



North Dakota
State Water
Commission

INTERNATIONAL **WATER ISSUES** IN NORTH DAKOTA

Annual Meeting - Association of Western State Engineers

Presented By Todd Sando, P.E.

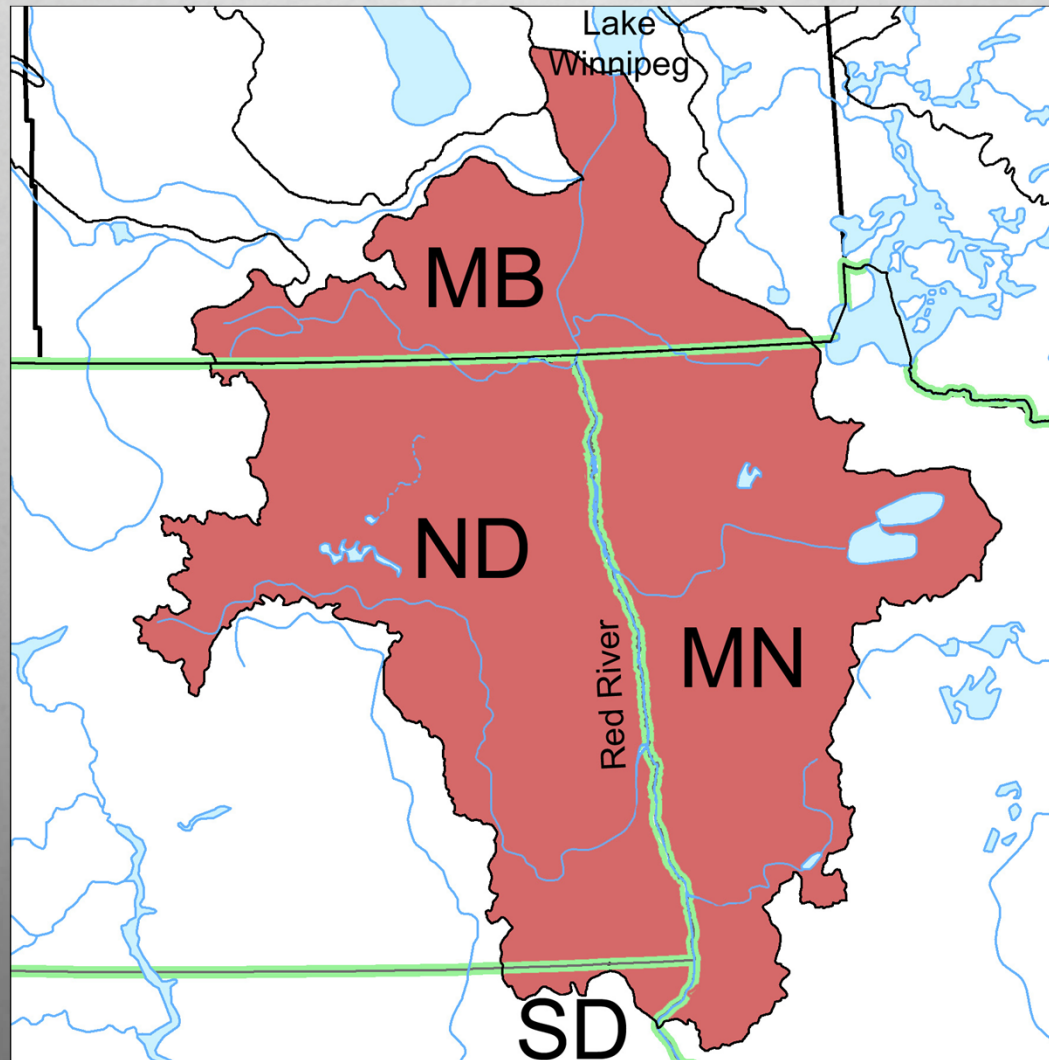
BACKGROUND



- State Divided By 100th Meridian (Wet-Dry Divide)
- State Can Be Experiencing Record Floods & Droughts Simultaneously – And Has!

INTERNATIONAL WATER MANAGEMENT

RED RIVER BASIN



INTERNATIONAL WATER MANAGEMENT

RED RIVER BASIN

- Very Low Relief (Less Than 1 Foot Per Mile In Places)
- Flow Largely Dependent Upon Snowpack/Rainfall In North Dakota & Minnesota
- River Flows North Into Canada (Manitoba)
- River Flows Very Responsive To Short-Term Climate Conditions



INTERNATIONAL WATER MANAGEMENT

RED RIVER BASIN

TOO MUCH WATER

- Several Record & Near Record Floods Since 1993
- Largest Communities In North Dakota Impacted
- North Dakota, Minnesota, & Manitoba (Tremendous Investments In Flood Damage Reduction Projects Over Last Two Decades)



NOT ENOUGH WATER

- More Mitigation Needed
- Red River At 0 cfs Several Times During 1930s Drought
- More Recently: Low Flow Challenges In Late '80s & 2012



INTERNATIONAL ORGANIZATIONS

RED RIVER BASIN

- Red River Basin Commission
- International Joint Commission (IJC)
 - International Red River Board



MOST COMPLEX ISSUES

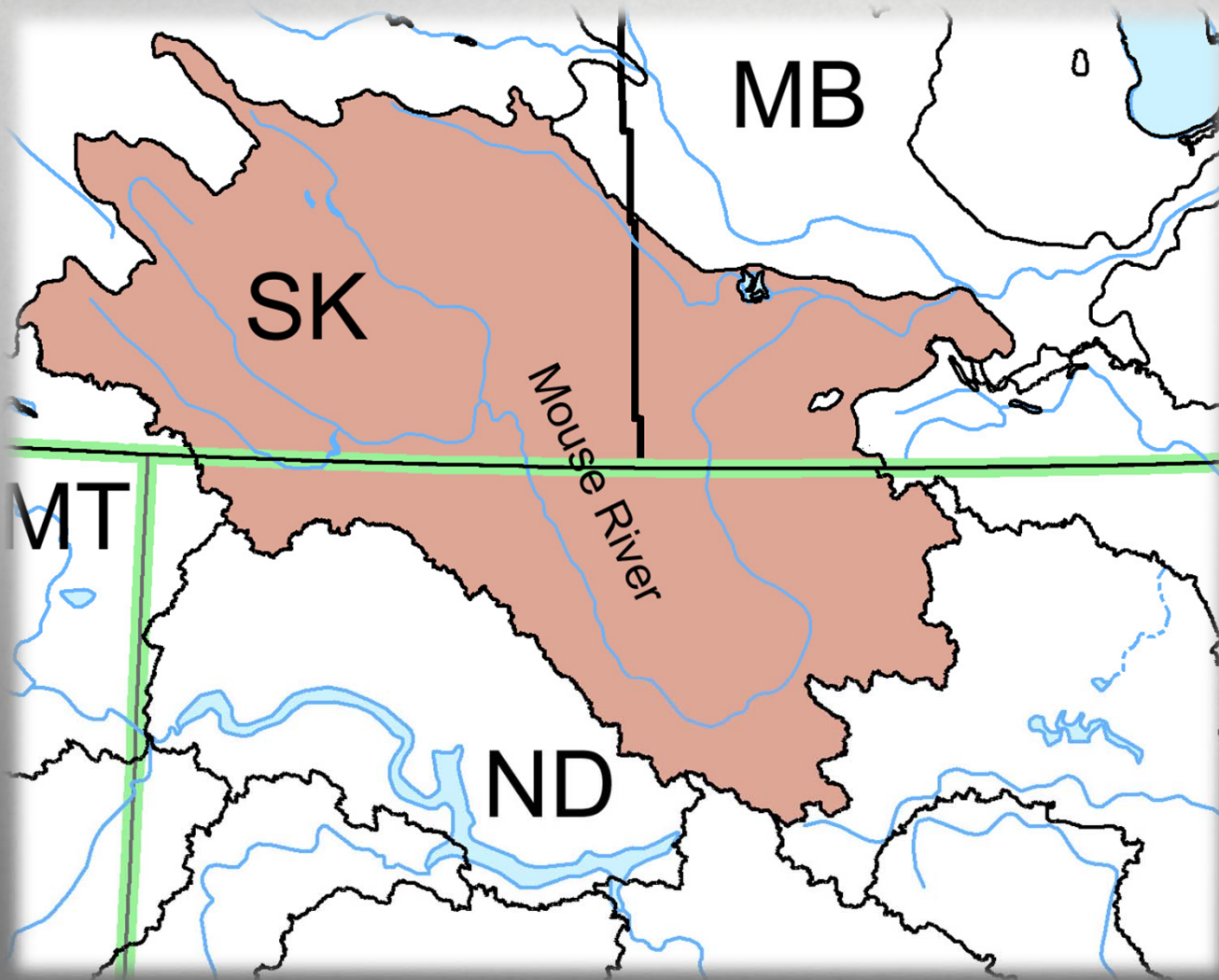
RED RIVER BASIN

- Red River & Lake Winnipeg Water Quality
 - Nutrients & Invasive Species
- Water Supply (Apportionment)
- Interbasin Water Transfer Projects
 - Devils Lake Outlets
 - Red River Valley Water Supply Project
- Manitoba's Border Dike



INTERNATIONAL WATER MANAGEMENT

MOUSE/SOURIS RIVER BASIN



INTERNATIONAL WATER MANAGEMENT

MOUSE RIVER BASIN



- Low Relief (Less Than 1 Foot Per Mile In Places)
- Majority Of Watershed In Saskatchewan Upstream Of North Dakota
- Mouse (Souris) River Flows From Saskatchewan-North Dakota-Manitoba

INTERNATIONAL WATER MANAGEMENT

MOUSE RIVER BASIN

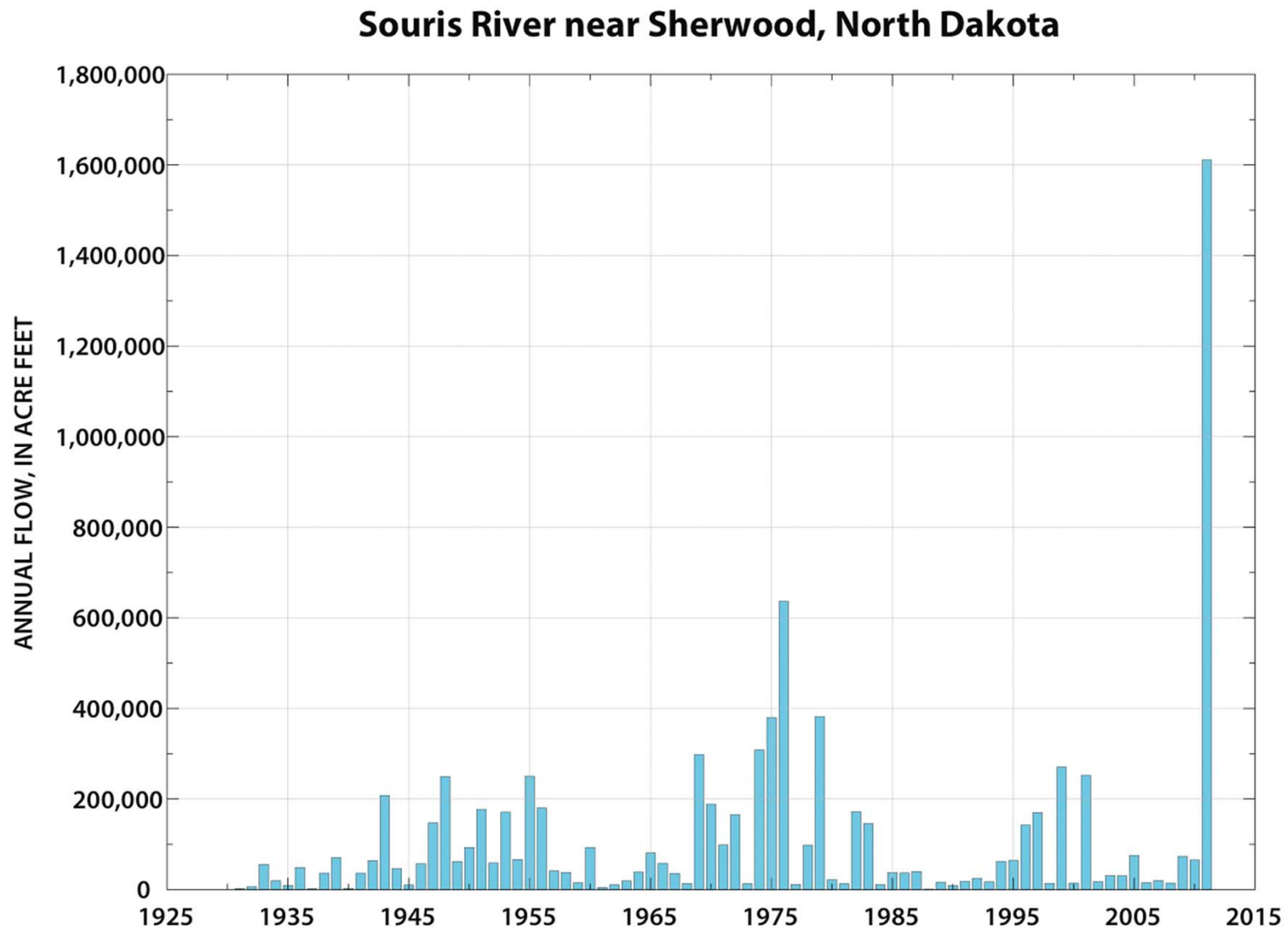
TOO MUCH WATER

- Prior To 2011, Floods Of Record Were In 1969, 1976
- Rafferty & Alameda Reservoirs Provide Majority Of Flood Storage In Saskatchewan
- 2011 Flood Was Orders Of Magnitude Larger Than Previous Floods
- Minot, 4th Largest City In ND: 1 In 3 Homes Impacted
- Mouse River Flood Control Project Moving Forward

NOT ENOUGH WATER

- Major Water Supply Challenges In Basin
- Reliant On Groundwater
- Poor Quality

2011 MOUSE RIVER FLOOD



INTERNATIONAL ORGANIZATIONS

MOUSE RIVER BASIN

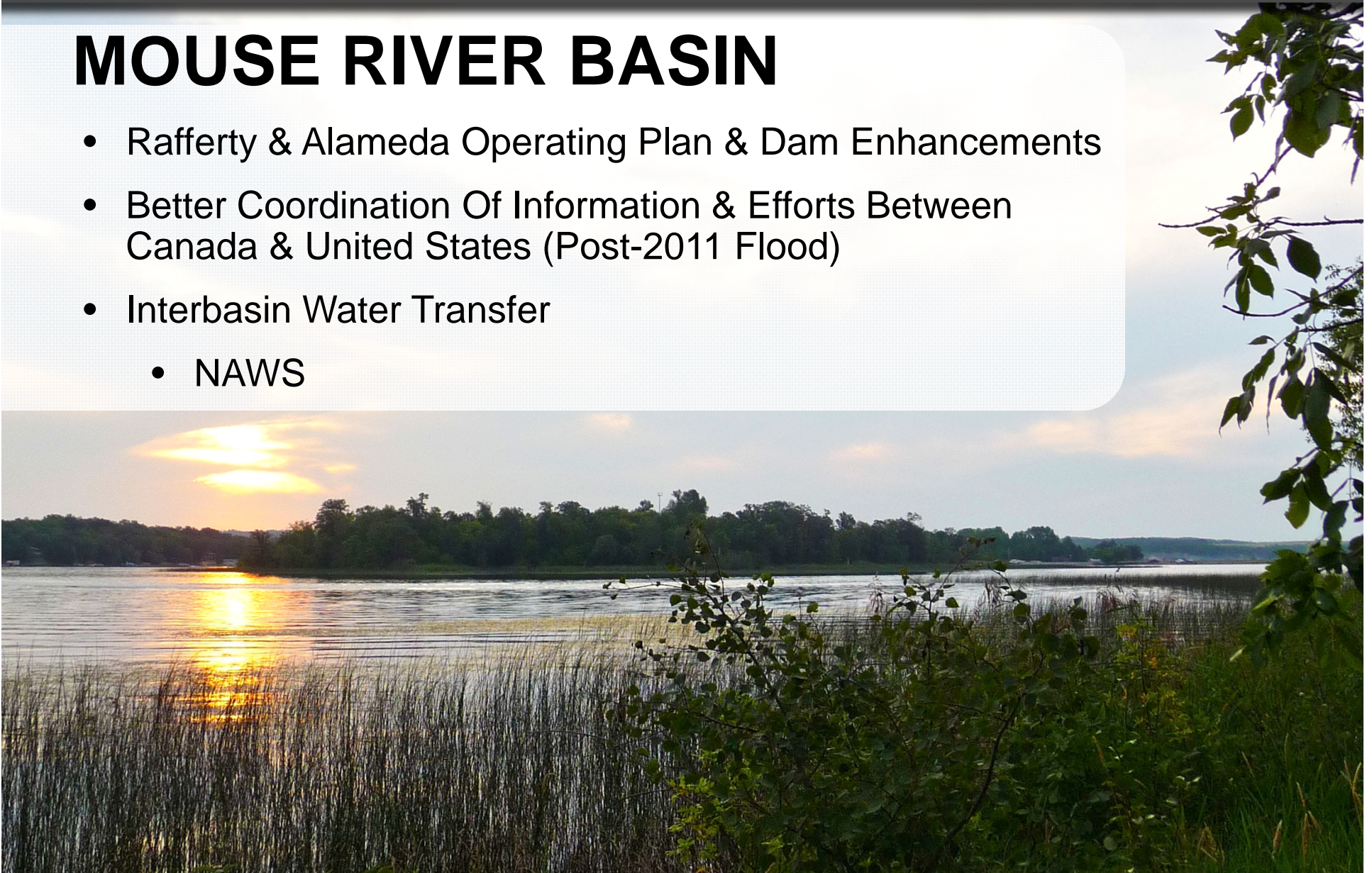
- International Joint Commission (IJC)
 - International Souris River Board
- Assiniboine River Basin Initiative



MOST COMPLEX ISSUES

MOUSE RIVER BASIN

- Rafferty & Alameda Operating Plan & Dam Enhancements
- Better Coordination Of Information & Efforts Between Canada & United States (Post-2011 Flood)
- Interbasin Water Transfer
 - NAWS



INTERNATIONAL ORGANIZATIONS

OTHER US/CANADA EFFORTS

- International Joint Commission (IJC)
 - Accredited Officers for the St. Mary - Milk Rivers
 - Council of Great Lakes Research Managers
 - Great Lakes Science Advisory Board
 - Great Lakes Water Quality Board
 - Great Lakes-St. Lawrence River Task Team
 - International Columbia River Board of Control
 - International Kootenay Lake Board of Control
 - International Lake Superior Board of Control
 - International Lake of the Woods Control Board
 - Lake of the Woods Basin Water Quality Plan of Study Team
 - International Niagara Board of Control
 - International Osoyoos Lake Board of Control
 - International Rainy Lake Board of Control
 - Rainy-Lake of the Woods Watershed Board
 - International St. Croix River Watershed Board
 - International St. Lawrence River Board of Control
- Souris River Bilateral Water Quality Monitoring Group
- Prairie Provinces Water Board
- Shoal Lake Watershed Working Group
- Columbia River Basin

For More Information

www.swc.nd.gov

www.facebook.com/NDStateWater

