Project Team Handbook is designed to provide you with the information needed to give you a background on the Red River Basin Flood Damage Reduction Work Group agreement which created project teams. It also contains specific recommendations for the various roles needed to implement the plan.

- ⇒ **1A – When Do We Need a Project Team?**...definition of "project" and when to use Project Teams for this process.
 - ⇒ **1B - Project Team Overview**...brief description of Project Teams and their purpose.
 - ⇒ **1C - Roles and Responsibilities**...highlights the roles and responsibilities of the various partners in this work.
 - ⇒ **1D – Team Membership**...guidelines for selecting Project Team members and an overview of what is expected of them
 - ⇒ **1E – Making Decisions**...guidelines for decision-making and the use of consensus in Project Team processes.
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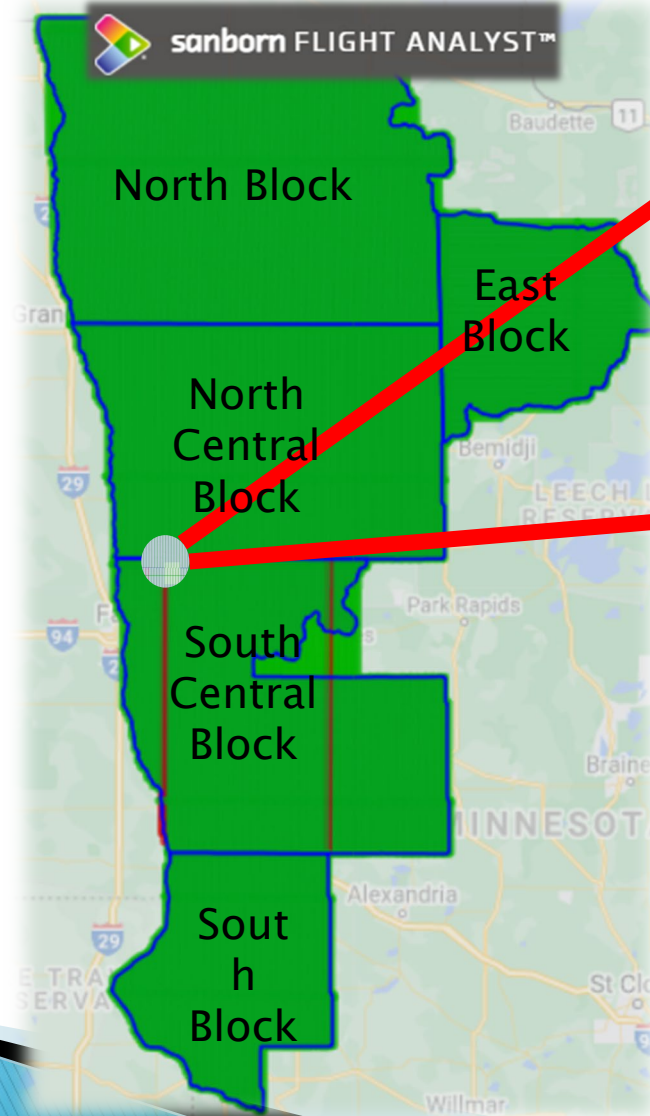


A User's Guide to Natural Resource Efforts in the Red River Basin

A publication of Minnesota's
Red River Basin Flood Damage Reduction Working Group

2021 LiDAR

ACQUISITION STATUS



- 3 Aircraft/Crews
- 72 Total Missions
- 29 days to Complete!

2021 LiDAR DELIVERABLES

Raw – Point Cloud – USGS QL1 (Nominal Pulse Density – 8/meter²)

Building Footprints

Farmstead Ring Dikes

1 Foot Contours

0.5 Meter DEM

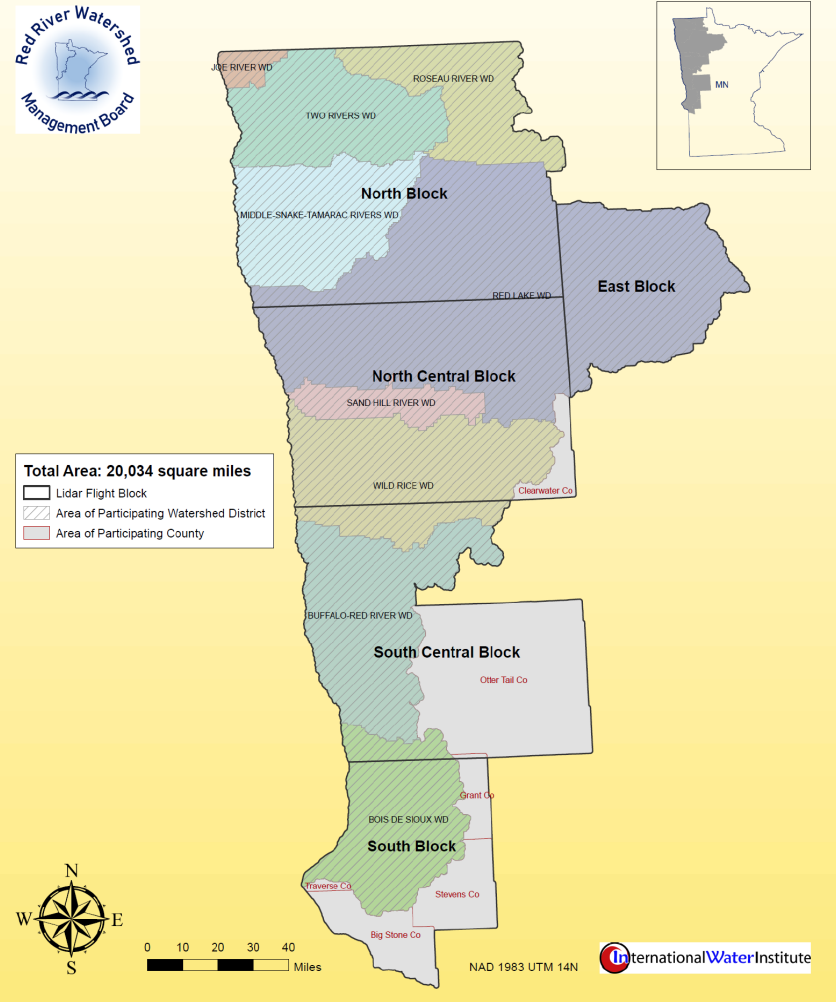
Hydro-Conditioned DEM

Data Storage / Dissemination (3 years)

Update IWI LiDAR Viewer

2021 Lidar Collection Areas

Red River Watershed Management Board



Communication Tools

- ▶ Annual Conferences:
 - RRBC
 - RRWMB/FDRWG
 - River Watch Forum
 - MAWD Conference
 - Big Iron
 - Prairie Grains Conference
 - AMC Conference



Results of Consensus and Partnerships

Flood damage reduction/water storage projects.

Water quality/habitat projects.

Ring dikes and city protection.

Technical efforts, stream flow monitoring, River Watch Program, and various initiatives.



Several Flood Impoundments North of
Crookston, MN on May 3, 2022. Photograph
Courtesy of RRWMB.



An aerial photograph showing extensive flooding of agricultural land. Several long, narrow ring dikes, constructed from trees and brush, crisscross the landscape, creating a grid of flooded fields. In the center-right, a farmstead is visible, consisting of several buildings with green roofs and a large open area, surrounded by water. The water is a dark, murky blue-grey color, and the sky is overcast.

Farmstead Ring Dikes North of East
Grand Forks, MN on May 3, 2022.
Photograph Courtesy of RRWMB.



Black River Flood Impoundment in the Red Lake Watershed District on May 3, 2022. Photograph Courtesy of RRWMB.



Lower Wild Rice River Corridor Habitat Restoration Project



- ▶ **Project Focus:**
 - Flood damage reduction.
 - Water quality.
 - Habitat.

- ▶ **Phases:**
 - Phase 1 – Land Acquisition/Restoration
 - Phase 2 – Detailed Design and Setback Levee Construction
 - Phase 3 – Channel Rehabilitation
 - Phase 4 – Operation and Maintenance

- ▶ **Funding – Phase 1:**
\$669,400 (RRWMB),
\$334,600 (Wild Rice WD),
and \$5,020,000 (LSOHC).

Flooded Areas Along the Wild Rice River Near Ada, MN on May 3, 2022. Photograph Courtesy of RRWMB.



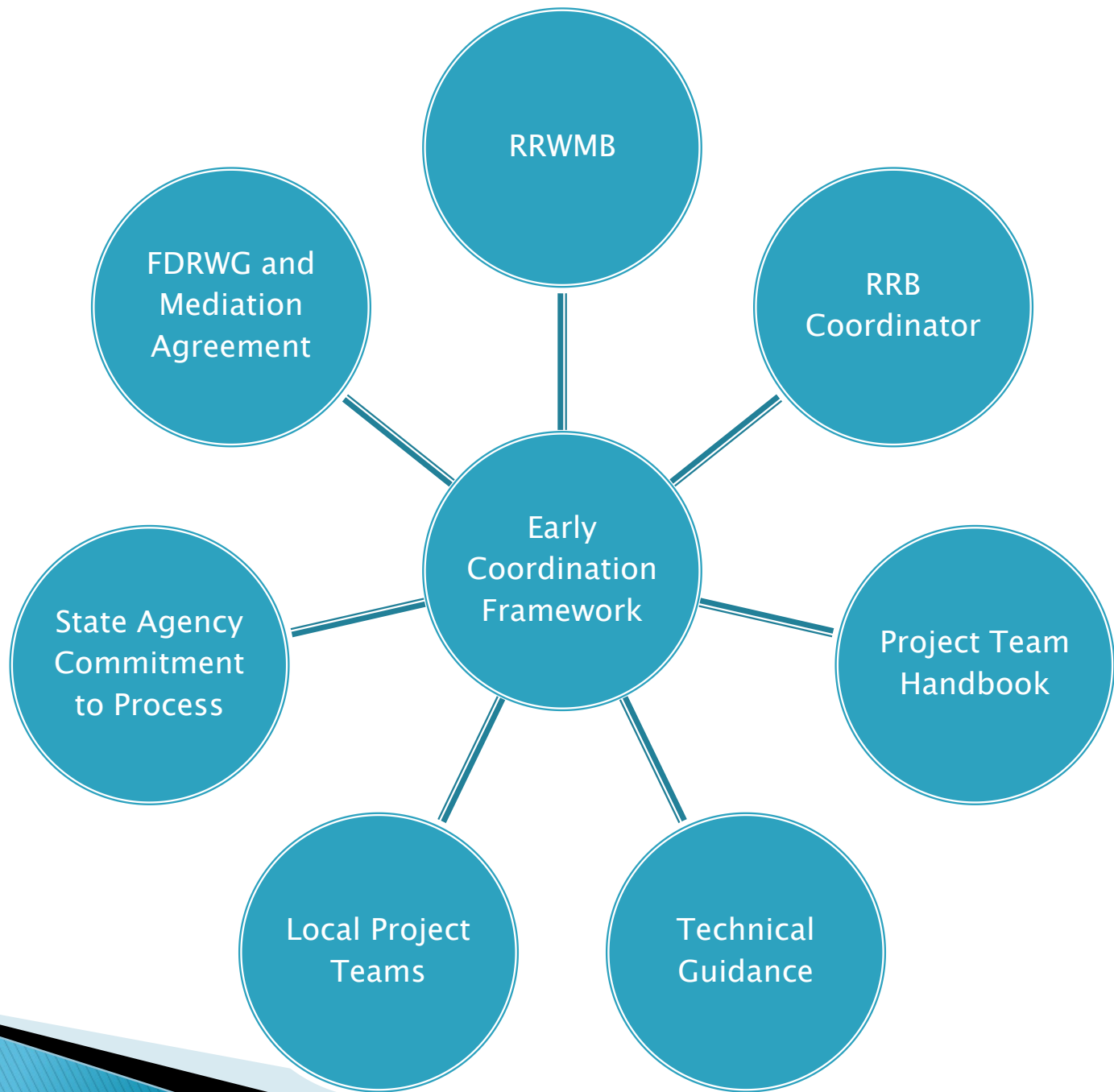
Phase 1 of the Lake Traverse Water Quality Project in the Bois de Sioux Watershed District in August 2021. Photograph Courtesy of RRWMB.



RRWMB Partners and Stakeholders

- ▶ Red River Retention Authority
- ▶ Red River Joint Water Resource District
- ▶ Red River Basin Commission
- ▶ International Water Institute
- ▶ Watershed Districts
- ▶ FDRWG
- ▶ Agricultural Groups, Farmers, and Landowners
- ▶ Environmental Groups
- ▶ SWCD's
- ▶ Counties
- ▶ Cities
- ▶ Other





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