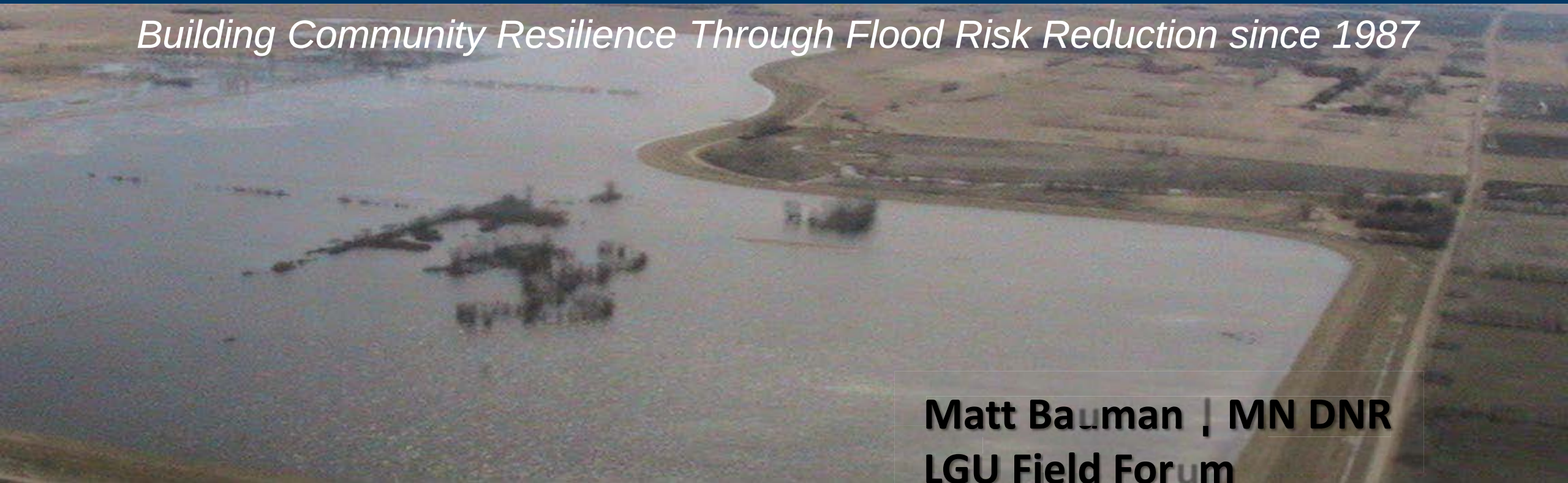
DEPARTMENT OF NATURAL RESOURCES

Minnesota's Flood azard Mitigation (F M) rant Assistance rogram

Building Community Resilience Through Flood Risk Reduction since 1987



Matt Ba man ¦ MN DNR

LGU Field For m

Today's Conversation

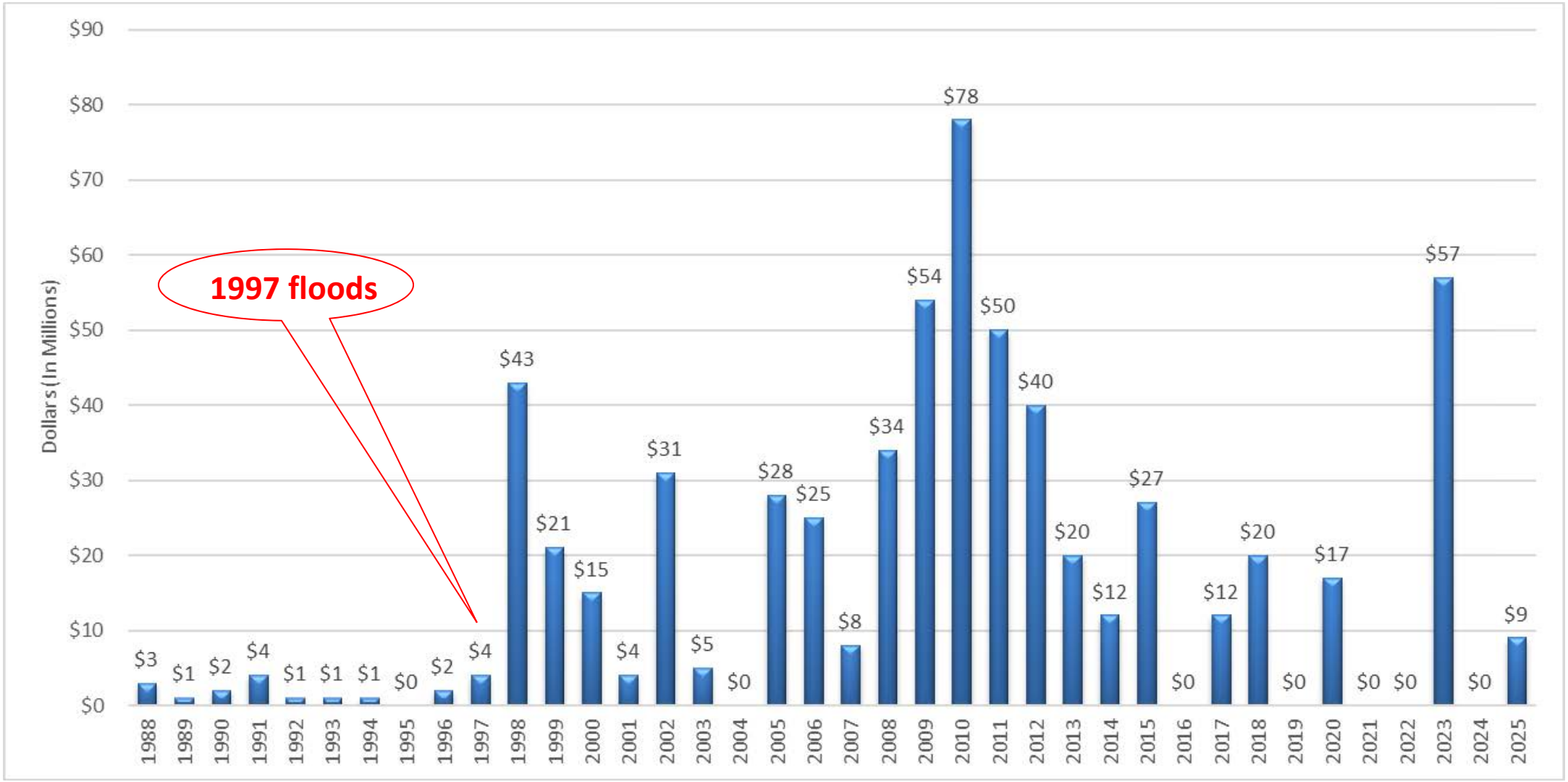
- Overview of FHM Grant Program
- Current funding opportunities
- Application and award process

FHM Grant Program - Background

- **Established by the Minnesota Legislature in 1987** (MS 103F.161)
- **Provides cost-share funding to LGUs**
  - **1:1 local match required (sometimes less for communities, based on MHI)**
- **G.O. bond-eligible projects must be of a capital nature and publicly owned in perpetuity**
  - **Acquisition/removal of flood prone structures**
  - **Easement acquisition**
  - **Structural works - levees, floodwalls, diversions, impoundments, pumping stations**

FHM rant Program - Funding istory

Minnesota FHM F nding, 1988 - 2023



2025 Bonding Appropriation

- **$9M received in general obligation bonds**
- **Applications are due August 11, 2025**
- **Applications will be reviewed by an evaluation team**
- **Finalists will present their projects to the team**
- **Awards will be made in the fall**
- **Those not awarded funding will be considered for future funding**

rogram Webpage

rces > Water Management

Flood Hazard Mitigation Grant Assistance Program

The Flood Hazard Mitigation Grant Assistance Program (FHM) was created by the Minnesota Legislature in 1987 to provide technical and financial assistance to local government units for reducing the damaging effects of floods. Under this program the state can make cost-share grants to local units of government for up to 50 percent of the total cost of a project. The goal of existing regulations and programs for flood damage reduction is to minimize the threat to life and property from flooding. The efforts of local governments to enforce their zoning ordinances, to sponsor flood mitigation public improvement projects, and to acquire or relocate flood-prone buildings have significantly helped to reduce risk to lives and flood damages across the state.

- Historical Allocations of FHM Funding (PDF)
- History of the Flood Hazard Mitigation Grant Assistance Program (PDF)
- Information Sheet (PDF)
- 2021 FHM Listening Session and Survey Summary (PDF)
- Remaining Known FHM Needs (PDF)
- FHM Grant Prioritization Guidelines (PDF)

Application Information

- **Expiring soon!** Red River Basin Flood Damage Reduction Funding, 2023-2025
- Application Form (PDF)

Contact

Matt Bauman, Flood Hazard Mitigation Grant Assistance Program Manager, 651-259-5691

Historical f nding

Remaining Kno n Needs

Grant Prioritization Process

Application

FHM Application

- **Revised Application Form**
- **Questions ensure applicants provide enough details to meet considerations listed in statute.**
- **Due August 11th for this round of funding**

Application window always open.
Awards made after legislative appropriations.
LGUs are encouraged to apply!

DEPARTMENT OF NATURAL RESOURCES

Flood Hazard Mitigation Grant Assistance Program Application

Complete and return this application via email to:

Matthew Bauman
Flood Hazard Mitigation Grant Assistance Program Manager
Email: matthew.bauman@state.mn.us
Phone: 651-259-5691

Updated July 2024

FHM Grant Prioritization

- **Shows how DNR applies the 9 considerations in statute**
- **LGUs should consider this material when applying**
- **Applicants should be sure to document risk and need**

DEPARTMENT OF NATURAL RESOURCES

Grant Prioritization – Flood Hazard Mitigation Grant Assistance Program

Background

Since 1987, the Minnesota Department of Natural Resources (DNR) Flood Hazard Mitigation (FHM) Grant Assistance Program has awarded over $590 million in cost share funding to local governmental units (LGUs) around the state. This funding leverages local resources to plan, design and implement flood risk reduction measures. LGUs applying for funds include cities, counties, watershed districts, and other public entities. Requests for assistance far exceeds available funds, so the DNR must determine funding priorities among competing projects in each funding cycle. This document explains the statutory considerations that go into the DNR's prioritization decisions in each funding cycle, and may serve as a helpful reference to local governments as they are developing their project or application.

Statutory Considerations for Prioritizing Project Funding

The FHM program's enabling legislation provides nine general considerations the DNR must apply when evaluating LGU applications for funding assistance (M.S. 103F.161). These nine considerations are listed and explained below. For each potential project, program staff confer with applicants about their project and evaluate each application based on these considerations:

1) **The extent and effectiveness of mitigation measures already implemented by the local government requesting the grant.**

   Communities that have invested local resources to implement effective flood risk mitigation may merit continued financial assistance. In addition, the DNR prioritizes funding to complete in-progress projects (or phases).

2) **The feasibility, practicality, and effectiveness of the proposed mitigation measures and the associated nonflood related benefits and detriments.**

   To be eligible for funding, projects must be based on sound engineering and proven methods and suitable for the conditions at the proposed project site. DNR also considers whether the applicant demonstrates the ability to provide necessary, long-term operations and maintenance actions. In addition, projects that offer multipurpose benefits in addition to flood risk reduction may receive additional consideration. Examples of additional multipurpose benefits include ancillary economic development benefits, natural resource benefits, improved environmental equity, or recreation benefits. Similarly, projects that would cause significant negative impacts in these areas are not likely to receive funding.

Thank You for your interest and attention!

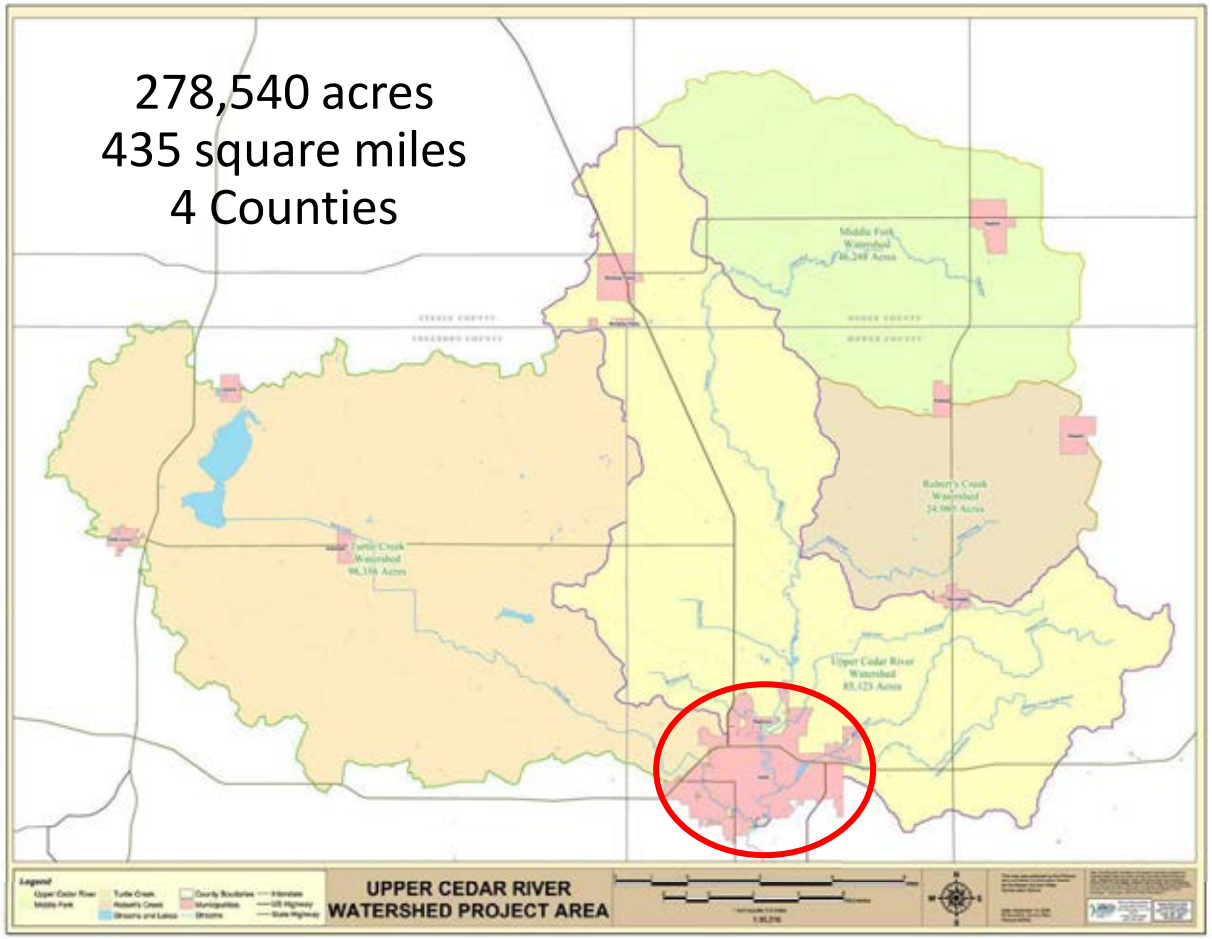
Matt Ba man, DNR Flood Ha ard Mitigation Grant Assistance Program

matthew.bauman@state.mn.us

641-259-5691

City of Austin, MN

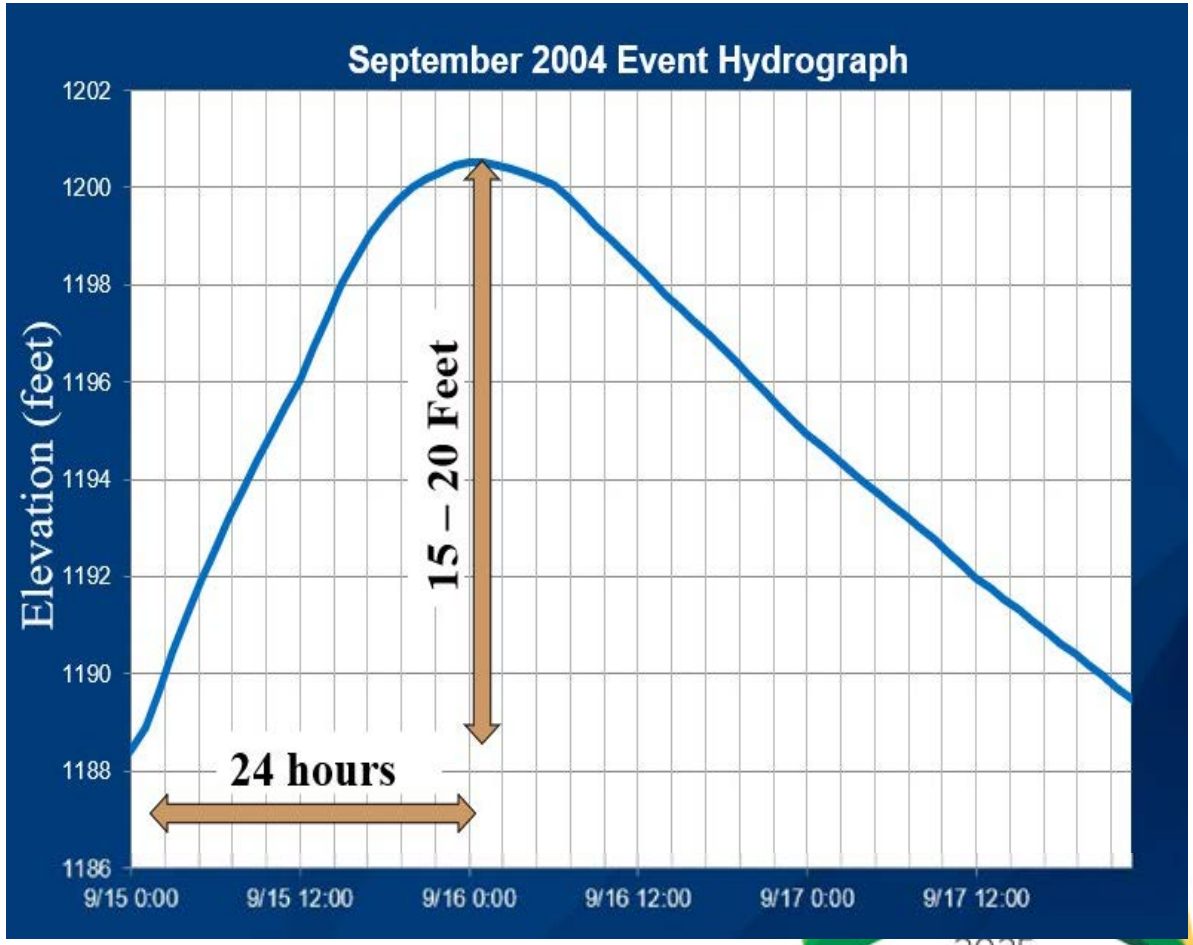
Cedar River Watershed



Austin s Flood History

Date of Flood	Gauge Height(ft.)
1. September 15, 2004	25.0
2. July 10, 2000	23.4
3. June 12, 2008	22.4
4. July 17, 1978	21.9
5. August 15, 1993	21.3
6. September 24, 2010	20.6
7. June 22, 2024	20.0
8. September 23, 2016	19.8

2004 Event Hydrograph



Acquisition of Repetitive Loss Properties

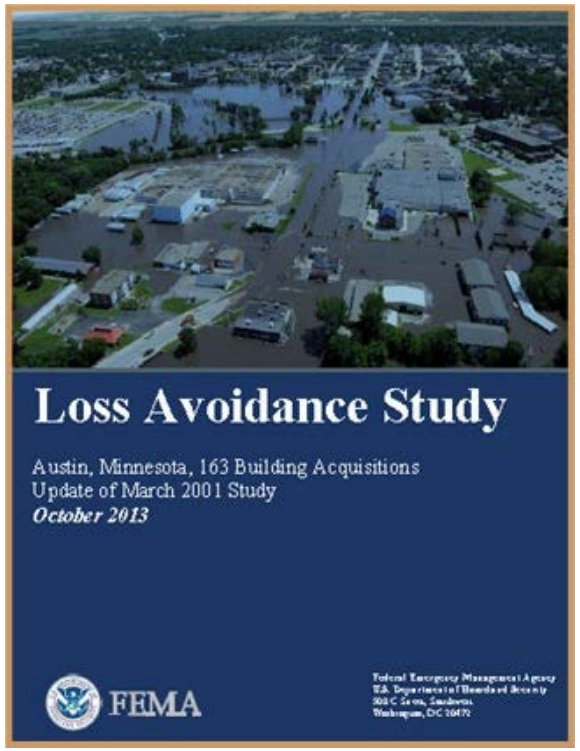
- All voluntary acquisitions
- Offer based on appraisal, no negotiation or markup
- Guidelines & Goals
  - Subject to repetitive losses
  - Prioritize first flood damages
  - Eliminate infrastructure

Acquisition of Repetitive Loss Properties

- 300 parcels removed since 1978
  - 1978-99 150 FEMA funding
  - 2000-09 115 FEMA/State/Local funding
  - 2010-24 35 State/Local funding
- Creation of a Linear Park System
- Eliminated flood infrastructure
- ≈ 75 homes & businesses remain

2013 FEMA Loss Avoidance Study

- 163 Building Acquisitions: 1978, 1988, 1993
- Total Acquisition Cost: $14,425,986
- Total Losses Avoided: $38,274,070
- Return On Investment: 2.65
- Additional Savings: 2016 & 2024



Emotional Impact

Local Option Sales Tax (LOST)

- City identified need for funding source
- Required legislative approval 2006
- Referendum passed with 63% approval
- Established for 20 years
- Expires March 31, 2027
- Generates $1.75 million annually

Flood Mitigation Program (2007 2027)

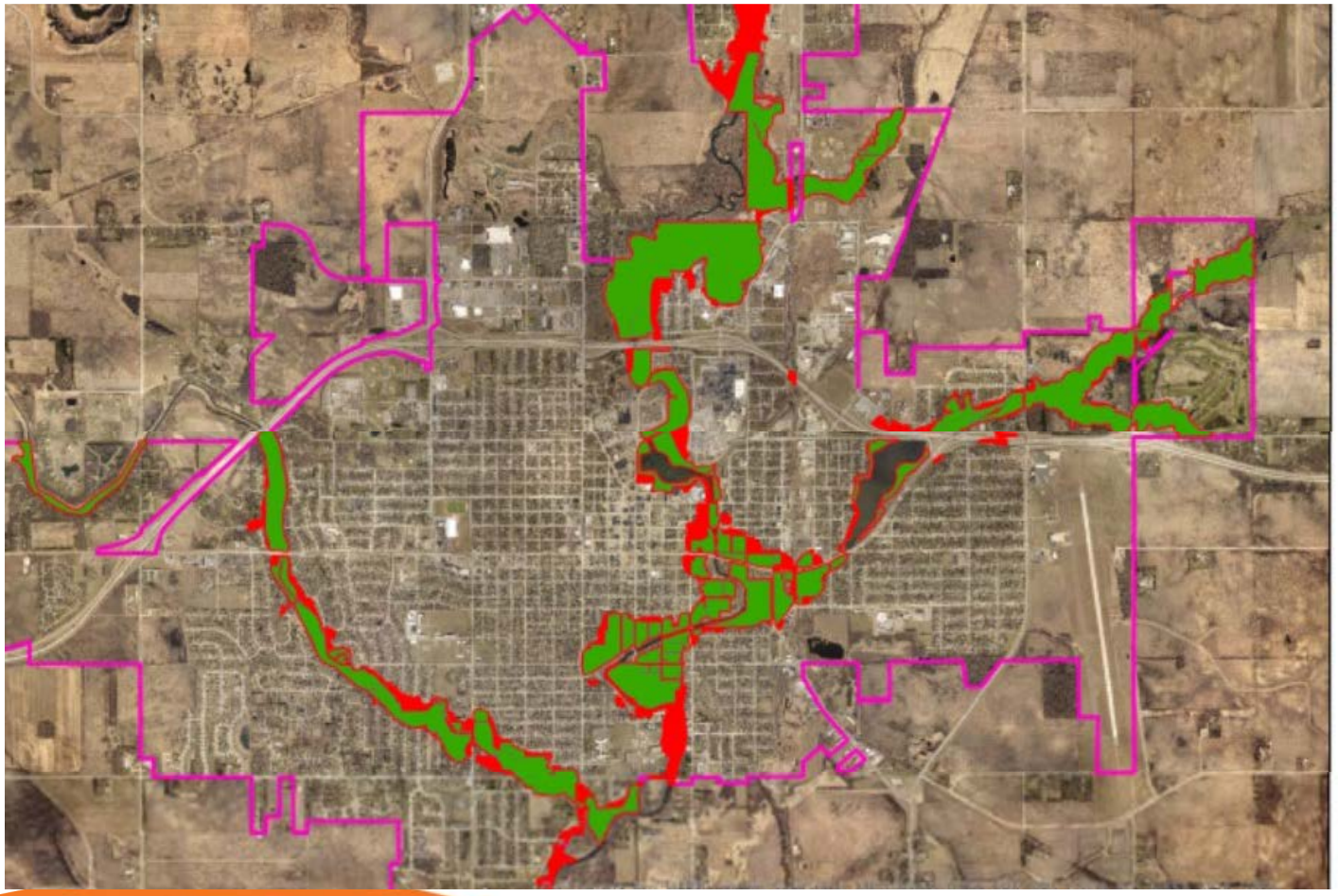
- 9 Project Areas
- $58.3 Million Total Project Cost
  - $2.0m FEMA funding
  - $5.0m Local Sewer funding
  - $5.0m DEED Bonding Dollars
  - $18.0m DNR FHM funding
  - $28.3m Local Option Sales Tax
- Property Acquisition ($8.3m)
- Structural Mitigation ($50.0m)
  - Earthen Levees
  - Concrete Floodwalls
  - Pumping Stations
  - Sanitary Sewer Improvements
  - Storm Sewer Upgrades
  - Engineering Services

80% Complete

Preserving history and planning for the future.

- Over the past 50 years we have been working with state, federal and local partners, to protect lives and property.
- We have to a great extent accomplished our goals and endeavor to preserve those decades of effort moving forward.
- We now have hundreds of acres of open space running through the city along our waterways. How will we plan to preserve and utili e this space in ways that are compatible with our history of flooding, preserving the natural functions of the floodplain, as well as providing added benefit for our residents?

Flood Zone Open Space



- Floodplain
- At least 81% (600+ acres) of our floodplain is now open space, with no habitable structures or businesses.

Voluntary participation in the community rating system

- The City of Austin is an NFIP (National Flood Insurance Program) community and has been involved in the CRS program since 1991. It is a voluntary program that incentivi es communities to adopt stronger floodplain management practices. Both programs are administered by FEMA and facilitated by the Minnesota DNR. Both agencies provide technical and financial assistance for flood mitigation and recovery.
- The CRS aligns with flood prevention by promoting policies and actions that minimi e flood risks, improve community resilience, and reducing the financial burden of flooding on individuals and governments.

Comprehensive Plans Mower County and Austin

SCAN ME

COMPREHENSIVE PLAN 2045 | AUSTIN GROWING TOGETHER

COMPREHENSIVE PLAN 2045 | MOWER COUNTY

Community Engagement

- Growing partners
- Identifying champions
- Building support
- Meeting people where they are
- Celebrating who they are

- Currently creating Communities of Practice (city and county) and District Councils (downtown Austin), which includes areas along the Cedar River and will address recreation and access to our waterways.

Multi-purpose Water Storage to Meet Flood Mitigation, Water Quality, and Habitat Goals in the Red River Basin of Minnesota

Monthly LGU Forum
MN DNR

July 16, 2025
Presented Electronically

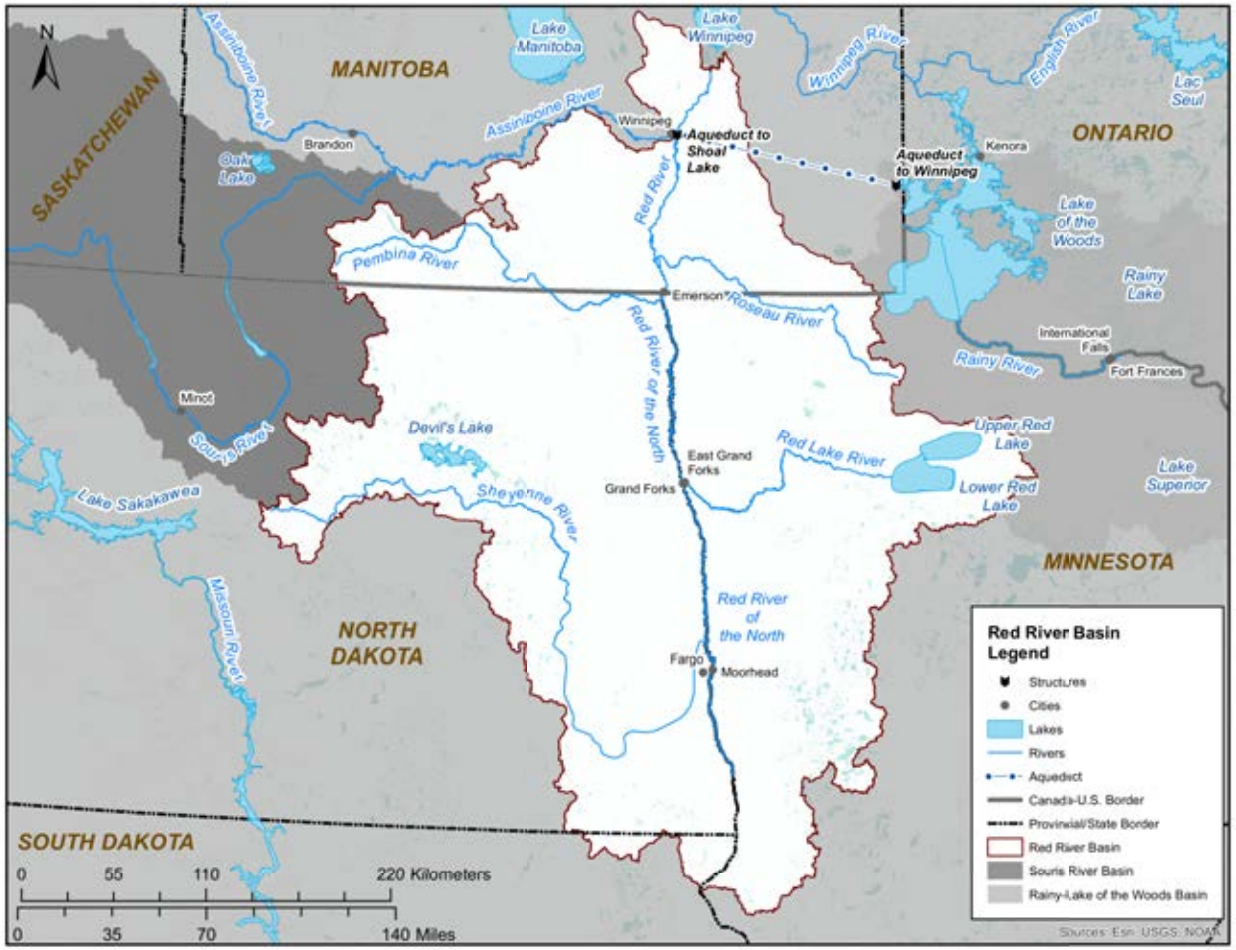
Robert L. Sip, Executive Director
Red River Watershed Management Board

Topics

- Red River Basin (RRB) Overview
- Red River Watershed Management Board (RRWMB) Background
- Flood Mitigation Infrastructure
- 1998 Mediation Agreement
- Current Flood Mitigation Projects Underway
- MN RRB Flood Mitigation Progress
- Other RRWMB Efforts and Wrap-up

The Red River Basin of the North

- Two Counties
- 3 U.S. States
- 1 Canadian Province
- Water Flows North Into Canada



Map Source: International
d River Watershed Board.

Red River Watershed Management Board

Why is There Continued Flooding?

1. Flat topography of the Red River Basin.
2. Early spring rains which increase melting of the snowpack or late spring snowstorms adding to the existing snowpack.
3. The actual snowpack depth and water equivalency.
4. Frost depth.
5. Soil moisture content.
6. River ice conditions.

Source – Nation Weather Service: Anatomy of a Red River Spring Flood

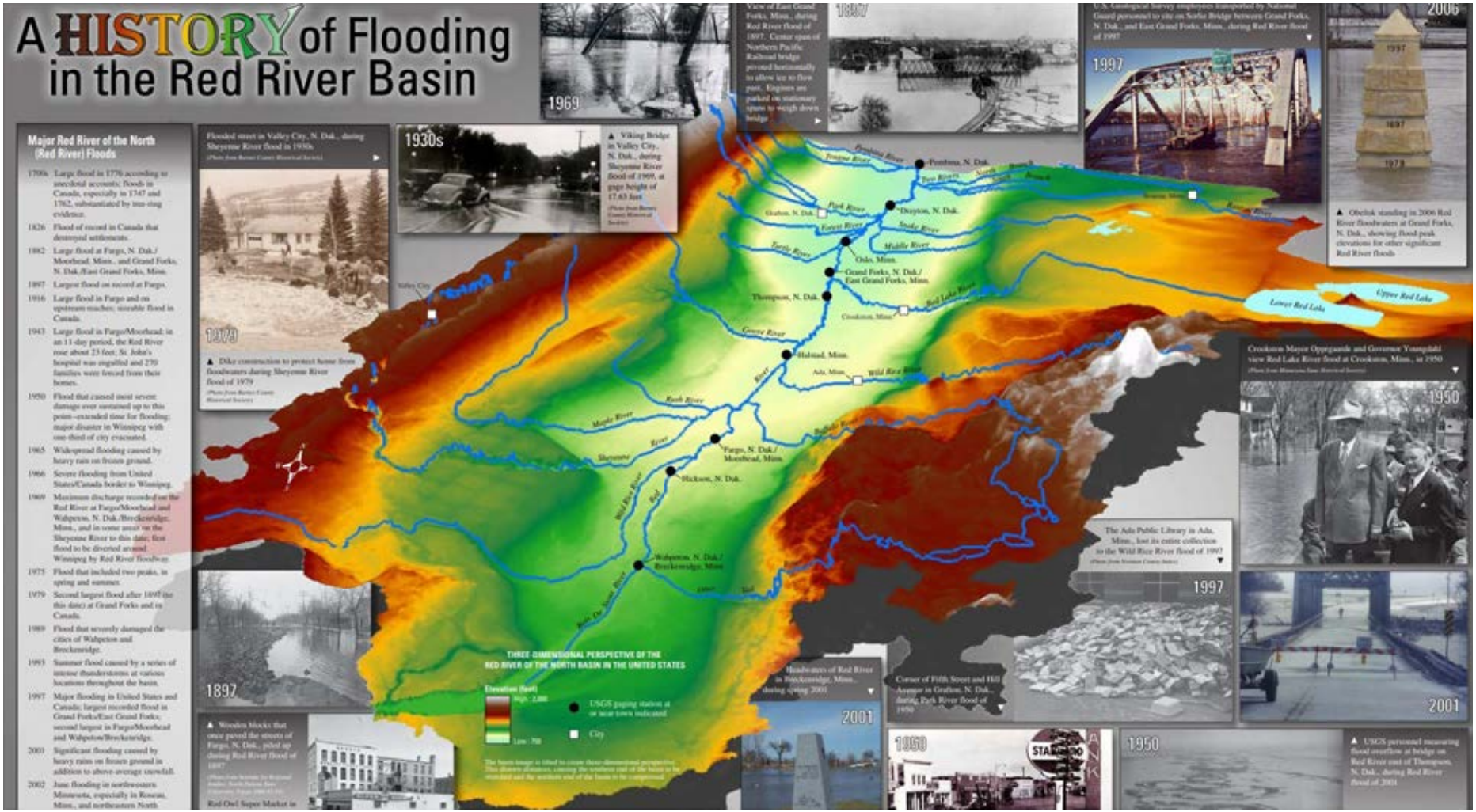
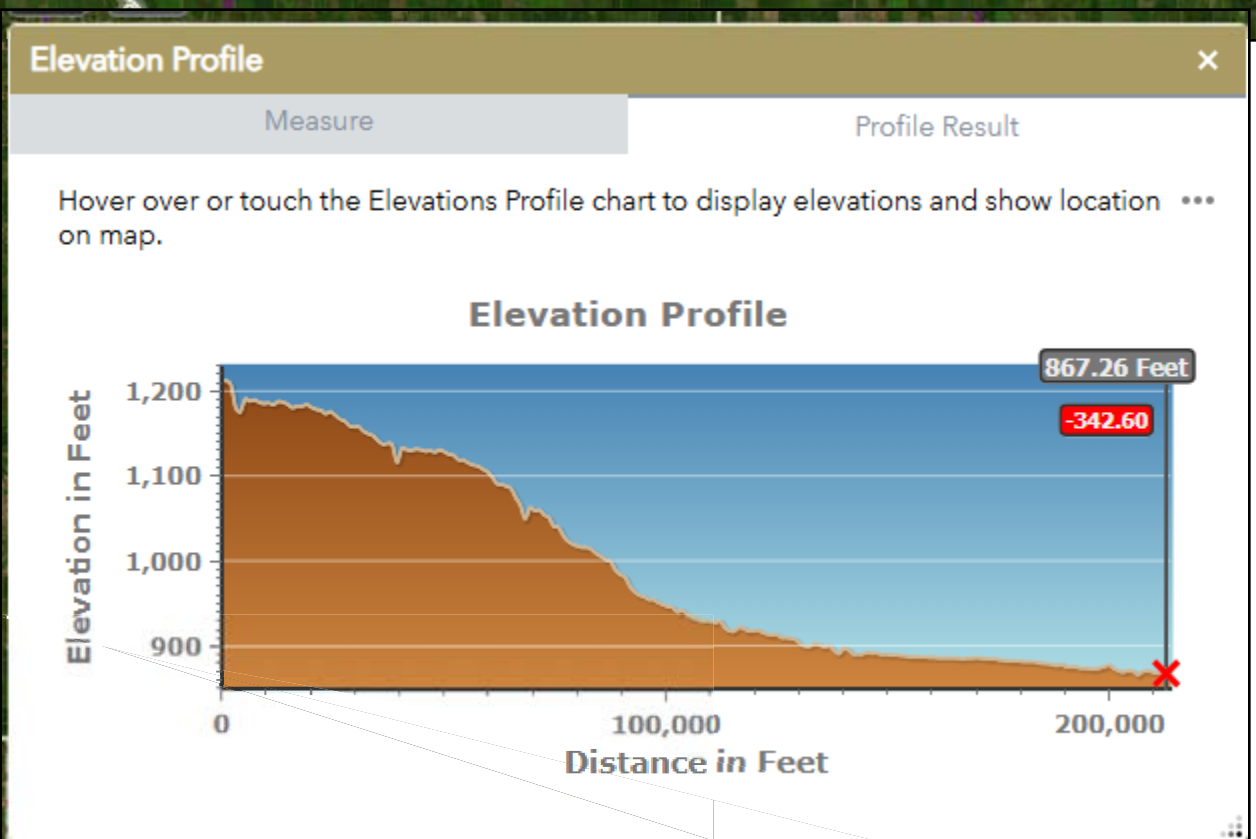


Illustration Source – USGS:
https://pubs.usgs.gov/gip/2007/55/pdf/finalWebGIP55.pdf

Red River Watershed Management Board



342 feet elevation difference from the City of Mahnomen to the Red River. Data Source: RRWMB LiDAR using the International Water Institute Map Portal: https://gisapps.iwinst.org/map-portal/

Recent Major Floods

- 2019
- 2020
- 2022
- 2023

Sandbagging in Dumont, MN: Spring 2023

Photo courtesy of the Bois de Sioux Watershed District.

May 2022: Riding in a Military HUMVEE to Oslo, MN

Photo courtesy of the RRWMB.

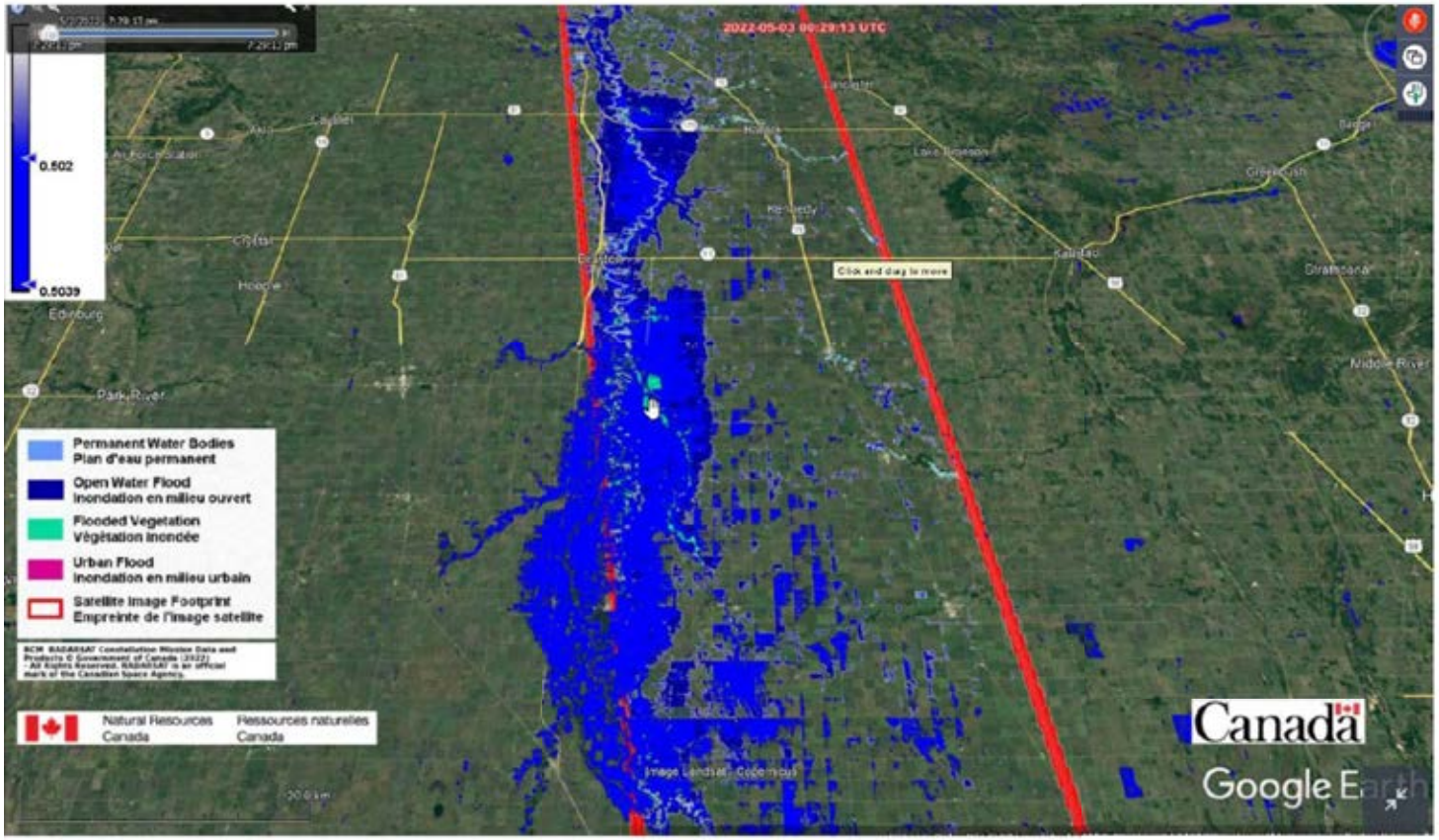
2021 – 2022 Winter Conditions

- 11 blizza

ards
in Red River Basin.

- 77.5 inches of snow in Grand Forks, ND.

Satellite imagery of inundation areas along the Red River on May 4, 2022.



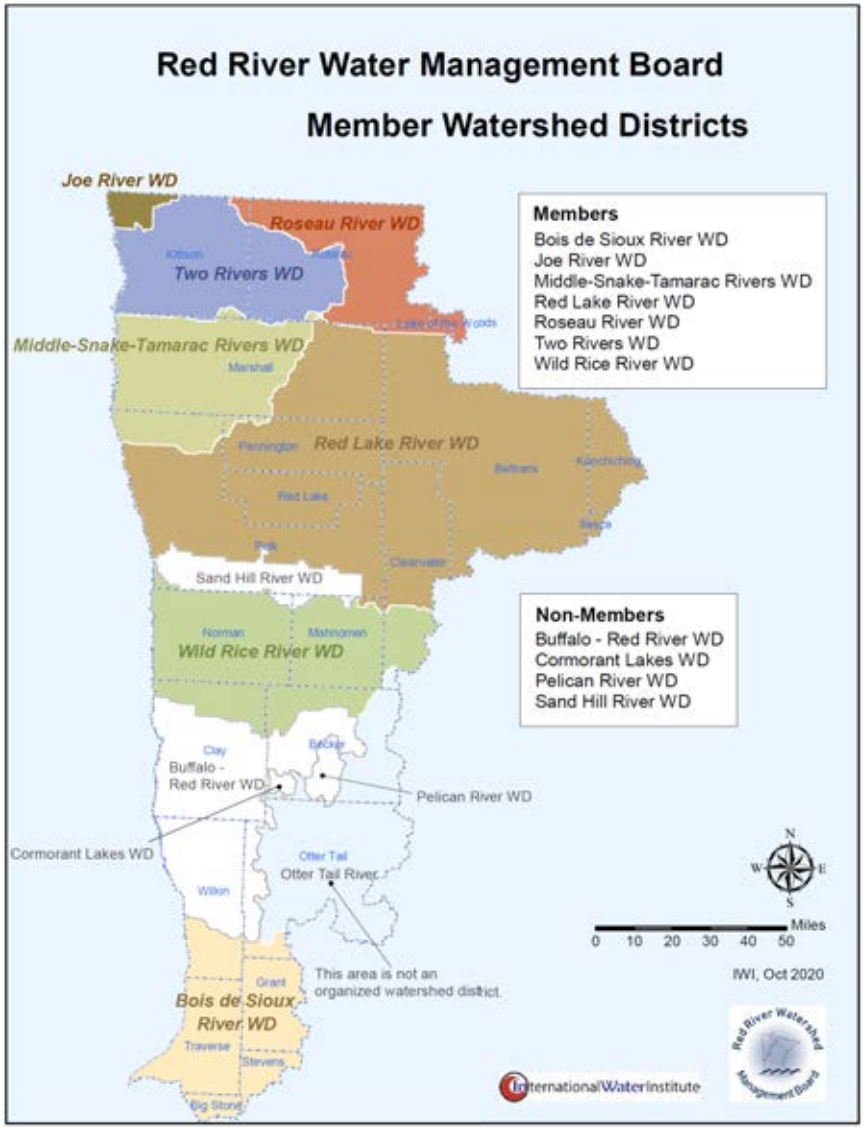
Satellite Image **5/4/22**

85.2 inches of snow in Grand Forks the winter of 2022 – 2023.
Source: Amanda Lee, Service Hydrologist / Meteorologist, National Weather Service, Grand Forks, ND.

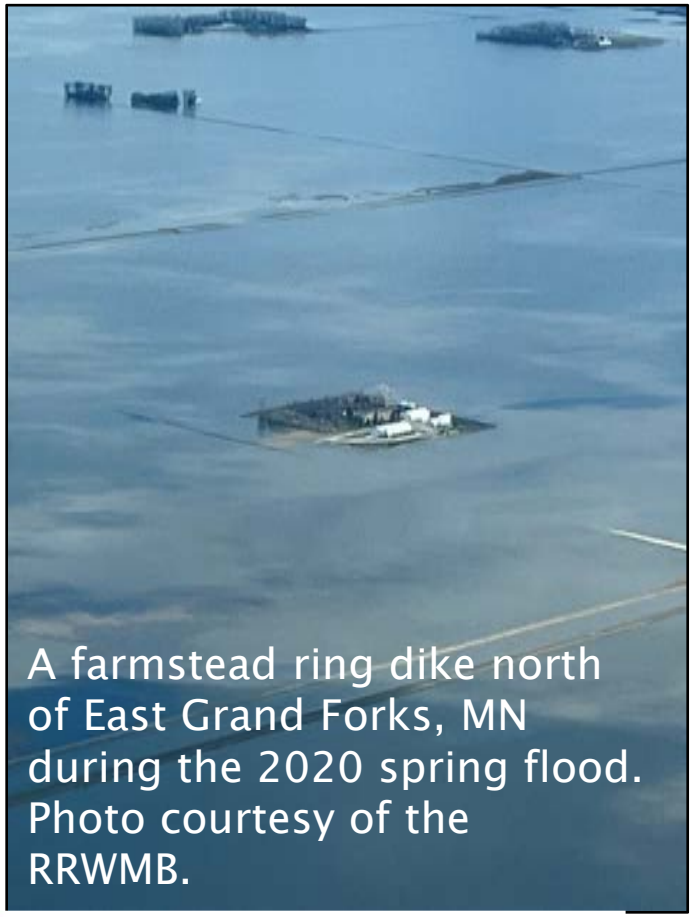
Red River Watershed Management Board

Red River Watershed Management Board (RRWMB) Organizational Overview

- Created in 1976 by MN Legislature
- Joint Powers Board of 7 Watershed Districts
- 21 Counties in Jurisdictional Boundary Along With Many Cities
- Taxation Authority



Our Flood Mitigation Infrastructure: MN Portion of Red River Basin



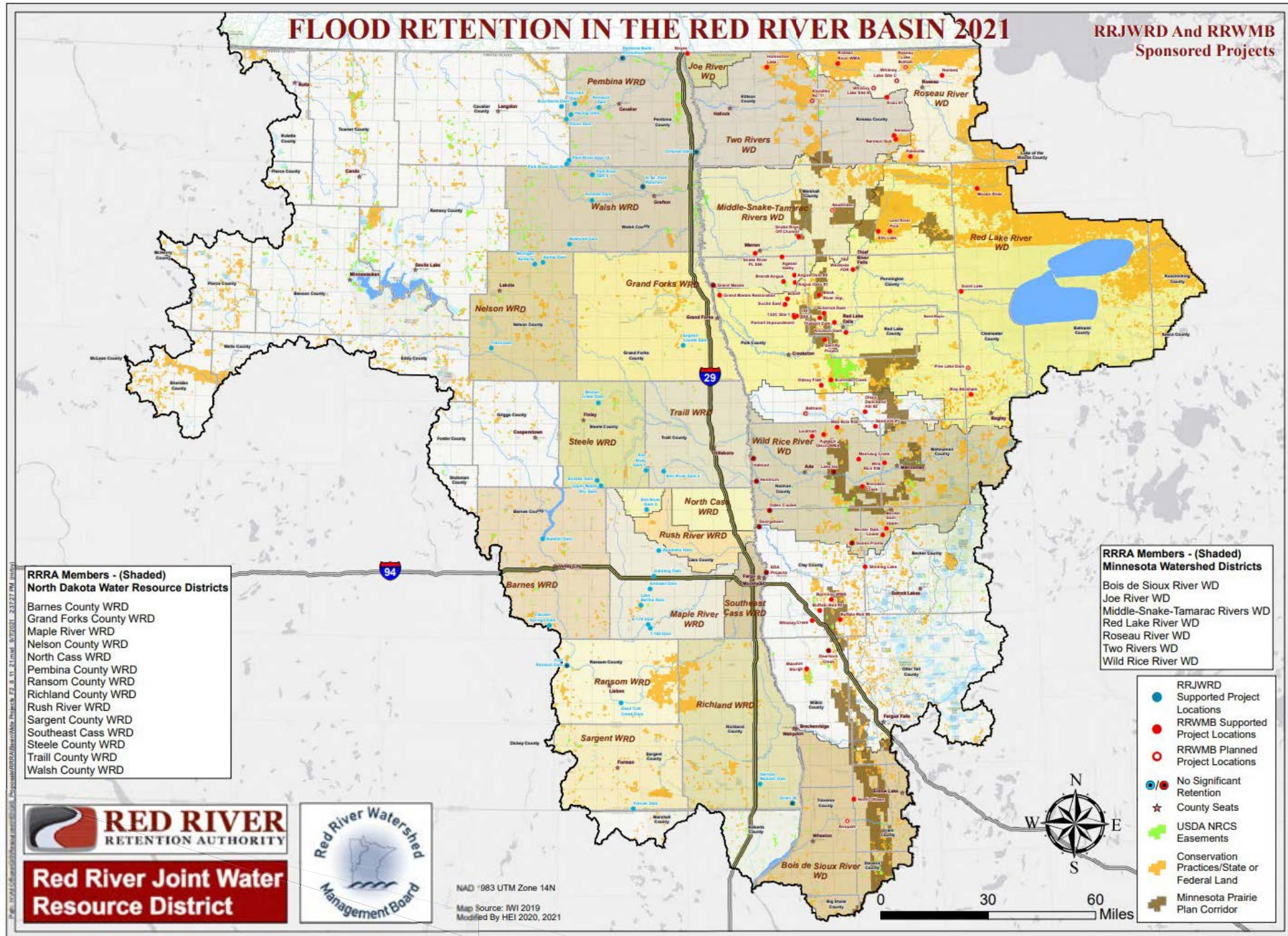
A farmstead ring dike north of East Grand Forks, MN during the 2020 spring flood. Photo courtesy of the RRWMB.

- 60 + Flood Impoundments
- 500+ Farmstead Ring Dikes
- City Flood Levees and Protection
- City Diversions
- River Setback Levees
- 2-Stage Ditches
- Farm Field Dikes
- Federal Dams – Lake Traverse (Reservation Dam) and White Rock Dam
- Technical Guidance – Culvert Sizing, Ag Drainage, and Tiling

Red River Watershed Management Board

FLOOD RETENTION IN THE RED RIVER BASIN 2021

RRJWRD And RRWMB Sponsored Projects



RRRA Members - (Shaded)
North Dakota Water Resource Districts

- Barnes County WRD
- Grand Forks County WRD
- Maple River WRD
- Nelson County WRD
- North Cass WRD
- Pembina County WRD
- Ransom County WRD
- Richland County WRD
- Rush River WRD
- Sargent County WRD
- Southeast Cass WRD
- Steele County WRD
- Traill County WRD
- Walsh County WRD

RRRA Members - (Shaded)
Minnesota Watershed Districts

- Bois de Sioux River WD
- Joe River WD
- Middle-Snake-Tamarac Rivers WD
- Red Lake River WD
- Roseau River WD
- Two Rivers WD
- Wild Rice River WD

- RRJWRD Supported Project Locations
- RRWMB Supported Project Locations
- RRWMB Planned Project Locations
- No Significant Retention
- County Seats
- USDA NRCS Easements
- Conservation Practices/State or Federal Land
- Minnesota Prairie Plan Corridor

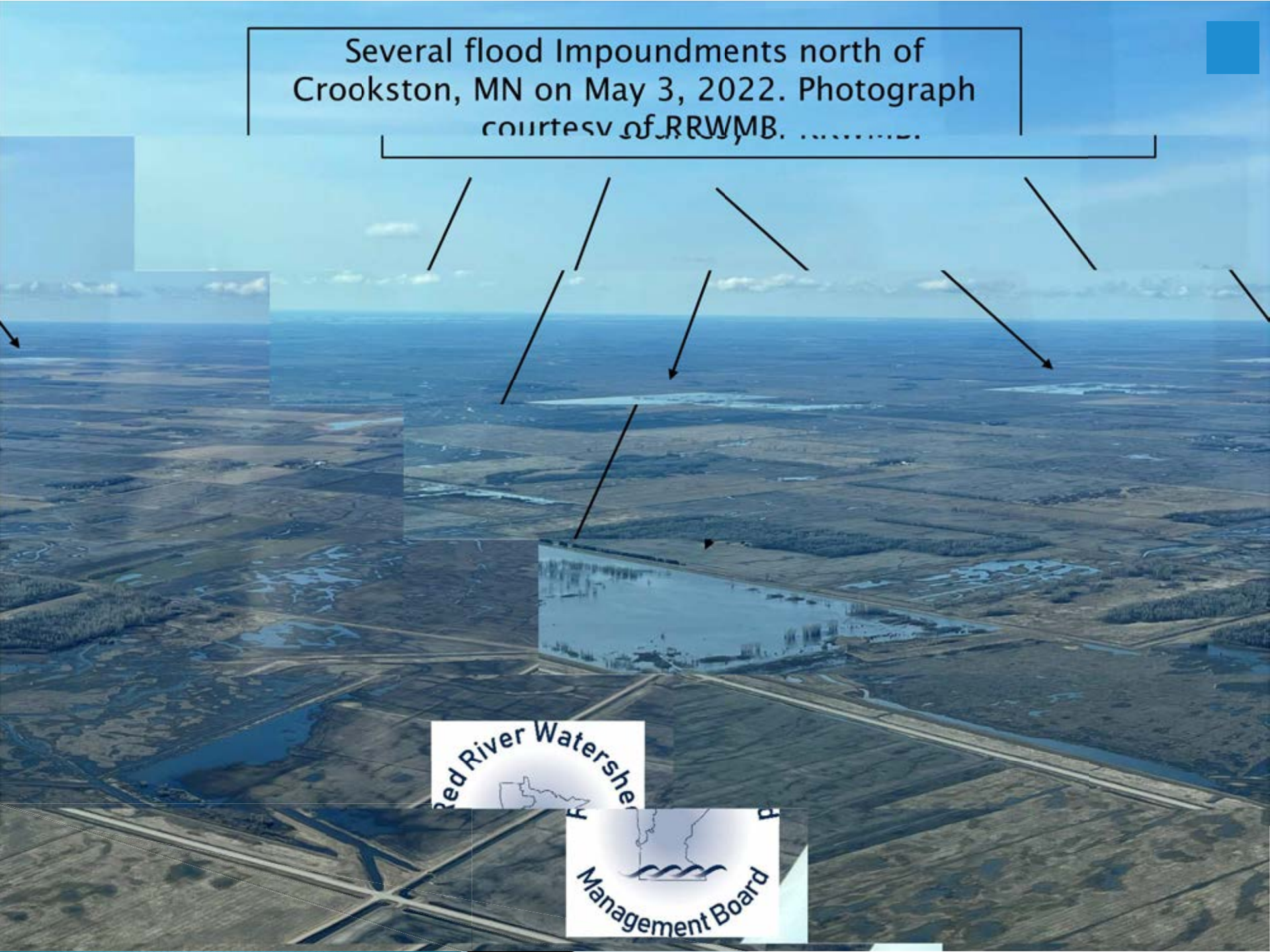
RED RIVER RETENTION AUTHORITY

Red River Joint Water Resource District

Red River Watershed Management Board

NAD 1983 UTM Zone 14N

Map Source: IWI 2019
Modified By HEI 2020, 2021


Several flood Impoundments north of Crookston, MN on May 3, 2022. Photograph courtesy of RRWMB.
Management Board

Black River Impoundment: Red Lake Watershed District

4,064 Acre-feet of Water Storage

Photos courtesy of the RRWMB.

RING DIKES:

A farmstead ring dike west of Warren, MN within the Middle-Snake-Tamarac Rivers Watershed District during the 2019 spring flood. Photo courtesy of the RRWMB.

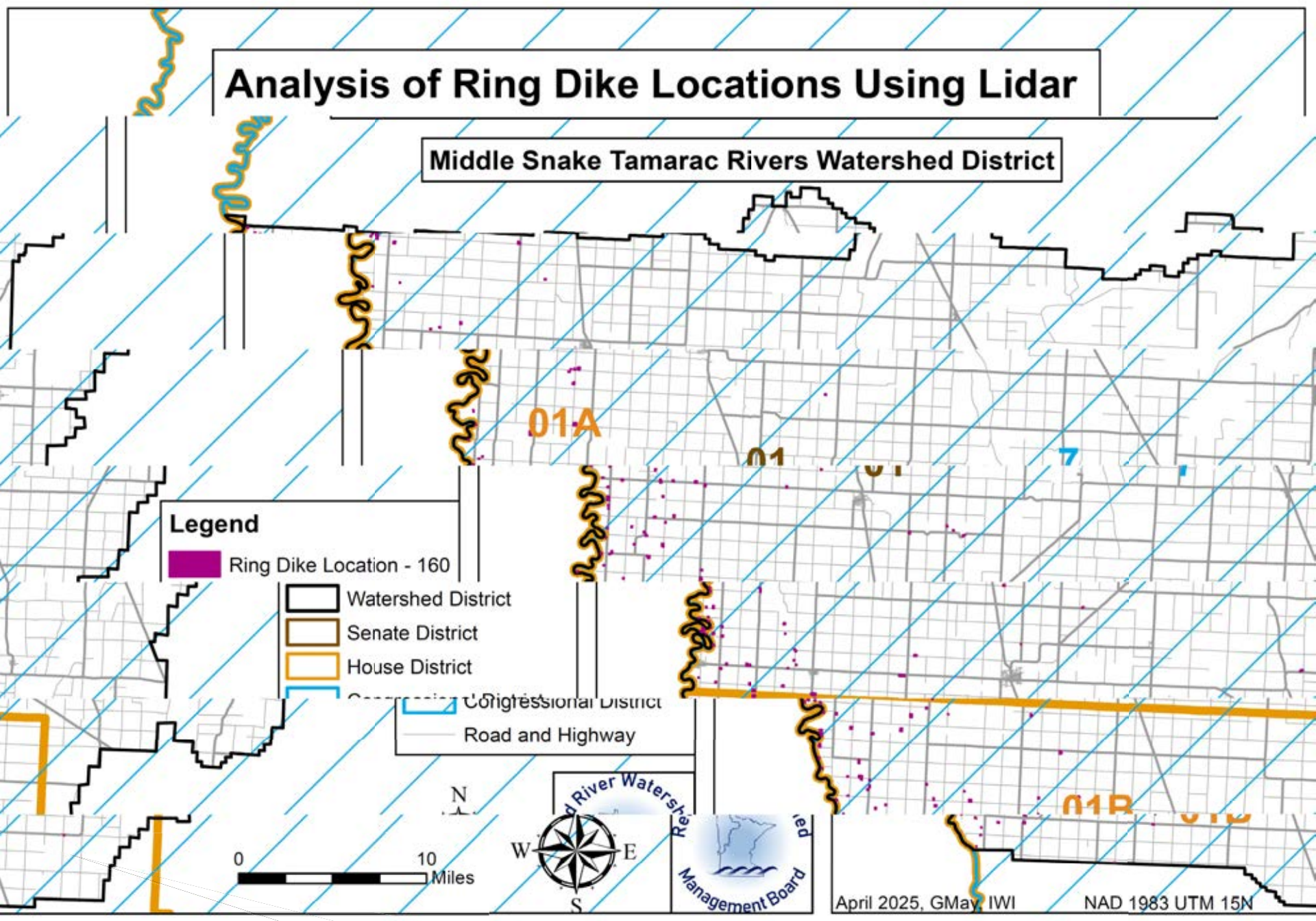
557 farmstead ring dikes were identified from the 2021 RRWMB LiDAR data collection.

Red River Watershed Management Board

A Farmstead Ring Dike in the Roseau River Watershed District in the Fall of 2019. Photo Courtesy of the RRWMB.

Analysis of Ring Dike Locations Using Lidar

Middle Snake Tamarac Rivers Watershed District



n the LiDAR data using machine learning techniques, the results are subject to limitations inherent in automated
mpleteness of these ring dikes is not guaranteed. Users should independently verify the information before use.

Disclaimer: Ring dike locations are based on
interpretation methods. The accuracy or com

City of Halstad Surrounded by Spring Floodwaters in April 2019 Within the Wild Rice Watershed District

Photo courtesy of the RRWMB.

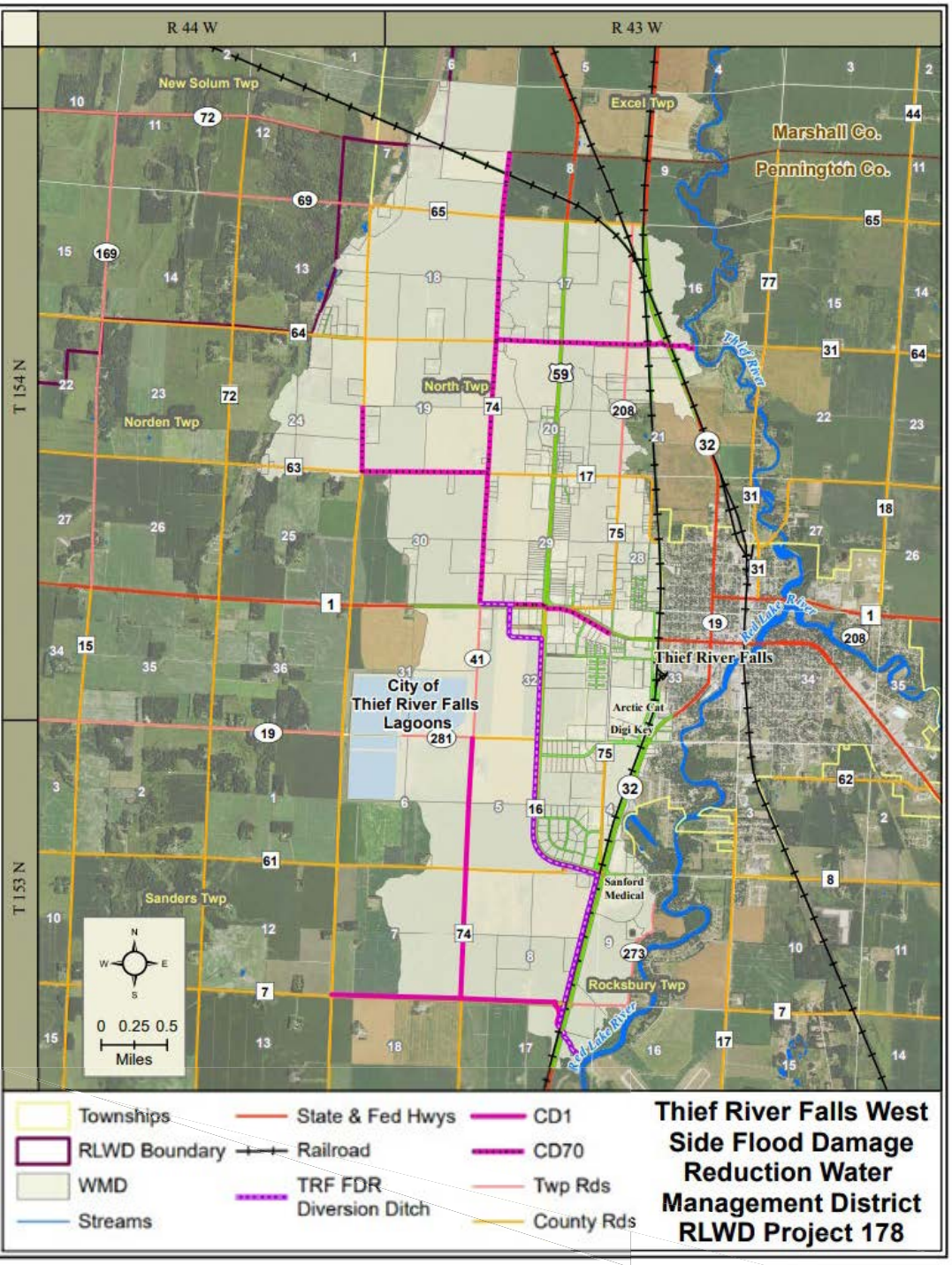
Red River Watershed Management Board

City of Halstad
During a Spring Flood

Photo Courtesy of Houston Engineering Inc.

Red River Watershed Management Board

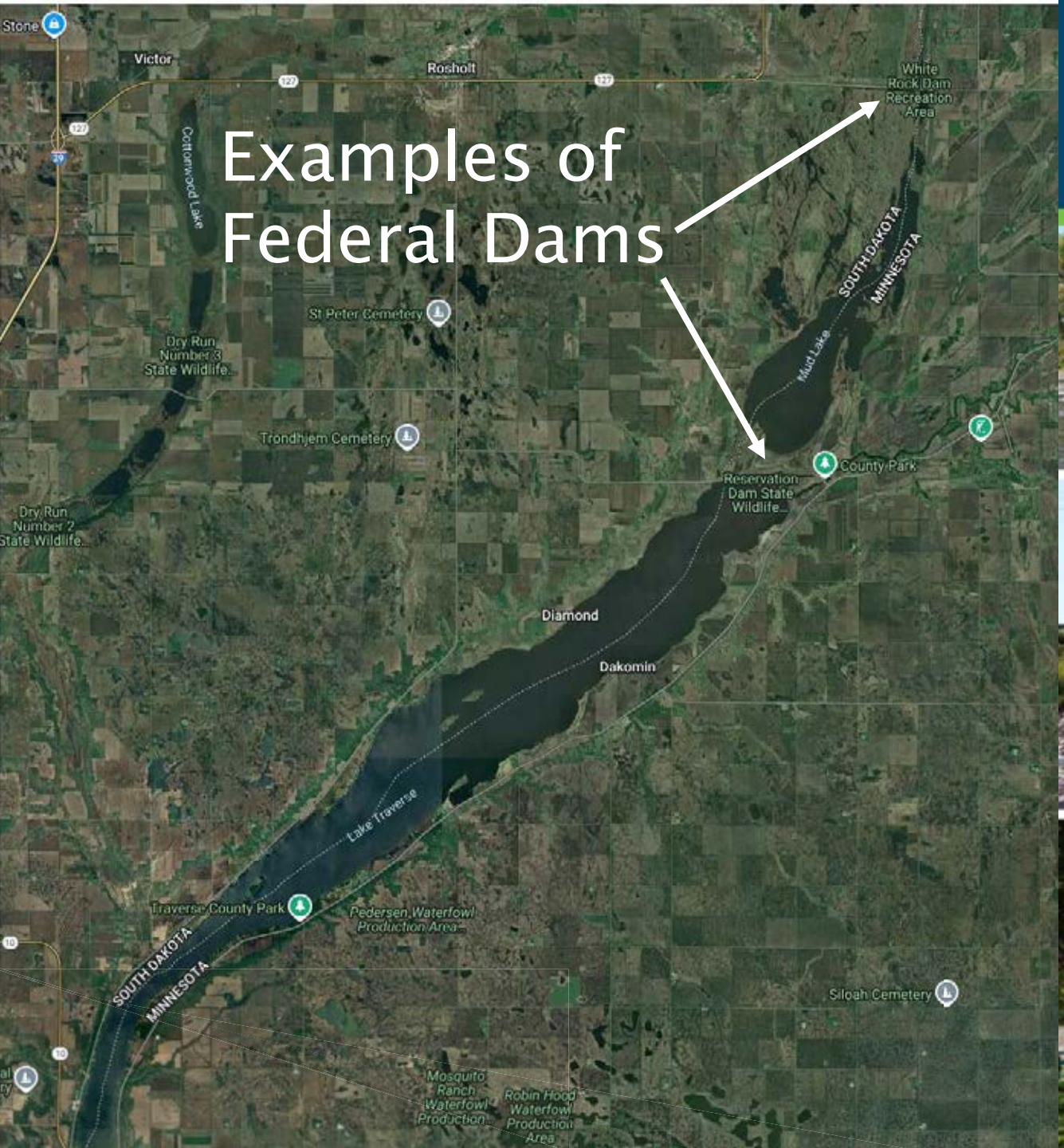
May 2022: The Red Lake River as is Passes Through the City of Crookston, MN. Photo courtesy of the RRWMB.



Photograph of diversion construction at the north end of the project area on May 20, 2020. Photograph courtesy of RRWMB.

Photograph of diversion construction at the north end of the project area June 9, 2020. Photograph courtesy of Myron Jesme.

Examples of Federal Dams



US Army Corps of Engineers
St. Paul District

LAKE TRAVERSE RECREATION AREA

Wheaton, Minnesota

Technical Guidance

Culvert Sizing
for Flood Damage Reduction

Phase 1 – Preliminary Guidelines

Red River Basin Flood Damage Reduction Work Group
Technical and Scientific Advisory Committee
Technical Paper No. 15
October 2007

Principal Authors:
Jim Solstad, DNR
Al Kean, BWSR
Charlie Anderson, JOR Engineering, Inc.

Purpose
Technical and Scientific Advisory Committee (TSAC) Technical Paper No. 11, "Red River Basin Flood Damage Reduction Framework" (May 2004) identifies a number of measures for increasing temporary floodwater storage to reduce downstream flood damages. Culvert sizing is one of these measures. Technical Paper No. 11 provided limited guidance for implementation of culvert sizing. The purpose of this technical paper is to provide more detailed culvert sizing guidelines for flood damage reduction and prevention in the Red River Basin.

Phased Process for Development of Guidelines
In order to systematically develop and test guidelines for culvert sizing, the TSAC recommended the following 3-phase process.

Phase 1: Develop preliminary guidelines based on: 1) modeling of a hypothetical watershed that is representative of average conditions in the Red River Basin; 2) applicable experience to date in the Red River Basin and; 3) TSAC analyses and deliberations. Invite a representative of MnDOT to participate in TSAC deliberations and development of preliminary guidelines. This phase includes sensitivity analyses of some key variables affecting culvert sizing including average land slopes, duration of temporary storage and hydrologic design methods.

Phase 2: Use preliminary guidelines to size culverts for one or more existing drainage areas within the Red River Basin having representative characteristics and test the results by modeling. Validate, revise or clarify guidelines, as appropriate.

Phase 3: Assist a watershed district to apply culvert sizing guidelines to a proposed pilot project and monitor the results. Further verify, revise and/or clarify the guidelines, as appropriate.

This technical paper presents the Phase 1 hypothetical modeling results and includes preliminary guidelines for culvert sizing in the Red River Basin.

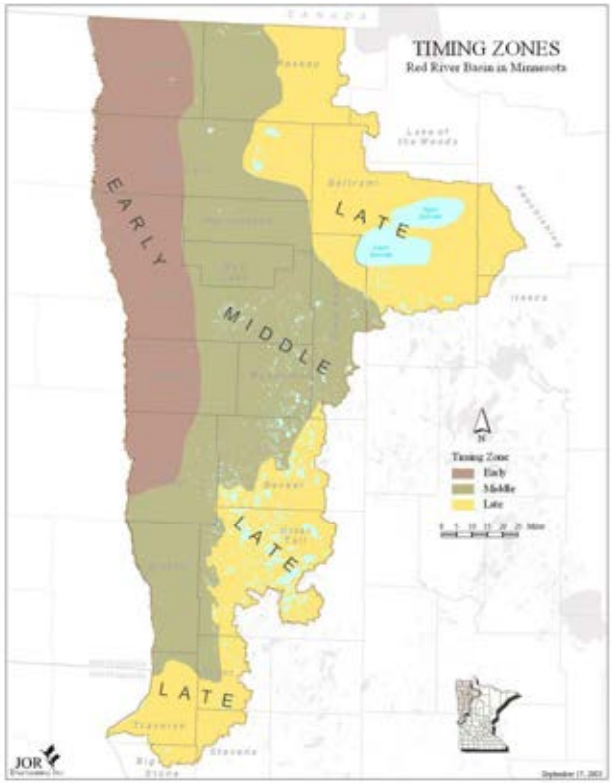
Red River of the North Basin

BASIN TECHNICAL AND SCIENTIFIC ADVISORY COMMITTEE

(BTSAC)

Briefing Paper #3:

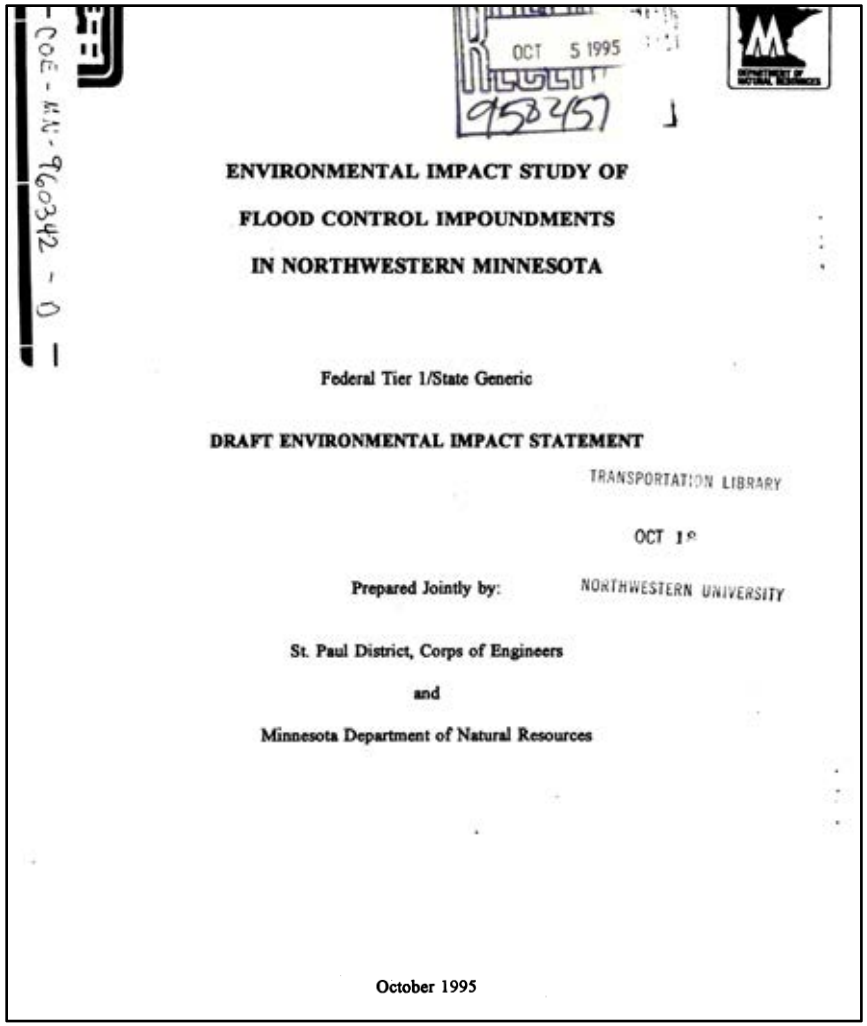
Water Management Options for Surface Drainage



What Guides Our Priorities and Work?

- RRWMB Strategic Plan, Governing Documents, and Enabling Legislation
- 1998 Red River Basin Flood Mediation Agreement
- RRWMB Water Quality Program
- Red River Basin Riparian Habitat Program
- RRWMB Membership Needs
- State, Regional, and International Plans
- Funding Sources at All Levels

It Was Easy Until it Wasn't



OCT 5 1995

950457

ENVIRONMENTAL IMPACT STUDY OF

FLOOD CONTROL IMPOUNDMENTS

IN NORTHWESTERN MINNESOTA

Federal Tier 1/State Generic

DRAFT ENVIRONMENTAL IMPACT STATEMENT

TRANSPORTATION LIBRARY

OCT 19

Prepared Jointly by: NORTHWESTERN UNIVERSITY

St. Paul District, Corps of Engineers

and

Minnesota Department of Natural Resources

October 1995

- 1992: Federal EIS activities commence for flood impoundments.
- 1993: All construction and permitting activities halted.
- 1995: Federal EIS completed.
- Courts Ordered Mediation Amongst RRWMB, Federal and State Agencies, and Environmental Groups
- Red River Basin Flood Mediation Agreement Signed in 1998
- Flood Damage Reduction Work Group Implements Mediation Agreement: https://www.rrwmb.us/fdrwg
- 15 Technical Papers
- Many Additional Basin-wide Partners, Technical Guidance, and Programs

Red River Watershed Management Board

What Does the Red River Basin Flood Mediation Agreement do?

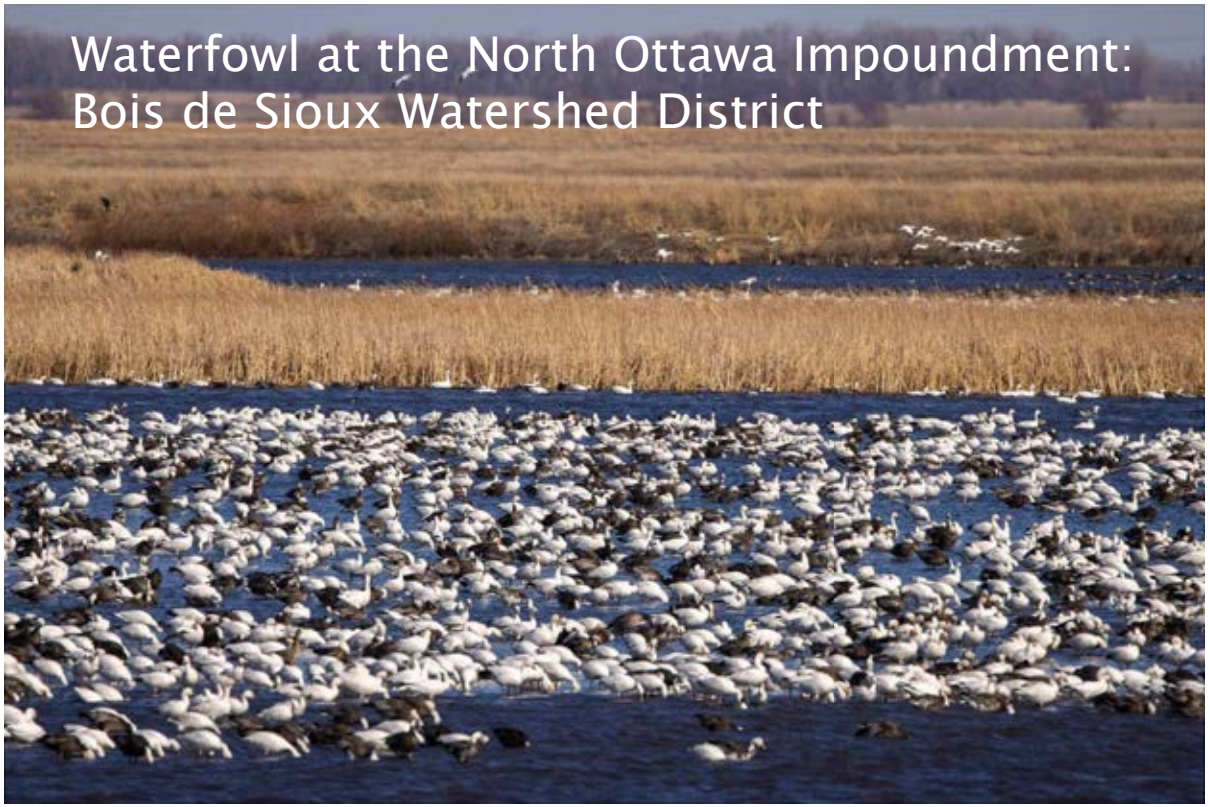


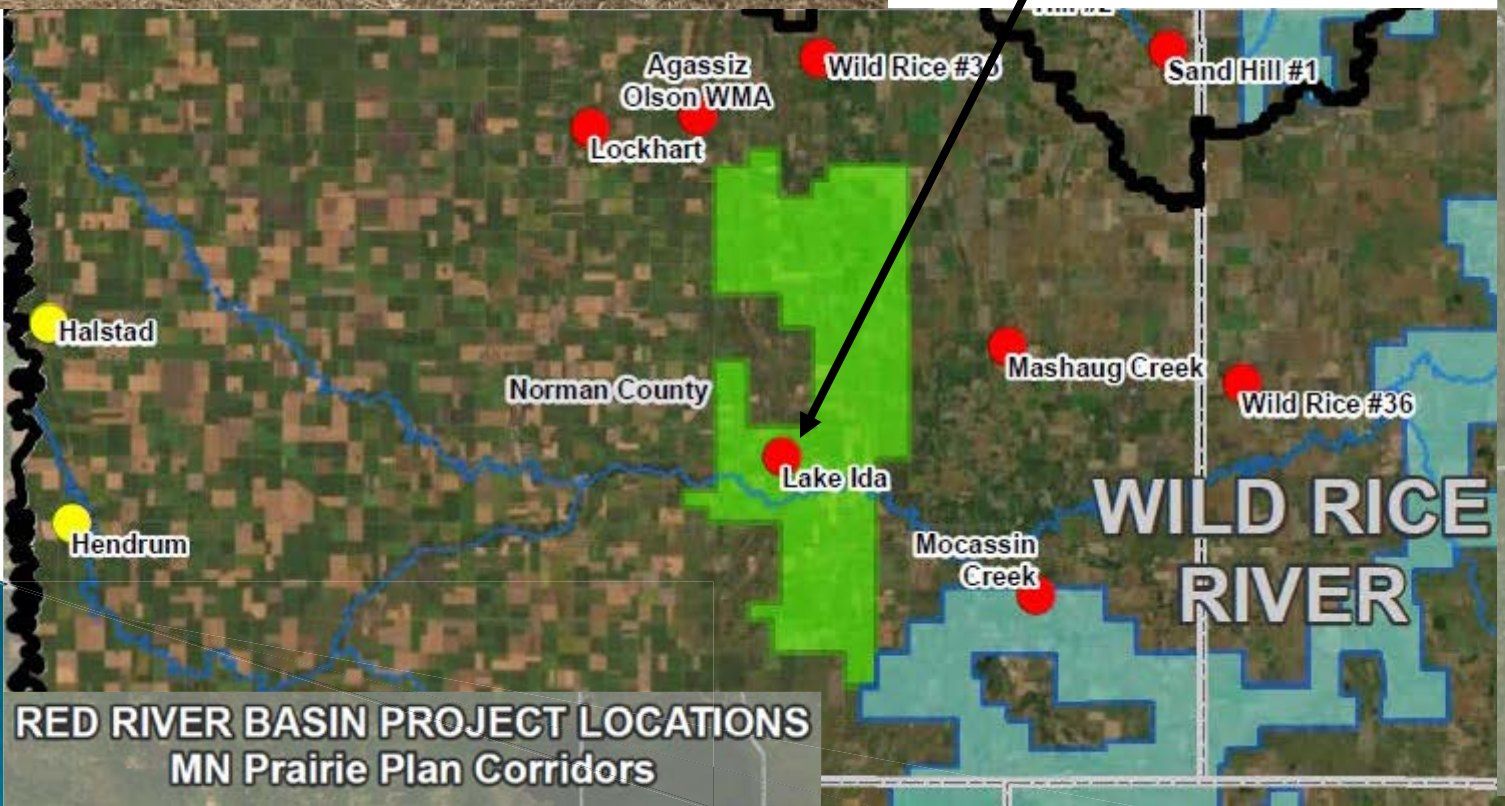
Photo courtesy of the Bois de Sioux Watershed District.

- Offers a path to incorporate habitat and water quality into flood mitigation – water storage projects.
- Local Project Team process and Handbook.
- All partners and stakeholders have a voice and seat at the table.
- Potential for higher levels of state funding.
- Only place in MN where this process exists.

Red River Watershed Management Board

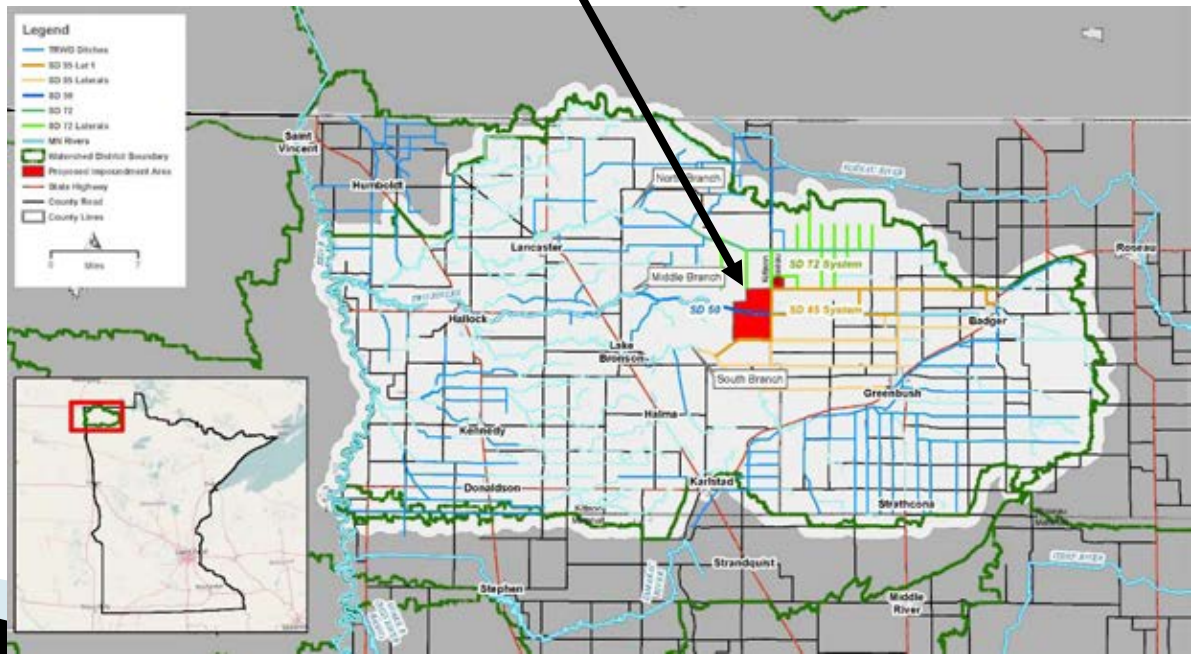
Photo courtesy of the RRWMB.

Pre-Mediation Agreement: Lake Ida Wildlife Management Area: A Co-funded Project by the RRWMB, Wild Rice Watershed District, DNR and Others



Post-Mediation Agreement: Klondike Clean Water Retention Project – Two Rivers Watershed District

- **Primary Objective of Project is FDR:**
  - Store up to 37,250-acre feet of floodwater and reduce downstream duration of flooding and peak flows;
  - Provide an adequate outlet for Lateral 1 of State Ditch #95;
  - Prevent flooding on over 25 square miles of agricultural land;
  - Reduce damages to County and township roads and bridges,
  - Reduce Two Rivers contribution to the Red River flood by 15-20% and Lake Bronson by 13%.
- **Water Quality:**
- **Stream Flow Augmentation**
- **Habitat Enhancement**
- **Wetland Restorations**



RRWMB Current Flood Mitigation – Water Storage Projects:

- 5 Projects In Funding Process – July 2025:
  - 1 City Project
  - 4 Water Storage Projects
- 94,135 Acre-feet of Water Storage
- Water Quality:
  - Sediment Reductions – 17,417/Year
  - Phosphorus Reductions – 15,891/Year
  - Nitrogen Reductions – 113,063/Year
- 14,247 Acres of Wetland and Grassland Created, Enhanced, or Restored
- 74.7 Stream Miles Created, Enhanced, or Restored
- 929,258 Acres of Upstream Drainage Controlled

Construction of 2,335 acre-feet of water storage in progress at the City of Newfolden Flood Prevention Project in the Middle-Snake-Tamarac Rivers Watershed District (MSTRWD) in 2024. Photo courtesy of the MSTRWD/HDR Engineering Inc.

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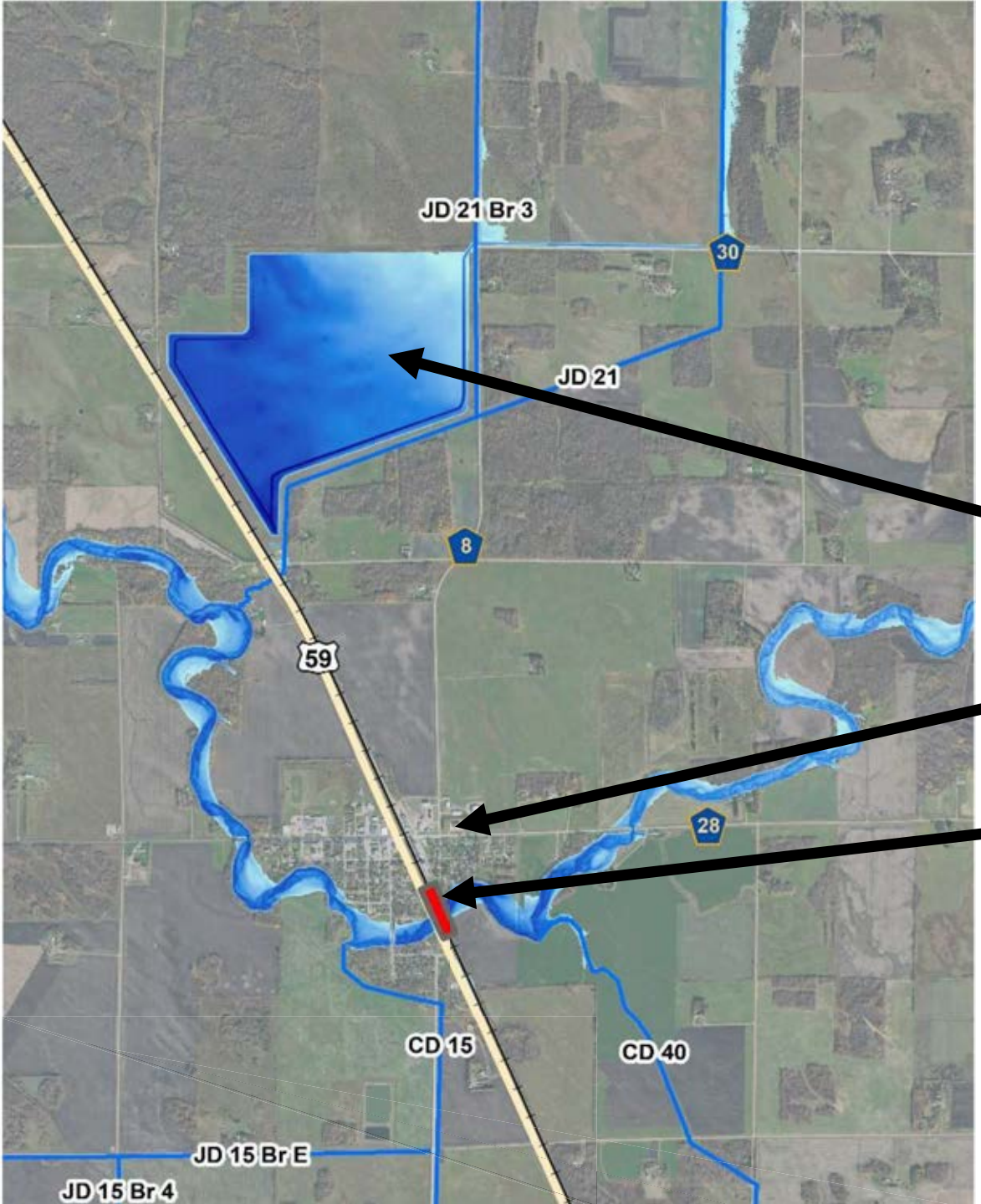
City of Newfolden Flood Prevention Project in the MSTRWD Prior to Construction

Canadian Pacific Railroad Bridget Construction: City of Newfolden Flood Prevention Project in the MSTRWD in 2022

Photo courtesy of the MSTRWD/HDR Engineering Inc.



Location of the 2,335 acre-foot Flood Impoundment at the City of Newfolden Flood Prevention Project in the MSTRWD. Illustration courtesy of HDR Engineering Inc.

City of Newfolden.

Bridge Construction Site.

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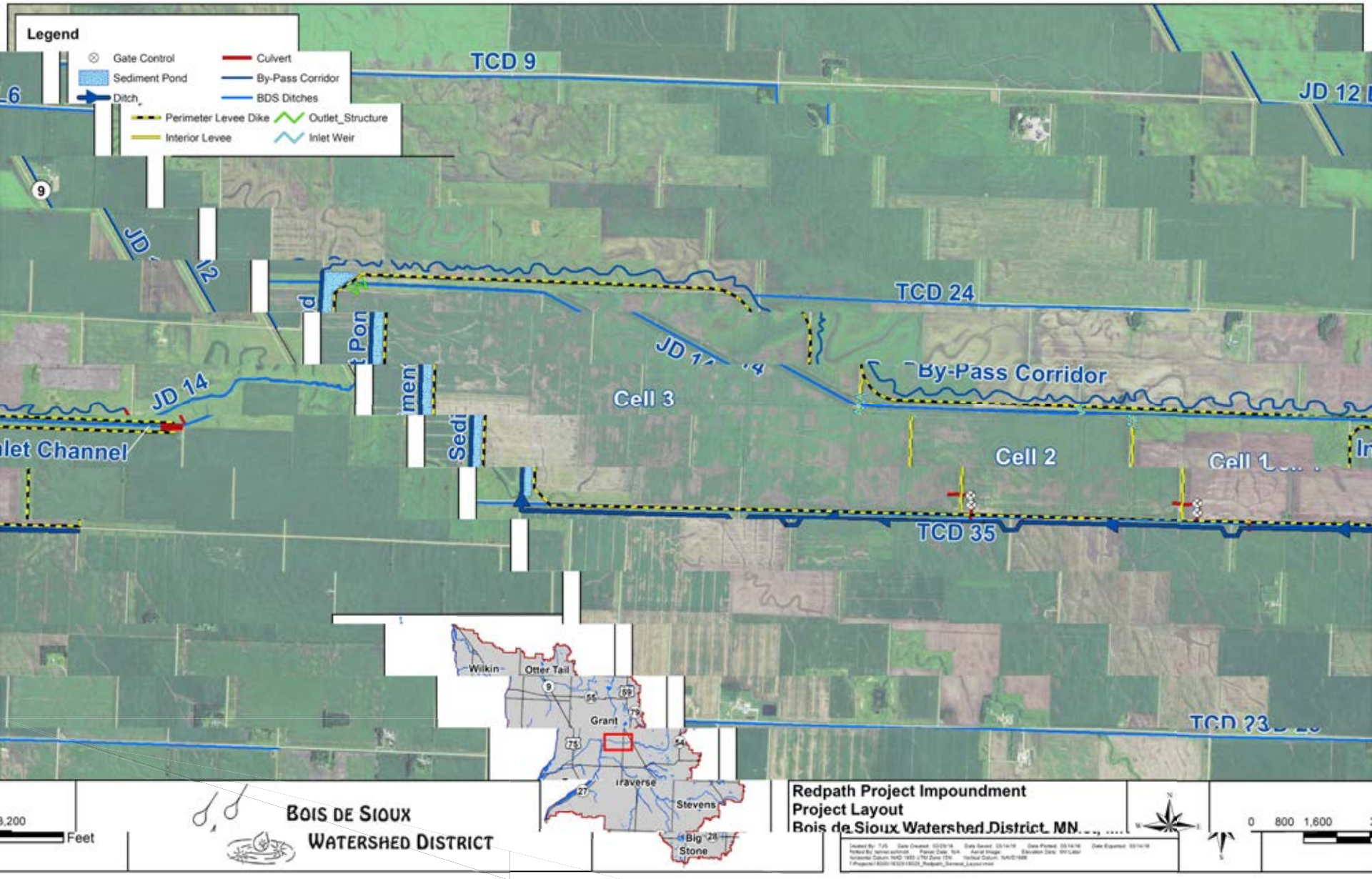
Redpath Impoundment and Mustinka River Rehabilitation Project: Bois de Sioux Watershed District (BdSWD)

23,000 Acre-feet of Water Storage in Progress

Construction From Fall 2024: Drone photos courtesy of Moore Engineering Inc.

Redpath Impoundment and Mustinka River Rehabilitation Project: BdSWD



Roseau Lake Rehabilitation Project: Roseau River Watershed District (RRWD)

Flooded Conditions: Project in September 2019 before construction. Photo courtesy of LeRoy Ose, Red Lake Watershed District Manager.

Construction activities in Fall 2024 – 22,000 Feet of Water Storage in Progress. Photo courtesy of the RRWD/HDR Engineering Inc.

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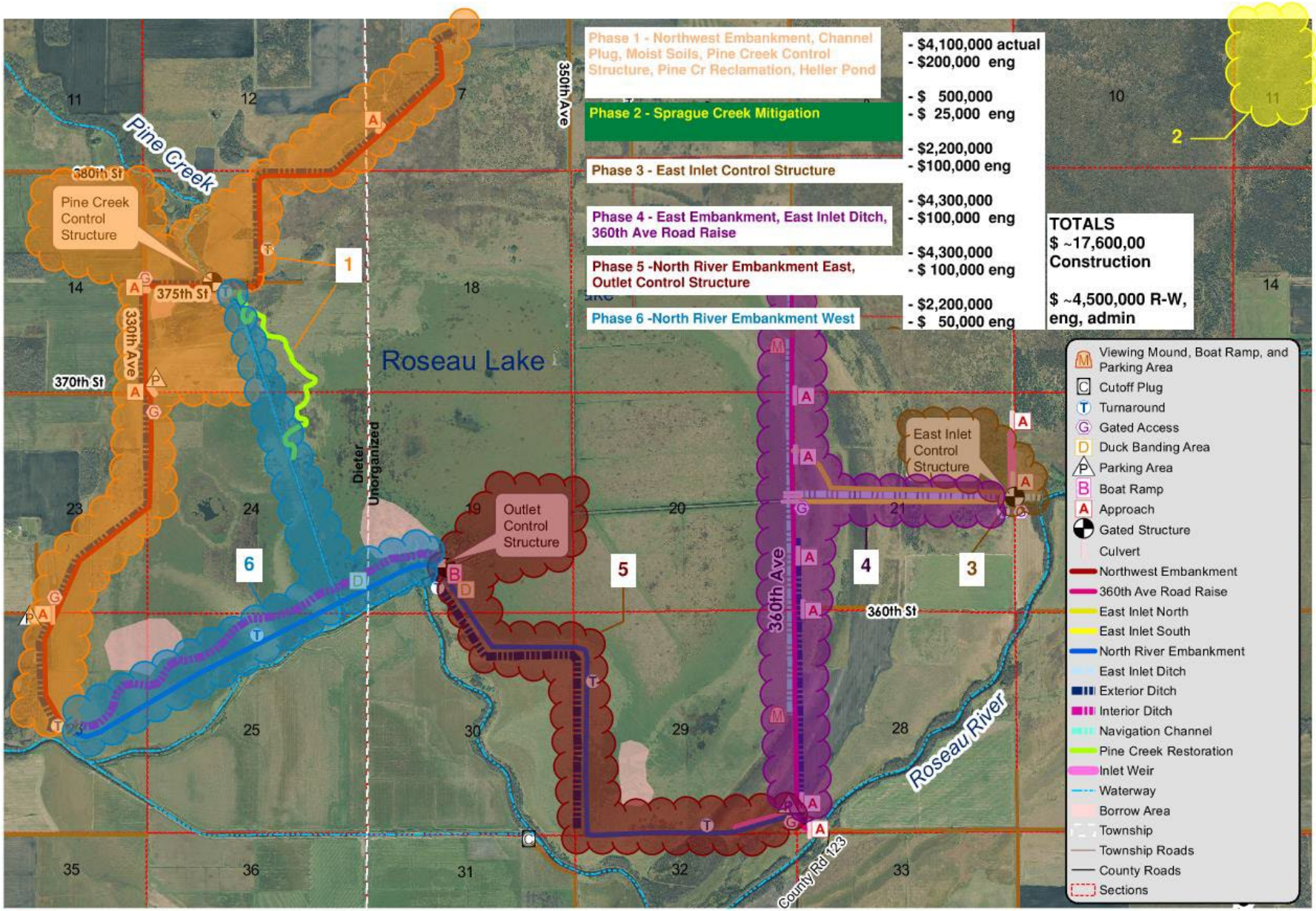


Proposed Project Phasing
August 2024

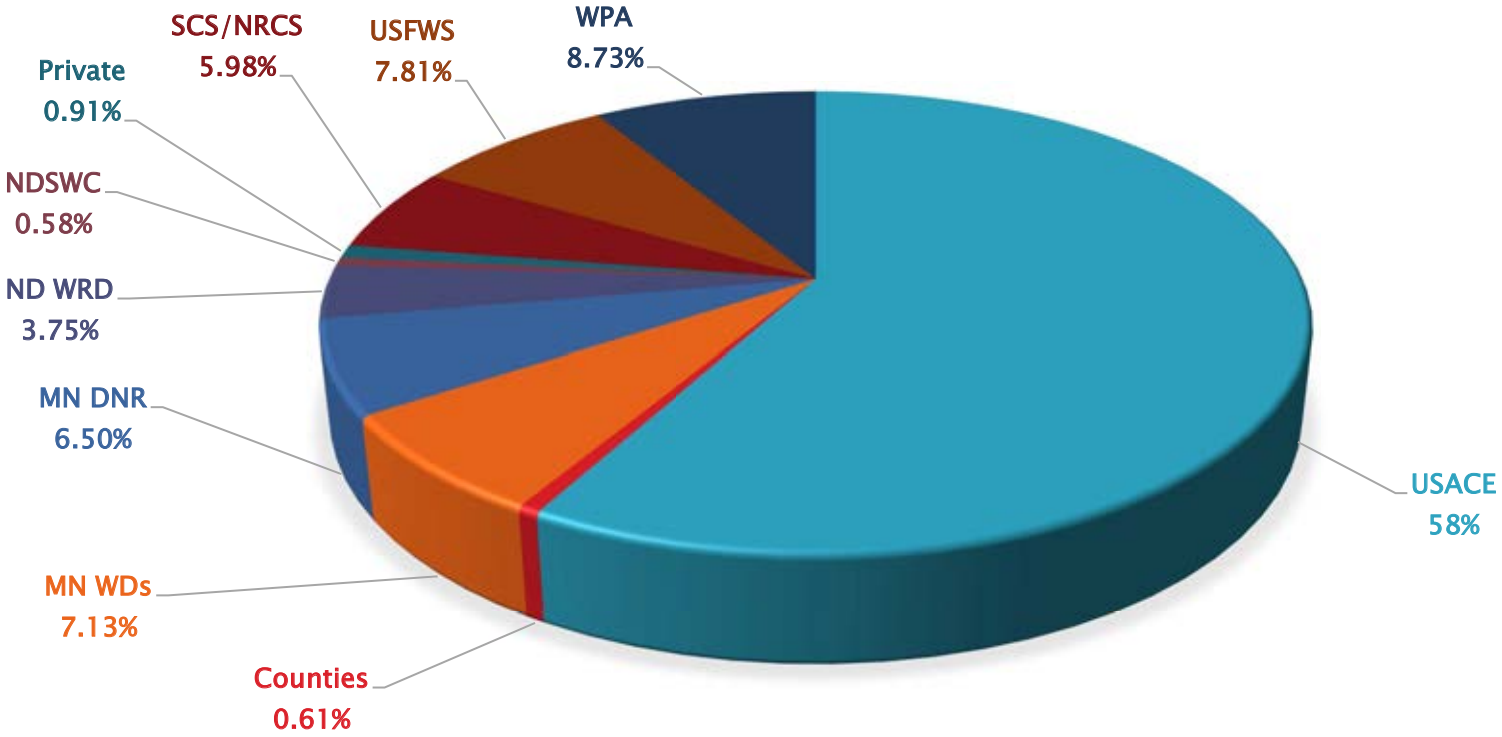
0 0.5 1 Miles

ROSEAU LAKE REHABILITATION PROJECT

PATH: Y:\PROJECTS\RRWD GENERAL\LAKE BOTTOM\MAP_DOCS\MXD\OCT 2022\ROSEAUPROJECTMAP.MXD - USER: KBERG - DATE: 5/11/2023

Roseau Lake Rehabilitation Project

TOTAL RED RIVER BASIN FLOOD STORAGE BUILT 1900 – 2010: 1,945,800 ACRE-FEET



USACE – United States Army Corps of Engineers
MN DNR – Minnesota Department of Natural Resources
NDSWC – North Dakota State Water Commission
Private – e.g. Railroad, Power Company, Ducks Unlimited
Counties – Minnesota and North Dakota County Government
SCS/NRCS – Soil Conservation Service/Natural Resources Conservation Services
MN WD – Minnesota Watershed District
ND WRD – North Dakota Water Resource District
WPA – Works Progress Administration
USFWS – United States Fish and Wildlife Service

Data Source: 2011 Long-term Flood Solutions Document, Red River Basin Commission

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What's Been Done Since 2010?

- Project Alternatives Analysis and Engineering and Design Underway
- Permitting and Environmental Review From 2010 – 2020
- 10 Projects in the RRWMB Funding Process as of May 2025 Required 89 Local, State, and Federal Permits – $5 Million Spent on Permitting and Environmental Review

Project	Local Permits 24%	State Permits 62%	Federal Permits 13%	Railroad Permits 1%	Total 100%
Total	21	55	12	1	89

  - 3 of the 10 projects are currently under construction.

- Distributed Detention Studies Completed
- Currently Awaiting Final USACE Modelling on Refined Storage Needs for Red River Basin of MN and ND
- Renewed Construction Era – 2020 to Present

Continued Challenges

- State Funding
- Federal Funding
- Local Capacity to Fund Projects
- Coordination of Funding Sources
- Permitting and Environmental Review
- The Weather
- Bidding Process and Mobilizing Contractors
- Inflation
- Landowner Acceptance
- Land Availability and Land Prices

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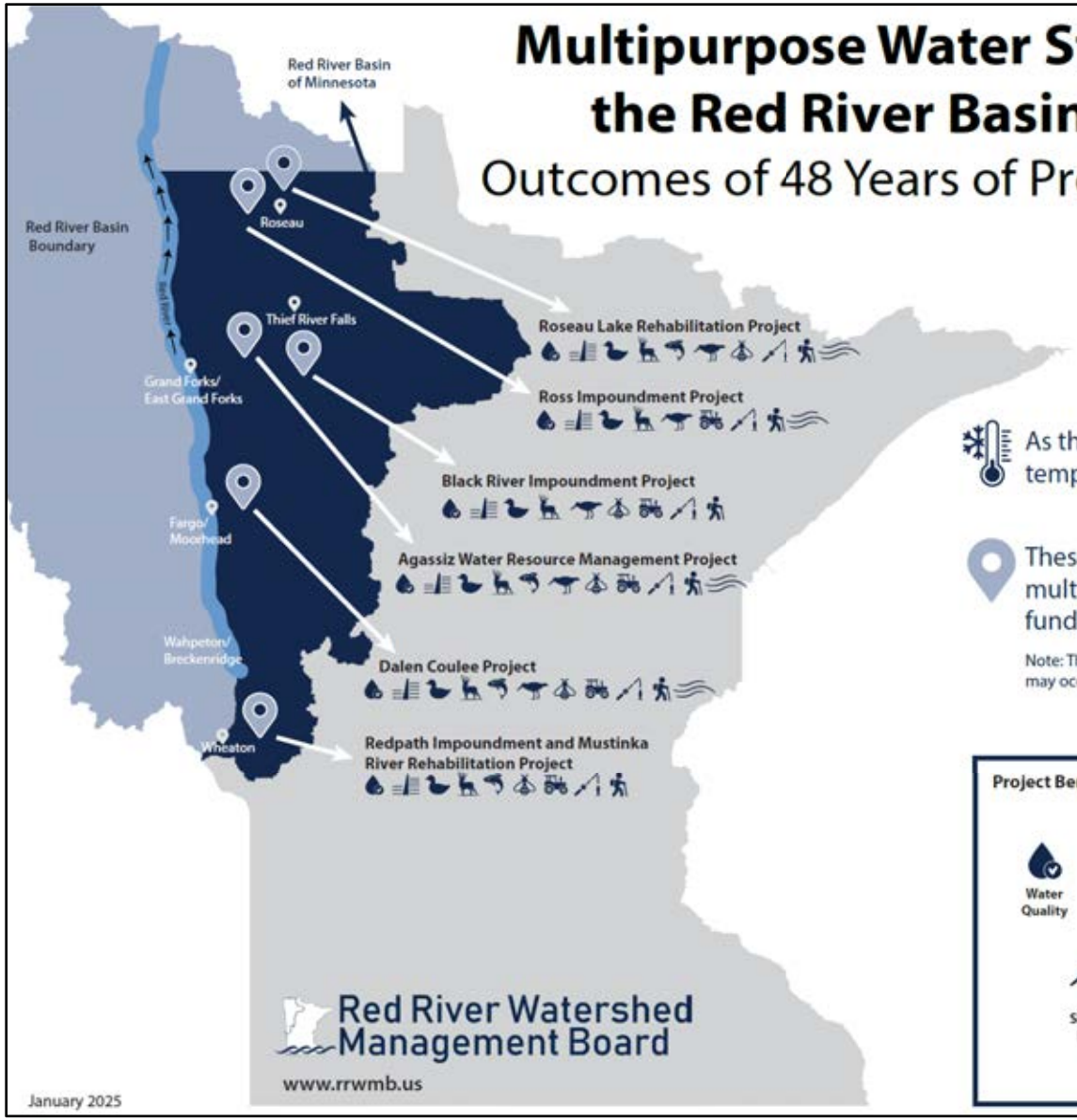
Other RRWMB Efforts

- Habit Program Approved in 2024
- Water Quality Program Approved in 2020
- 2023 LiDAR Released
- River Watch Program
- Other Technical, Monitoring, and Educational Efforts

Multipurpose Water Storage Projects in the Red River Basin of Minnesota:

Outcomes of 48 Years of Project Implementation



As the Red River flows north into Canada, colder temperatures affect how the spring thaw progresses.

These projects represent **only 6 of the 60+** large-scale, multipurpose water storage and flood mitigation projects funded by the Red River Watershed Management Board.

Note: These projects may have engineered and designed natural resource features or they may occur naturally over time due to ecosystem and plant community succession.

Project Benefits Legend

Water Quality | Water Storage | Upland Game Habitat | Fish Habitat | Pollinator Habitat | Fishing/ Hunting

Shorebird Habitat | Waterfowl Habitat | Outdoor Recreation | Farming/ Ag Production | Low Flow Augmentation

Roseau Lake Rehabilitation Project

Acre-Feet of Storage: 22,000

website:
http://roseauriverwd.com/Project_Roseau_Lake.html

Ross Impoundment Project

Acre-Feet of Storage: 3,611

website:
http://tworiverswd.com/Ross_Impoundment.html

Black River Impoundment Project

Acre-Feet of Storage: 4,064

website:
http://www.redlakewatershed.org/BlackRiver.html

Agassiz Water Resource Management Project

Acre-Feet of Storage: 10,670

website:
https://mstrwd.org/impoundments/agassiz-valley/

Dalen Coulee Project

Acre-Feet of Storage: 370

website:
https://www.houstoneng.com/dalencouleewatermanagementstudy/

Redpath Impoundment and Mustinka River Rehabilitation Project

Acre-Feet of Storage: 19,000

website: http://www.bdswd.com/Program_Template.html

Investing in and Managing the Watershed of the Red River Basin

What are we Protecting?

- Infrastructure – Public and Private
  - Cities
  - Rural Areas
  - Farmsteads
- Social, Natural, Cultural, and Financial Capital

Red River Basin Projects add to the Overall Base of Minesota Natural Resources

Flooding in the City of Dumont, Western Minnesota, BdSWD, April 2023. Photo courtesy of the BdSWD and Moore Engineering Inc.

Red River Watershed Management Board

RRWMB Contact Information

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