

# Funding Water Storage in the Red River Basin of Minnesota

LCC Subcommittee on Water Policy

July 15, 2024

Presented Electronically



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

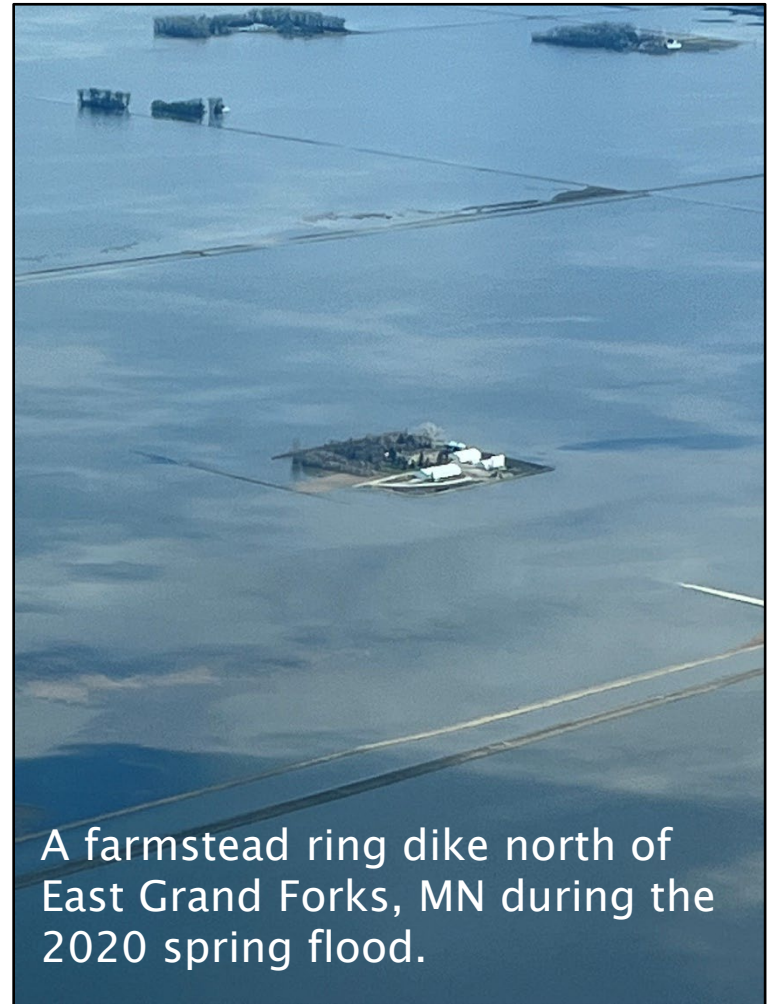
# Topics

- ▶ Red River Basin (RRB) Flood Infrastructure
- ▶ 2024 Bonding – Red River Watershed Management Board (RRWMB) Request
- ▶ Flood Hazard Mitigation Program (FHMP)
- ▶ Factors Affecting Project Implementation
- ▶ 1998 RRB Flood Mediation Agreement
- ▶ Moving Forward



# MN Red River Basin Flood Mitigation Infrastructure

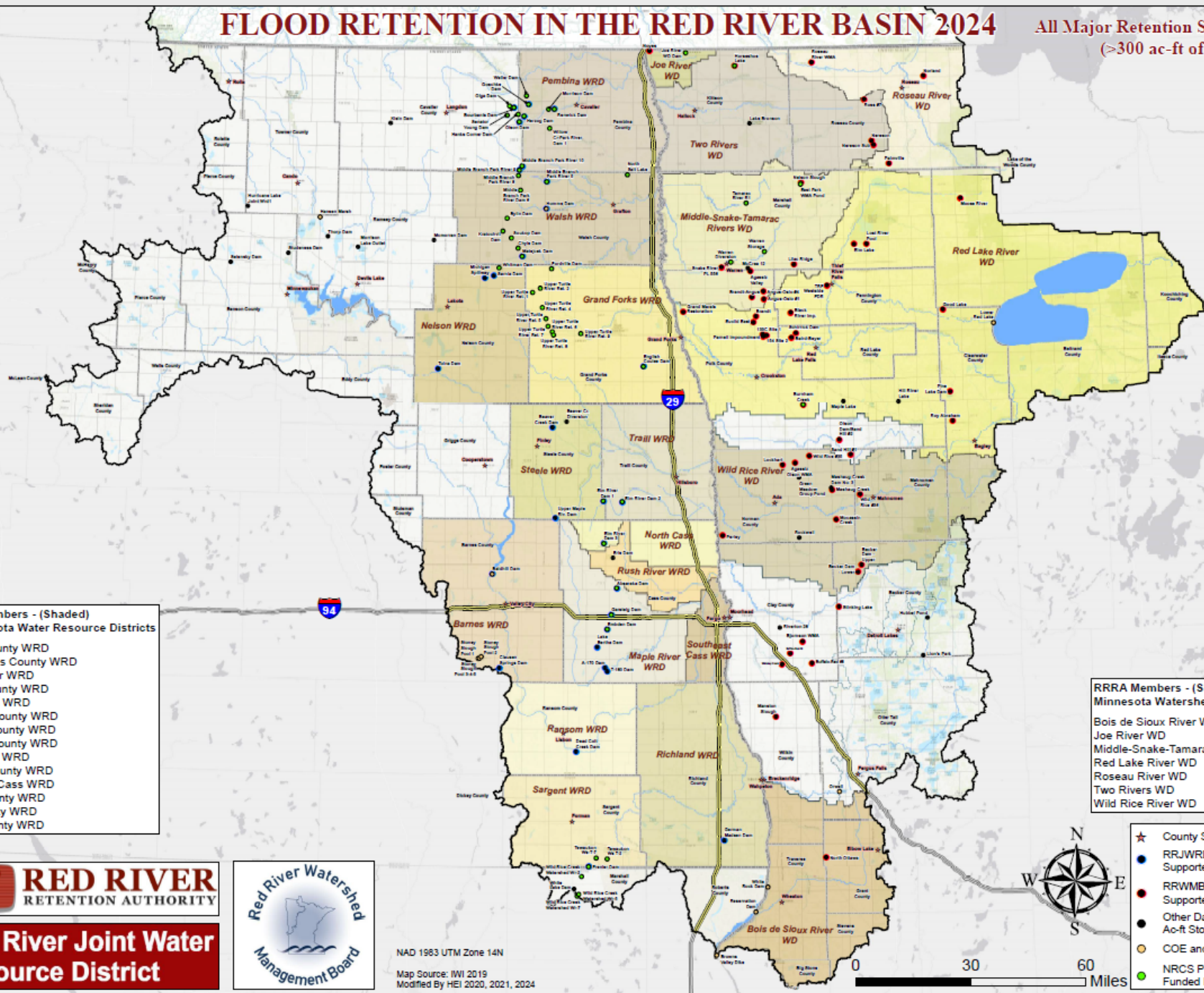
- ▶ 60 + Flood Impoundments
- ▶ Over 650 Farmstead Ring Dikes
- ▶ City Flood Levees and Protection
- ▶ River Setback Levees
- ▶ Culvert Sizing and 2-Stage Ditches
- ▶ Farm Field Dikes
- ▶ Federal Dams



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

# FLOOD RETENTION IN THE RED RIVER BASIN 2024

All Major Retention Structures  
(>300 ac-ft of Storage)



**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
- Trail 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

**RED RIVER**  
RETENTION AUTHORITY

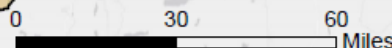
**Red River Joint Water  
Resource District**

Red River Watershed  
Management Board


NAD 1983 UTM Zone 14N  
Map Source: IWI 2019  
Modified By HEI 2020, 2021, 2024



- ★ County Seats
- RRJWRD Supported Location
- RRWMB Supported Location
- Other Dams > 300 Ac-ft Storage
- COE and DOI Dams
- NRCS PL566 Funded Dams



Black River Flood Impoundment in the Red Lake  
WD – May 2022. Photo courtesy of the RRWMB.



4,062 Acre-feet of Storage

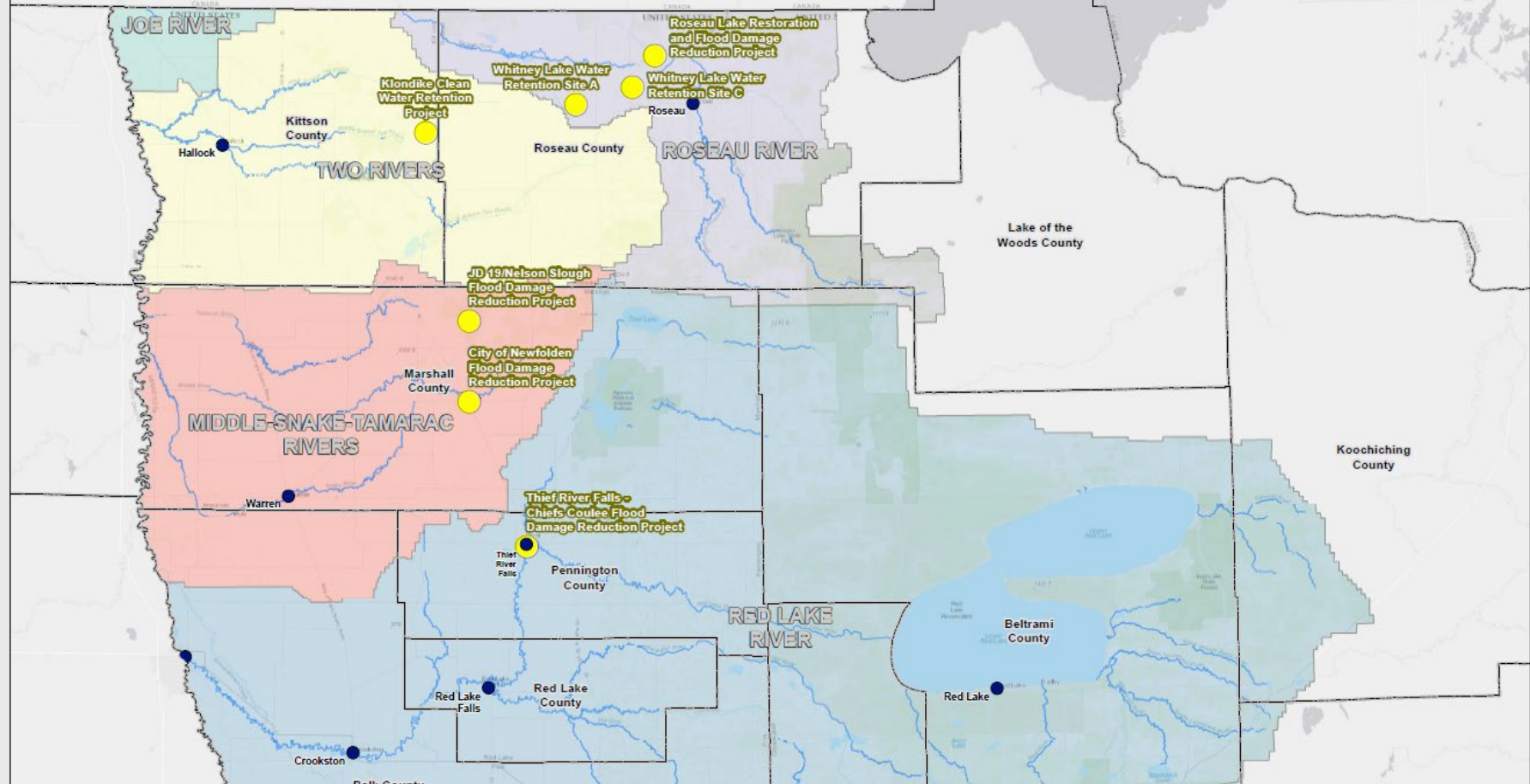
# RRWMB 2024 Bond Request

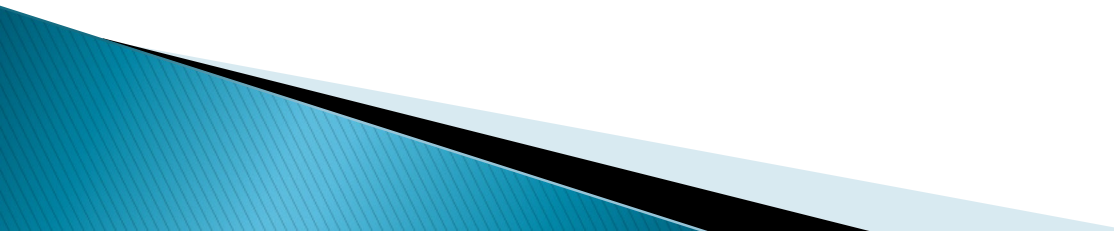
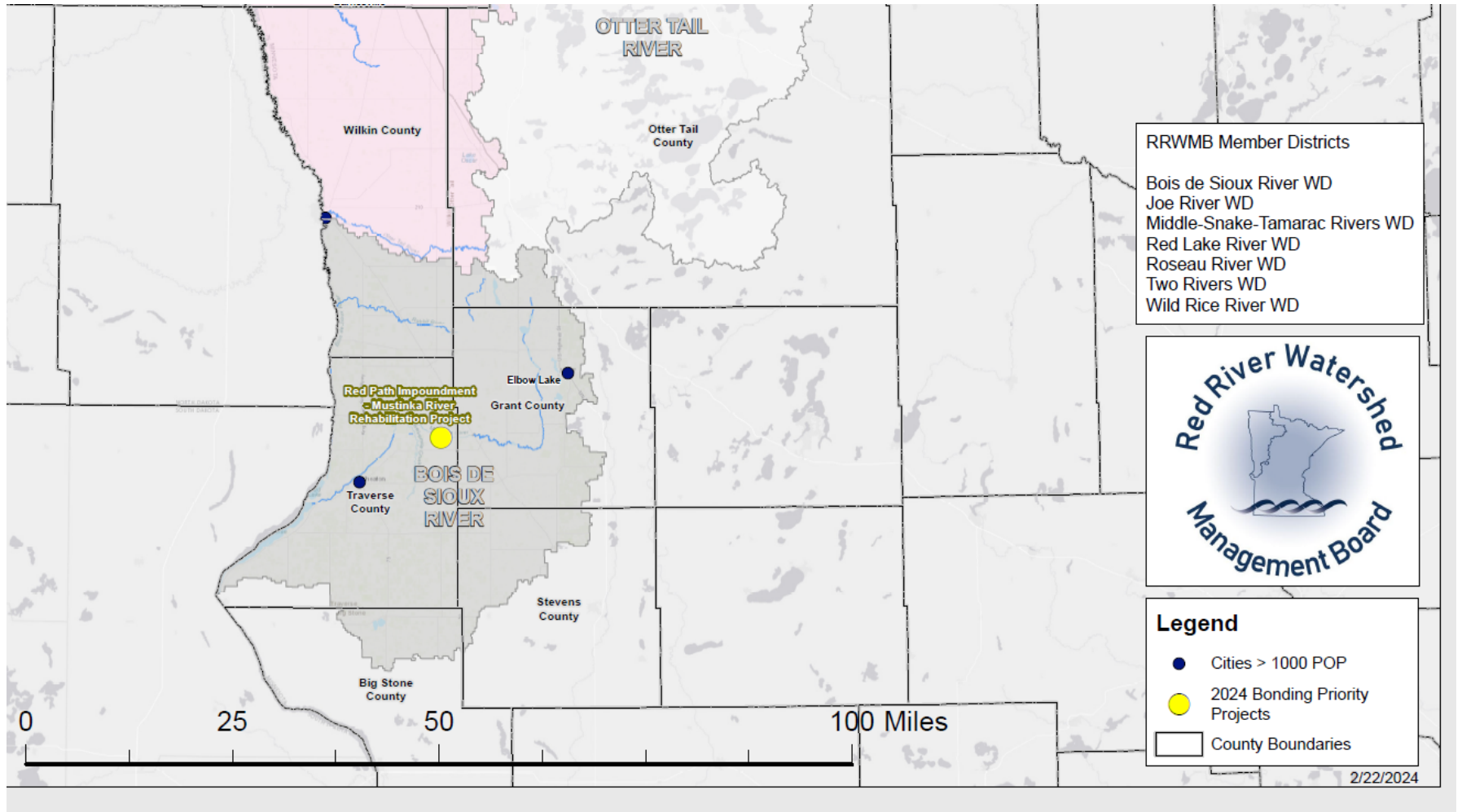
- ▶ \$57 Million Brought Down to \$21 Million
- ▶ 7 Projects:
  - 2 City Projects – One Also With Water Storage
  - 5 Water Storage Projects
- ▶ 100,000 Acre–feet of Water Storage
- ▶ Water Quality:
  - Sediment Reductions – 17,541 /Year
  - Phosphorus Reductions – 16,123/Year
  - Nitrogen Reductions – 117,288/Year
- ▶ Habitat – Created, Enhanced, or Restored:
  - Grassland – 1,500 Acres
  - Wetlands – 11,474 Acres
  - Other Habitat – 1,873 Acres
  - Stream Miles – 74.7 Miles

**Match: We have the match in place for these projects.**



# RRWMB 2024 Bonding Priority Projects







# 2024 Funding Requests for Flood Mitigation and Water Storage

	Governors Request for the FHMP	2024 House Bills	2024 Senate Bills
Totals	\$ 6,000,000	\$ 60,863,000	\$ 82,578,000

Current know need for the Flood Hazard Mitigation Program is \$130 million.



Project	Remaining Project Costs	Remaining Local Match	Remaining FHM Funding Needed	FHM Priority
Austin acquisitions	\$3,000,000	\$1,500,000	\$1,500,000	High
Bois de Sioux WD – Redpath Impoundment	\$26,487,000	\$12,739,310	\$13,747,690	High
Buffalo Red River WD – Barnesville Twp Stream Restoration, Ag Levees, Storage	\$15,600,000	\$7,800,000	\$7,800,000	TBD
Buffalo Red River WD – Stony Creek Stream Restoration & Storage	\$7,000,000	\$3,500,000	\$3,000,000	Medium
Buffalo Red River WD – Upper South Branch Flood Control	\$15,000,000	\$7,500,000	\$7,500,000	TBD
Carver Levee	\$3,350,000	\$0*	\$3,350,000	Medium
Cedar River WD – Small Impoundments	\$13,000,000	\$3,500,000	\$1,500,000	Medium
Golden Valley/Crystal/New Hope – Stormwater & storage	\$23,000,000	\$11,500,000	\$9,500,000	High
Hawley – levee & channel restoration	\$2,000,000	\$1,000,000	\$1,000,000	Medium
Middle River Snake River WD – Lilac Ridge JD14†	\$8,250,000	\$4,125,000	\$4,125,000	TBD
Middle River Snake River WD – Nelson Slough Flood Control Structure Reconstruction	\$11,300,000	\$2,825,000	\$8,475,000	Med/High
Middle River Snake River WD – Swift Coulee†	\$6,500,000	\$1,375,000	\$4,125,000	TBD
Moorhead – Levees, floodwalls, acquisitions	\$32,543,000	\$0*	\$15,000,000	High
Moorhead-Clay County Joint Powers Authority – F-M Diversion related activities	TBD	TBD	TBD	TBD
Newfolden – flood storage	\$2,000,000	\$0*	\$2,000,000	Med/High
Nielsville – levee	\$3,800,000	\$30,085	\$3,769,915	Low/Med
Northfield – floodwall	\$3,930,000	\$491,250	\$491,250	Medium
Ortonville – Whetstone River Restoration	\$2,300,000	\$350,878	\$1,949,122	Low/Med
Rice Creek WD storage/conveyance improvements	\$20,000,000	\$10,000,000	\$10,000,000	Medium
Roseau River WD – Roseau Lake Bottom Restoration	\$17,262,000	\$5,000,000	\$9,000,000	High
Roseau River WD – Whitney Lake Impoundments	\$9,000,000	\$4,500,000	\$4,500,000	Medium
Two Rivers WD – Klondike Impoundment	\$40,894,646	\$23,663,030	\$17,231,616	Medium
Waseca - Gaiter Lake acquisitions	\$2,000,000	\$1,000,000	\$1,000,000	Low
<b>Subtotal</b>	<b>\$268,216,646</b>	<b>\$102,399,553</b>	<b>\$130,564,593</b>	

\* local match has been satisfied

† No application submitted/incomplete information

Blue cell denotes a project or phase that has begun and is partially or wholly funded

Green cell denotes projects not yet started, awaiting funding

# FHMP Background and Statistics

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The FHMP started in 1988, has been in existence for over 35 years, with \$2 million being allocated the first year.

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FHMP funds administered by the DNR. Are pass through to Local Governmental Units (LGU) statewide including watershed districts, counties, cities, and townships.

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Since 1988, the FHMP has allocated \$578,434,885 to LGUs (does not include disaster or general fund allocations).

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No funds allocated to the FHMP in 1989, 1992, 1996, 2004, 2016, 2019, 2021, 2022, and 2024 – 9 years.

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Of the 27 years that funds have been allocated to the FHMP, the average allocation is \$21,423,514 for statewide flood mitigation projects and efforts.

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Source: Mn DNR.

[https://files.dnr.state.mn.us/waters/watermgmt\\_section/flood\\_damage/mn-flood-hazard-mitigation-funding-allocations.pdf](https://files.dnr.state.mn.us/waters/watermgmt_section/flood_damage/mn-flood-hazard-mitigation-funding-allocations.pdf)



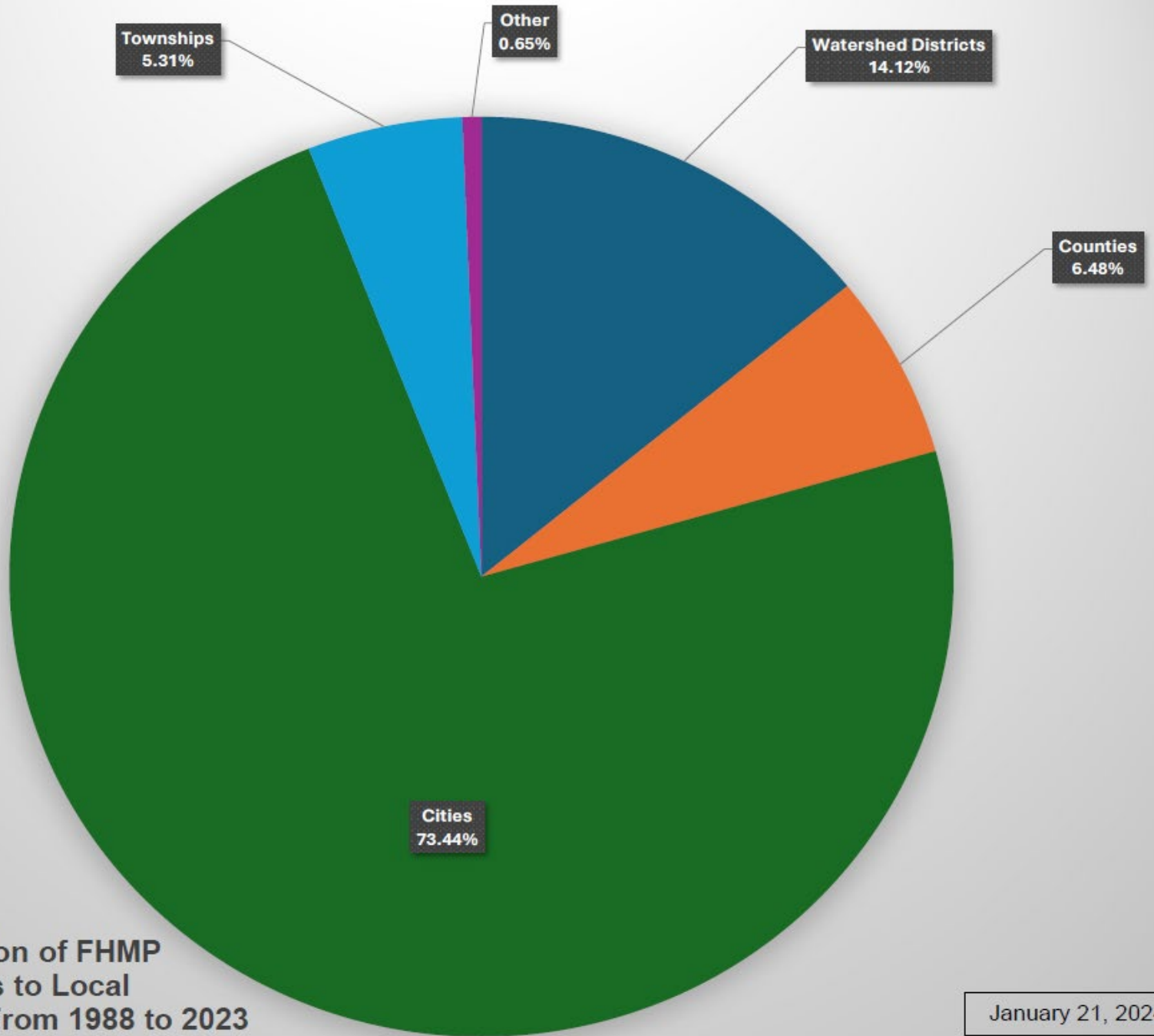
# Allocation of FHMP Funds to Local Government: 1988 to 2023

Entity Receiving FHMP Funds Statewide: 1988 to 2023	Amount of Total FHMP Allocations Received Statewide: 1988 to 2023	Percent of Total FHMP Allocations Statewide: 1988 to 2023
Watershed Districts	\$ 81,680,299	14.12
Counties	\$ 37,455,509	6.48
Cities	\$ 424,828,611	73.44
Townships	\$ 30,734,747	5.31
Other*	\$ 3,735,719	0.65
<b>TOTALS</b>	<b>\$ 578,434,885</b>	<b>100.00</b>

\*Includes FHMP administration funds for the DNR to manage the program and funds to a Lake Improvement District for \$3 million.

**ROI Note:** Every \$1 invested in hazard mitigation saves \$6 according to the National Institute of Building Sciences: <https://www.nibs.org/reports/natural-hazard-mitigation-saves-2019-report>





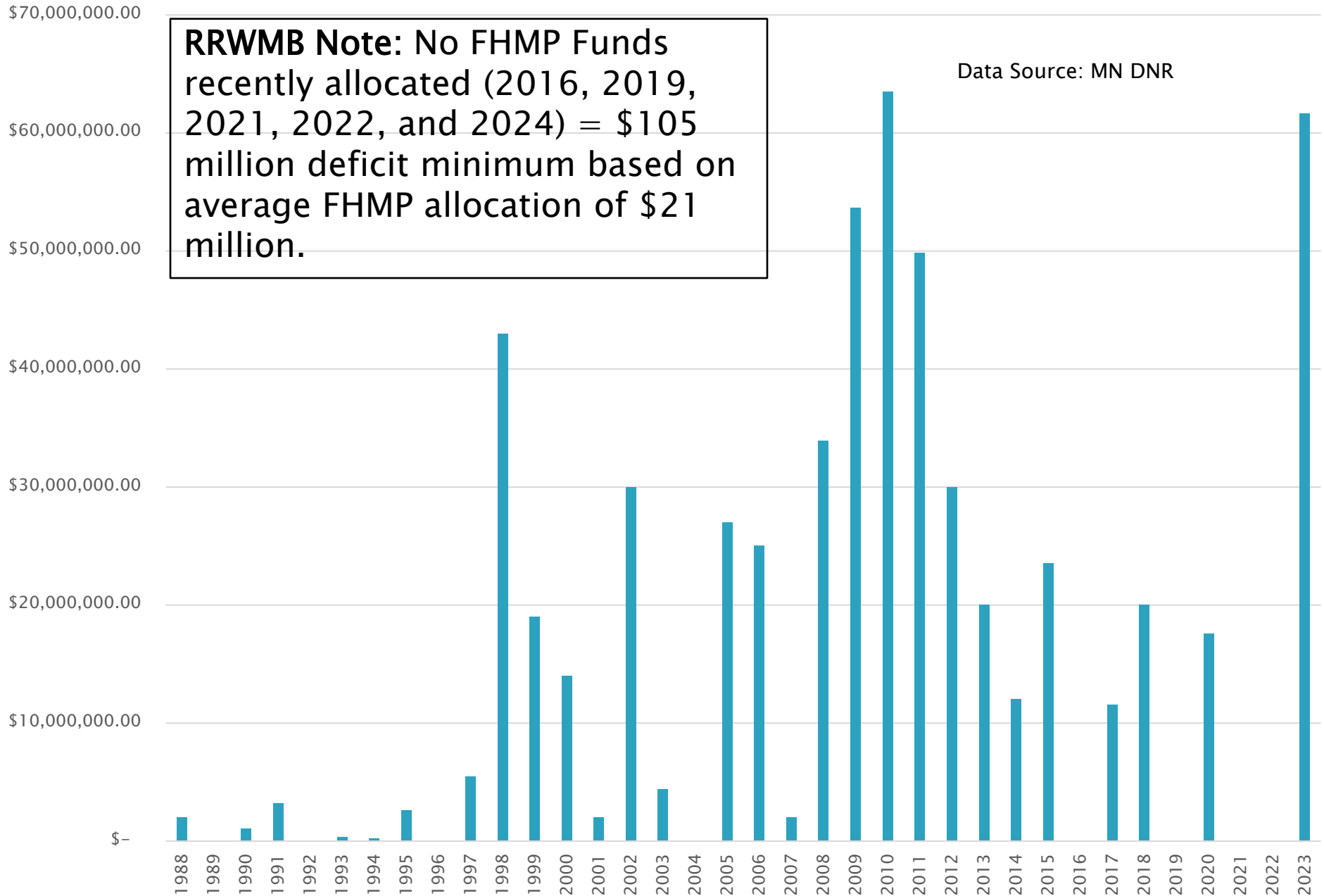
**Allocation of FHMP  
Funds to Local  
Government From 1988 to 2023**

January 21, 2024

# FHMP Allocations - 1988 to 2024

**RRWMB Note:** No FHMP Funds recently allocated (2016, 2019, 2021, 2022, and 2024) = \$105 million deficit minimum based on average FHMP allocation of \$21 million.

Data Source: MN DNR



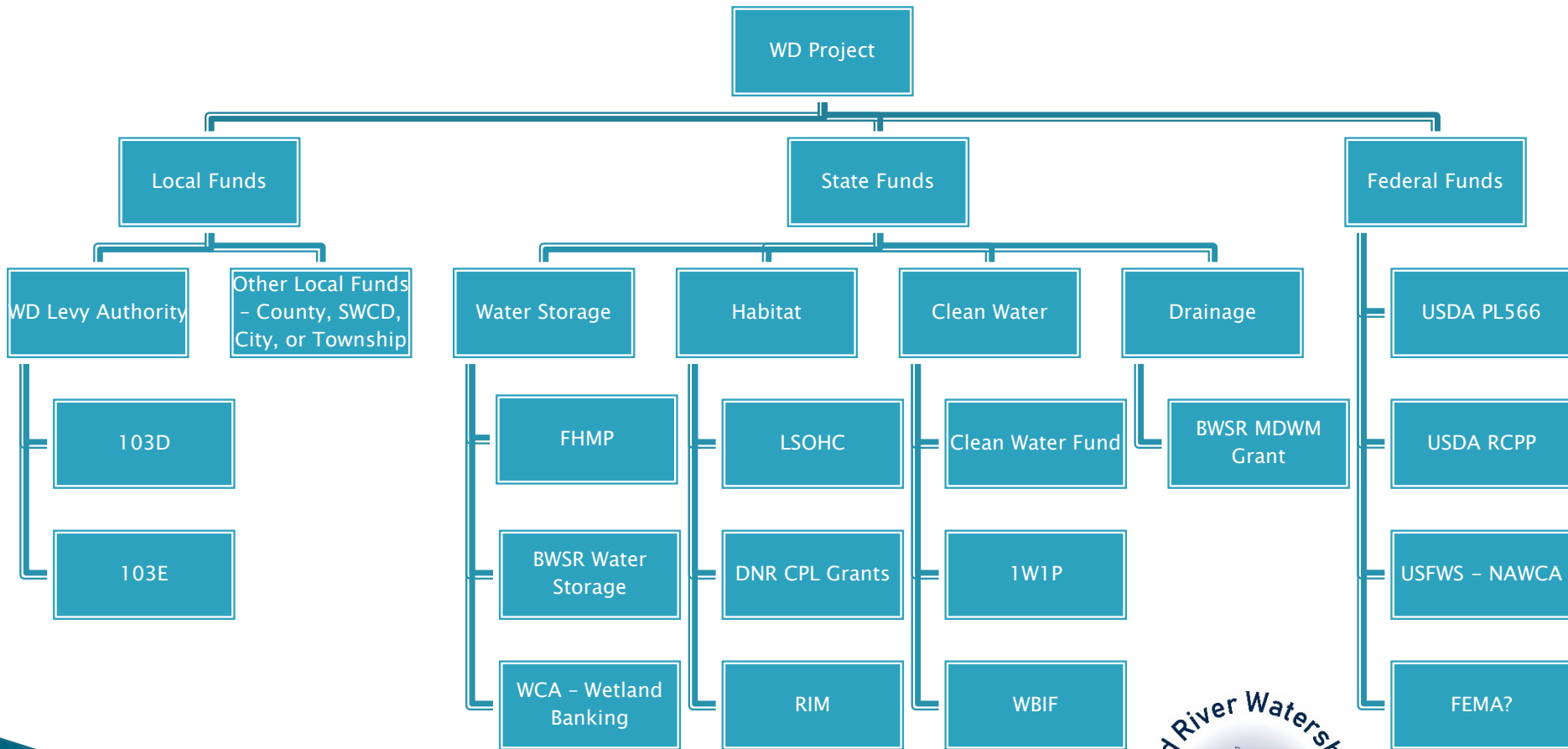
# Factors Affecting Project Implementation

- ▶ Funding: Inconsistent and Inadequate
- ▶ Funding Partner Coordination
- ▶ Permitting and Environmental Review
- ▶ Inflation
- ▶ Weather – Short Construction Season
- ▶ Contractor Readiness or Availability



# Project Funding

## Flood Mitigation – Water Storage





Agency	Permit Application	Description	Status
<b>Federal</b>			
United States Army Corps of Engineers	Section 408	For work modifying JD 14 (federal project)	Approved July 2022
	Section 404	Placement of fill in waters of the U.S.	Approved July 2022
<b>State</b>			
Minnesota Pollution Control Agency	NDPES/SWPPP	Pollution Prevention during construction activity	To be Submitted Prior to Construction
	Section 401	Possible for Water Quality Certification (MPCA in process of updating requirements)	Not Needed at this time
Minnesota Department of Natural Resources	Work in Public Waters	Work effecting Mustinka River	Approved Nov 2021
	Dam Safety Permit	Embankment / Spillway	Approved Nov 2021
	MN Stat. 103E. Ditch Improvement	TCD 35 Improvement	Approved Jan 2022
Minnesota Board of Water and Soil Resources	103D Project Development	Required for Watershed District to establish project.	Approved August 2022
<b>Local</b>			
Grant County Highway Department / Gorton Township	Work to Public Roadways and/or Agreement for change to road	For work to 330 <sup>th</sup> Ave and County Road 31	To be Submitted Prior to Construction
Traverse County Highway Department / Redpath Township	Work to Public Roadways and/or Agreement for change to road	For work to CSAH 13, 750 <sup>th</sup> Ave, 760 <sup>th</sup> Ave, 770 <sup>th</sup> Ave, CR-67, CR-90, and 700 <sup>th</sup> Street.	Approved Dec 2021
Bois de Sioux Watershed District	N/A	Project Proposer- Additional Permits are not Anticipated	N/A
Grant County	Zoning Variance / Approval		Not needed
Traverse County	Zoning Variance / Approval		Not needed
Traverse County SWCD	Minnesota Wetland Conservation Act	Impacts to surrounding wetlands	Approved in 2016
<b>Private</b>			
BNSF Railroad	Work within Right of Way	Grading of JD 14 and Berms	To be Submitted Prior to Construction

14 Permits and Approvals Needed



# Inflation Information

- ▶ The RRWMB uses the USACE Civil Works Construction Cost Index System (CWCCIS) to determine its cost-share rate.
- ▶ Inflation:
  - ▶ FY 2023 – 2.5%
  - ▶ FY 2022 – 12.3%
  - ▶ FY 2021 – 9.8%
  - ▶ FY 2020 – 1.0%
  - ▶ Prior to 2020 – Average Inflation Rate was between 3.0% and 4.0%



# Availability of Federal Funds



Construction of the Black River Flood Impoundment in the Red Lake WD.  
Photo courtesy of the RRWMB  
November 2020.

- ▶ Water Resources Development Act:
  - Generally for Locks, Dams, and Waterway Dredging and Maintenance
  
- ▶ PL566:
  - USDA Program – Funding Thresholds Need Adjustment
  
- ▶ Federal Infrastructure Funds:
  - Flood Mitigation not Included
  
- ▶ MN Public Facilities Authority Funds:
  - Drinking Water, Wastewater, and Stormwater Infrastructure

# Redpath Impoundment & Mustinka River Fish and Wildlife Habitat Corridor Rehabilitation

## Construction Schedule - Updated Sept. 2023

**"RED" = STATE OF MN FUNDING NEEDED TO COMPLETE CONSTRUCTION**

	Funding Partner	Spent Thru 2023	2024 Phase 2B	2025 Phases 3 & 4	TOTAL	
Mustinka Rehabilitation	LCCMR	\$540,000	\$2,160,000		\$2,700,000	34%
	LSOHF (6/30/2024 expiration)	\$2,440,000			\$2,440,000	31%
	BWSR CWF PP	\$800,000	\$1,000,000		\$1,800,000	23%
	RRWMB	\$507,000			\$507,000	6%
	BdSWD	\$0	\$553,000		\$553,000	7%
	<b>MUSTINKA TOTAL</b>		<b>\$4,287,000</b>	<b>\$3,713,000</b>		<b>\$8,000,000</b>
Redpath Impoundment	MN FHM	\$6,107,687	\$3,800,000	\$13,747,690	\$23,655,377	44%
	BWSR WQ&SP	\$0	\$1,000,000		\$1,000,000	2%
	BWSR CWF MDM	\$320,000			\$320,000	1%
	FDRWG	\$6,600			\$6,600	0%
	RRWMB (2/3 Local)	\$8,675,047	\$2,533,333	\$8,492,883	\$19,701,264	36%
	BdSWD (1/3 Local)	\$4,005,730	\$1,266,667	\$4,246,427	\$9,518,823	18%
	<b>REDPATH TOTAL</b>		<b>\$19,115,064</b>	<b>\$8,600,000</b>	<b>\$26,487,000</b>	<b>\$54,202,064</b>
<b>PROJECT TOTAL</b>		<b>\$23,402,064</b>	<b>\$12,313,000</b>	<b>\$26,487,000</b>	<b>\$62,202,064</b>	

Phase 1 = 2022 Relocation of TCD #35 - **COMPLETE**

Phase 2A = 2023 West Half of Mustinka Rehab & North Levee - **UNDER CONSTRUCTION**

Phase 2B = 2024 East Half of Mustinka Rehab & North Levee & Portion of West Embankment - **BID DECEMBER 2023**

Phase 3 = 2025 Remaining Perimeter Levees - **NEEDS MN FHM FUNDING**

Phase 4 = 2025 Structures / Approach Channel / JD #14 / Misc. - **NEEDS MN FHM FUNDING**



# 1998 Flood Mediation Agreement

- ▶ Red River Basin is held to a Higher Standard Than Rest of State
- ▶ MS103F.161 Subd. 3. **Red River basin flood mitigation projects.** Notwithstanding subdivision 2, a grant for implementation of a flood hazard mitigation project in the Red River basin that is consistent with the 1998 mediation agreement and approved by the Red River flood damage reduction work group may be for up to 75 percent of the cost of the proposed mitigation measures.
- ▶ <https://www.revisor.mn.gov/statutes/cite/103F.161>



# Moving Forward

- DNR and Governor Recommendations not meeting demand.
- Fund the FHMP list of known needs in the short-term.
- Establish mitigation funds through HSEM via MS 12A and B.
- Adjust the BWSR Water Storage Program to be statewide.
- Study water storage and flood mitigation funding needs both short-term and long-term in conjunction with LGUs.
- Develop a plan of action to meet funding needs of LGUs. (2020 State Water Plan – Goal 4: Manage landscapes to hold water and reduce runoff.)
- Get Minnesota Department of Agriculture Involved – MS40A.



# What are we Protecting?

- ▶ City Infrastructure – Public and Private
- ▶ Rural Infrastructure – Public and Private
- ▶ Farmsteads
- ▶ Social, Natural, Cultural, and Financial Capital

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



# RRWMB Contact Information

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