

Fargo-Moorhead Metropolitan FLOOD RISK MANAGEMENT

Project Area

Largest urban area in North Dakota and western Minnesota

Principle regional economic center

213,000 people in the metropolitan area

Expected average annual flood damages:
more than \$194.8 million

Project Purpose & Objectives

PURPOSE

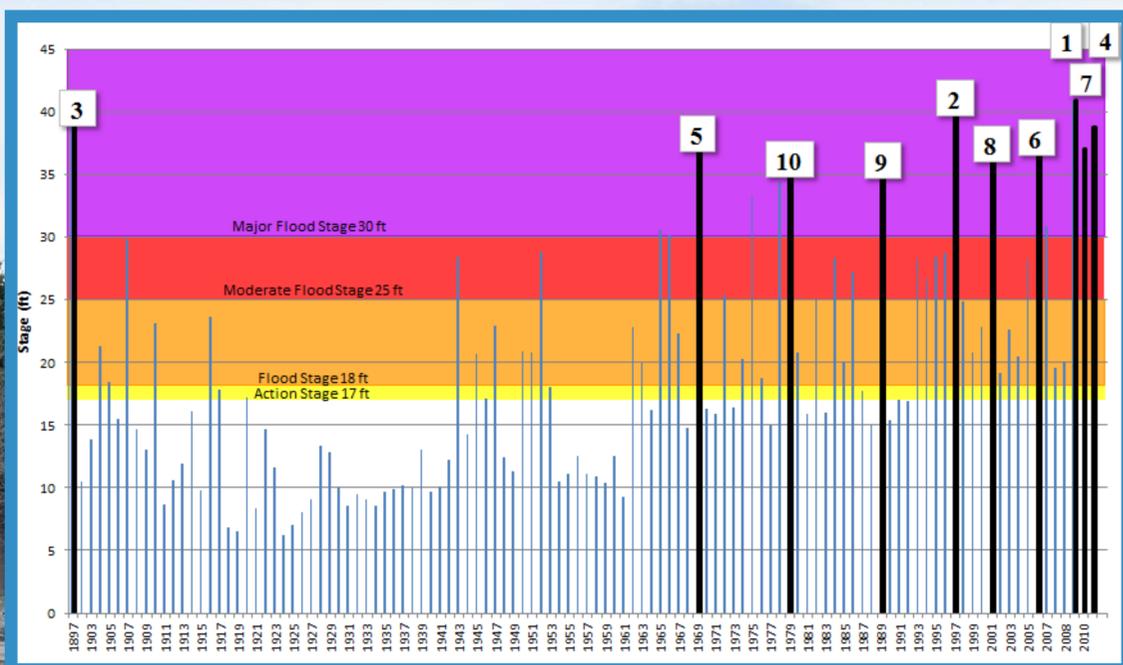
- To identify measures to reduce flood risk in the entire Fargo-Moorhead Metropolitan Area.

OBJECTIVES

- Reduce flood risk and flood damages in the Metro area
- Restore or improve degraded riverine and riparian habitat
- Provide additional wetland habitat
- Provide recreational opportunities



History of the Red River of the North at Fargo-Moorhead



Emergency levee construction

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Background & History

Red River Flood Stage = 18 feet on the Fargo gage

- 50 of the past 112 years (1902 through 2013), and recently every year from 1993 through 2011 and in 2013

Catastrophic damages have been prevented by emergency measures

- 11 disaster declarations since 1989

2009 was the flood of record

- Stage of 40.8 feet
- 2-percent chance [50 year] event
- Emergency measures cost approximately \$70M

Future without the project

- Metro area will continue to be subject to flooding and rely on emergency responses
- Failure of emergency levees would be catastrophic
- Expected average annual flood damages greater than \$194.8 million and will continue to increase
- \$10 billion estimated damages from a 500-year flood

Flood of Record ► 2009



56 miles of emergency flood protection constructed

- 42 miles of temporary earthen levees
- 19 miles of sandbag levees
- 8 miles of alternate products/materials

More than **7.3 million** sandbags filled



Sheyenne River ► 2010



Cass County ► 2011



Interstate 29 [northbound and southbound]
Closed April 10 - Reopened April 15
Detour added **22.8 miles**

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The Project

- A **20,000** cfs diversion channel in North Dakota with upstream staging
- **3** gated control structures
- **2** aqueducts
- **30** miles of diversion channel
- **6** miles of connection channel
- **4** railroad bridges
- Highway bridges

Path Forward

- Design of the project has started
- Project was federally authorized on June 10, 2014
- Awaiting federal funding



Search & Rescue

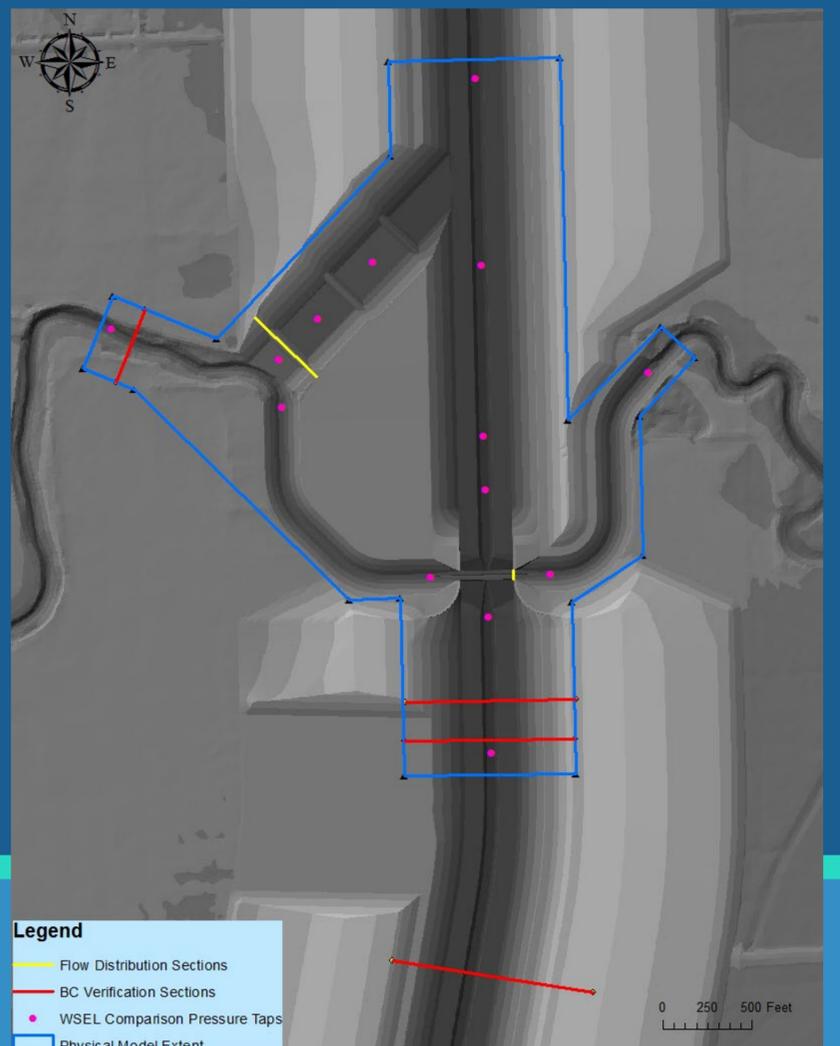
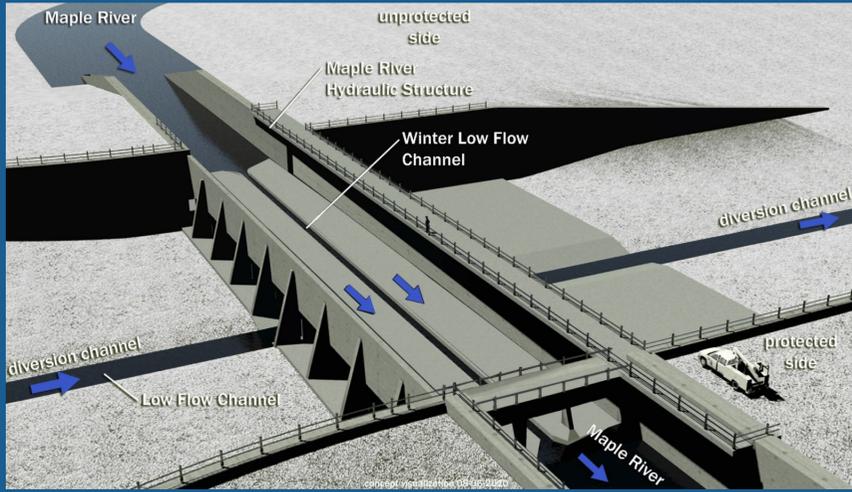
Rescues in Cass County

- 2009 ▶ **140** people
- 2010 ▶ **11** people
- 2011 ▶ **15** people



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The Maple River Aqueduct



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1 Cubic Foot Second (cfs) =

approximately 1 men's basketball every second

20,000 cfs diversion =

approximately 20,000 basketball's every second

1 IN 5

North Dakotans will **benefit** from the project

