

## **Red River Valley Water Supply Project Hearing**

**February 4, 2014**

**Mr. Chairman and Members:**

**I appreciate the opportunity to share a Minnesota perspective on the need for more water for the Red River Valley. Those of us on the Minnesota side of the Red River share North Dakota's concern for future water supply. Moorhead is pleased to be represented on the Lake Agassiz Water Authority.**

**I have been working on Red River Basin water supply issues for over 40 years. We live in a semi-arid region with a history of periods with severe drought. Given the population and economic growth we have experienced and our future growth potential, we recognize the great need for more water.**

**We thank you for the action that the North Dakota Legislature took last year to advance efforts to supply more water to the Red River Valley. We appreciate and support your efforts.**

### **Slide 1: Moorhead's Water Supply Timeline**

**Moorhead has been fortunate to have good ground water resources that we have studied, monitored, and worked to recharge. Since 1961 we have been also relying on the Red River to meet our water needs. With the upgrade and expansion of our Water Treatment Plant in 1995, we now draw 80% of our water needs from the River with 20% coming from ground water. In 1999 we proposed a water supply interconnect between Moorhead and Fargo and joined the Eastern North Dakota Water Users Association, and joined the Lake Agassiz Water Authority in 2003.**

### **Slide 2: The Need for More Water in the Red River Valley**

**On many occasions over the years, I have spoken about water supply as a basin problem that needs a comprehensive water management plan.**

### **Slide 3: Measuring Drought**

**The current wet cycle is long overdue to end. In the last two years we have experienced short-term droughts that should be a wake-up call. The question is will we be ready when the next drought arrives?**

#### **Slide 4: The Tri-State Water Commission**

**In 1937, the drought of the thirties caused the three states to form a Commission to increase water supply during droughts. Impoundments were put in place with the Commission disbanding in 1947; and, in 1967, the Souris-Red-Rainy River Basin Commission was commissioned to continue work on water supply. We need to renew efforts to forge multi-jurisdictional agreements to plan for the next drought that is sure to come.**

#### **Slide 5: Long Term Drought Solutions Plan**

**In 2009, North Dakota Senator Tom Fischer and I secured passage of legislation providing one million dollars to develop a Long Term Flood Solutions Plan. The Red River Basin Commission worked to develop the Plan that has achieved consensus and developed an action plan now benefitting the Basin. This same kind of effort is now needed to develop a Long Term Drought Solutions Plan. This idea was proposed last June to the International Legislators Forum, composed of legislators from Minnesota, North Dakota, South Dakota, and Manitoba. We pointed out that there is no current coordinated drought plan among the four major jurisdictions. We clearly are not currently prepared to handle the next extended drought. I hope that there will be North Dakota and Minnesota legislators who will take the initiative to pass the means to develop a Long Term Drought Solutions Plan.**

#### **Slide 6: Jurisdictional Differences in Water Laws and Approaches to Water Management**

**Jurisdictional differences on top of Eastern vs. Western water law make appropriation agreements difficult, if not impossible, to achieve. Therefore, we have been working to get the four jurisdictions to agree to Memorandum of Understanding on approaches to drought planning. North Dakota officials have expressed an interest in such an approach.**

#### **Slide 7: Where does the Red River Flow Come From?**

**A 1986 analysis showed that 72% of the flow in the Red comes from Minnesota and 28% from North Dakota. Minnesota contributes substantially to the water supply needs of the Valley. Recently, MPCA Commissioner John Stine reported**

**that 98% of the water flowing out of Minnesota is water that first falls on Minnesota. No other state can make the same claim.**

**All of this information points to the fact that Minnesota, North Dakota, South Dakota, and Manitoba need to work together to address the water supply needs of the Valley. We remain committed to joint action. As you move forward I encourage you to communicate with the other jurisdictions and don't surprise them with your actions. Thank you for your ongoing work onp this very important issue.**

**Now, Kris Knutson, Manager of the Moorhead Water Division, will present additional information about the water supply for Moorhead.**

**Morrie Lanning**

**February 4, 2014**

# Moorhead Water Supply

## Morrie Lanning

Moorhead Alderman 1974-1980, Mayor 1980-2002 and Minnesota House of Representatives 2003-2013

## Kristofer Knutson (Water Division Manager)

Moorhead Public Service



# Moorhead Water Supply Timeline

- ⌘ In this year Moorhead:
- ⌘ 1913: Begins using the Moorhead Aquifer.
- ⌘ 1948: Begins using the Buffalo Aquifer.
- ⌘ 1961: Begins drawing water from the Red River
- ⌘ 1975: Initiates a ground water study of the Buffalo Aquifer working with U.S.G.S.
- ⌘ 1979: Helps found The International Coalition of Land and Water Stewardship in the Red River Basin and advocates a comprehensive water management plan.
- ⌘ 1983: Helps convene the first annual International Summit Conference.
- ⌘ 1995: Updates and expands its water treatment facility.
- ⌘ 1996: Advocates the formation of the Red River Basin Board.
- ⌘ 1996: Provides testimony in support of increased water supply at the North Dakota hearing on the Garrison Diversion Project.
- ⌘ 1999: Proposes a water system interconnect between Fargo and Moorhead.
- ⌘ 1999: Joins the Eastern North Dakota Water Users Association.
- ⌘ 2003: Joins the Lake Agassiz Water Authority.
- ⌘ 2013: Completes the Wellhead Protection Plan and a new river intake.
- ⌘ 2013: Prepares and delivers a drought and water supply presentation to the Annual International Legislators Forum.

Prepared by Morrie Lanning



# The Need for More Water in the Red River Valley

Testimony delivered by Moorhead City Alderman Morrie Lanning to a U.S. House of Representatives Committee in Grand Forks on July 2, 1979:

Minnesota and North Dakota need work together to "Develop a comprehensive water management plan, with a drainage plan component, for the basin which would seek to minimize flooding and maximize supply in periods of low flow."

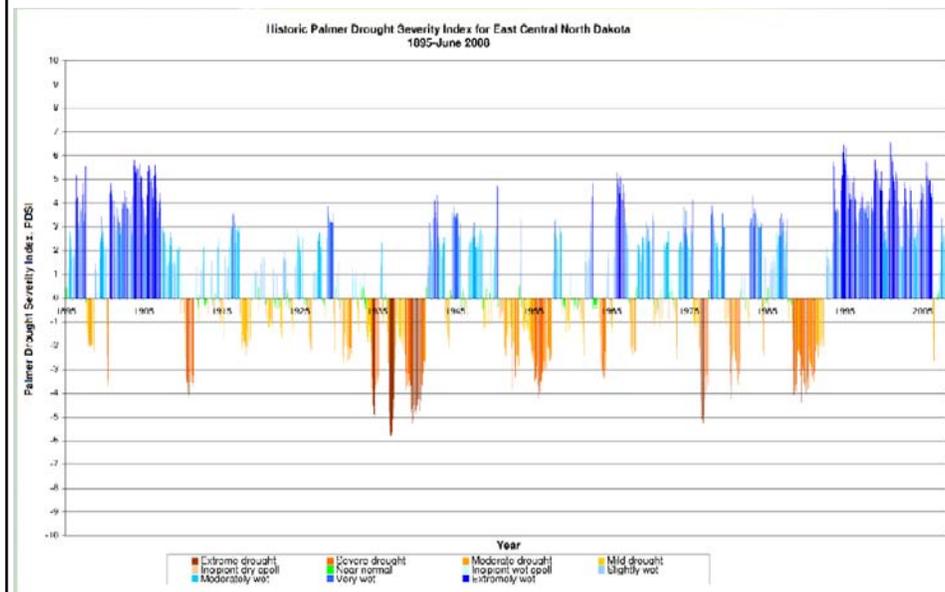
A Speech Delivered by Moorhead Mayor Morrie Lanning to the Red River Leaders Summit on February 15, 1996 that led to the formation of the Red River Basin Board:

"A primary concern for cities along the Red is the need to increase the supply of water in the Red, especially during low flow or drought periods. Cities want to have continued growth. We want more jobs and an expanded tax base. The future availability of water for growth is in question. An Urban Water study done a few years ago clearly indicated that there would not be enough water to meet conservative growth projections for the next fifty years. A comprehensive water management plan is needed to guide us in increasing future water supplies."

A Letter Sent to Governor Schafer, Senator Conrad, Senator Dorgan, and Congressman Pomeroy by Moorhead Mayor Morrie Lanning on December 18, 1996 in response to an invitation to provide testimony before a hearing on the Garrison Diversion Project:

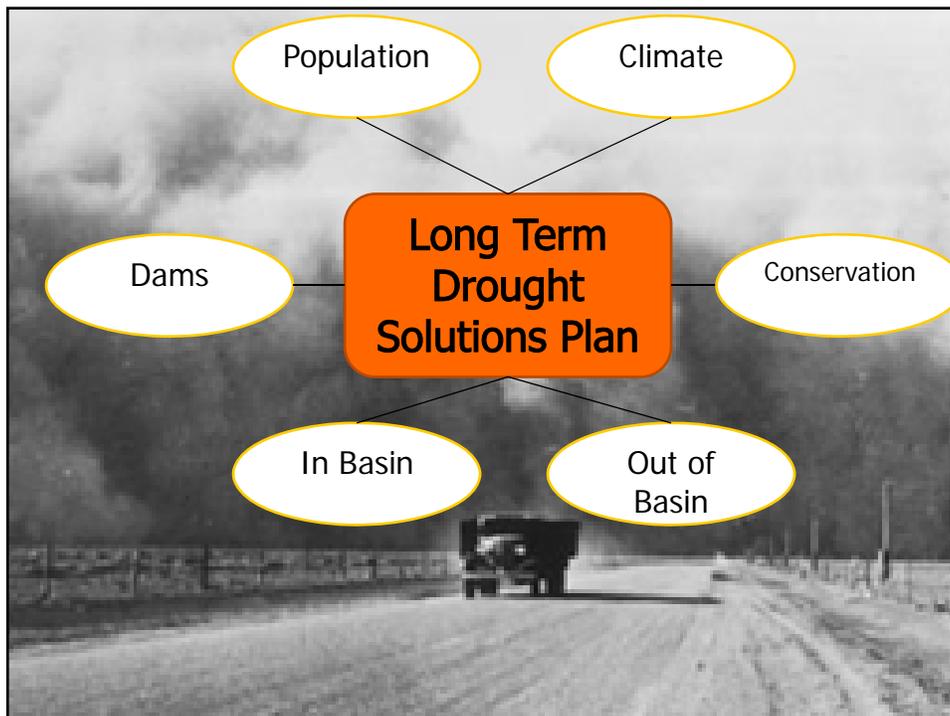
"More water is needed! For many years, we, too, on the Minnesota side have recognized that water supplies currently available are inadequate to meet future water needs. As a result we have actively supported and worked for efforts to enhance our future water supply." *Morrie Lanning February 4, 2014*

## Measuring Drought

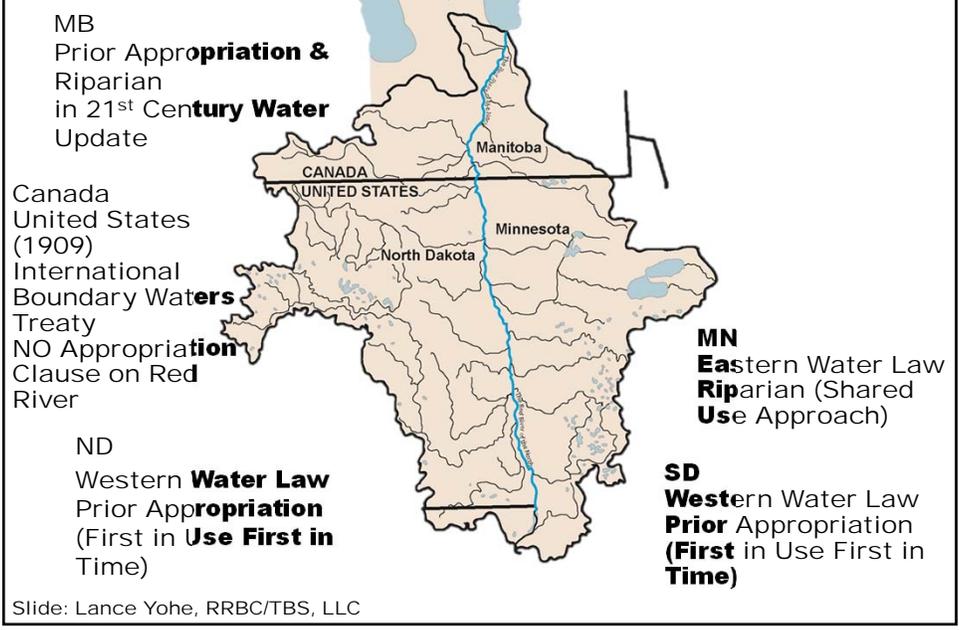


# Tri-State Waters Commission

- ⌘ Created the district in 1937
- ⌘ Entered into by the three states: ND, SD, MN
- ⌘ Article VII: It shall be the duty of the Commission to study various water problems relating to study the various problems relating to water supply within the Tri-State Waters Area



## RED RIVER BASIN: WATER LAWS & APPROACHES TO MANAGING WATER



## Where Does Red River Flow Come From?

Tributaries	Percentage of Flow Contribution
<b>Minnesota</b>	
Bois de Sioux	37
Ottertail	25
Minor Tributaries	10
<i>Minnesota Total-----</i>	72
<b>North Dakota</b>	
Wild Rice	15
Sheyenne	7
Minor Tributaries	6
<i>North Dakota Total-----</i>	28
	100

*Miller and Frink, 1986*



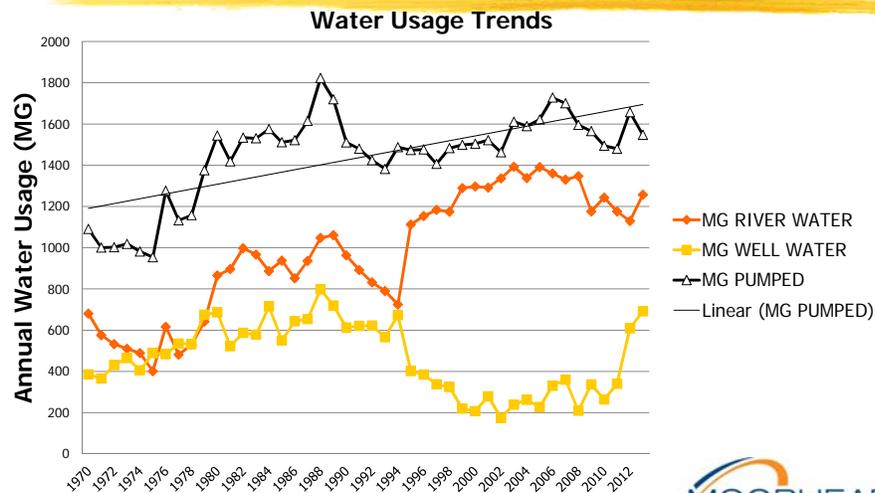
# Water Supply for Moorhead

- ⌘ Treatment Plant Capacity-16MGD
- ⌘ Typically 80% of water supply is from Red River, additional 20% from Buffalo and Moorhead Aquifers
- ⌘ Red River would supply approximately half of Moorhead's water during drought
- ⌘ Other 50% would come from Buffalo ~ 8 BG of additional supply from Buffalo would be needed



## Water Use Trends:

Water Source Utilization Annually



## Current Work Plan for Water Resources

### ⌘ Aquifer Management Plan

- ☒ Goal of study: determine available water supply during drought. Collaboration with MN DNR a critical aspect of developing plan

### ⌘ Participation in Lake Agassiz Water Authority (LAWA)

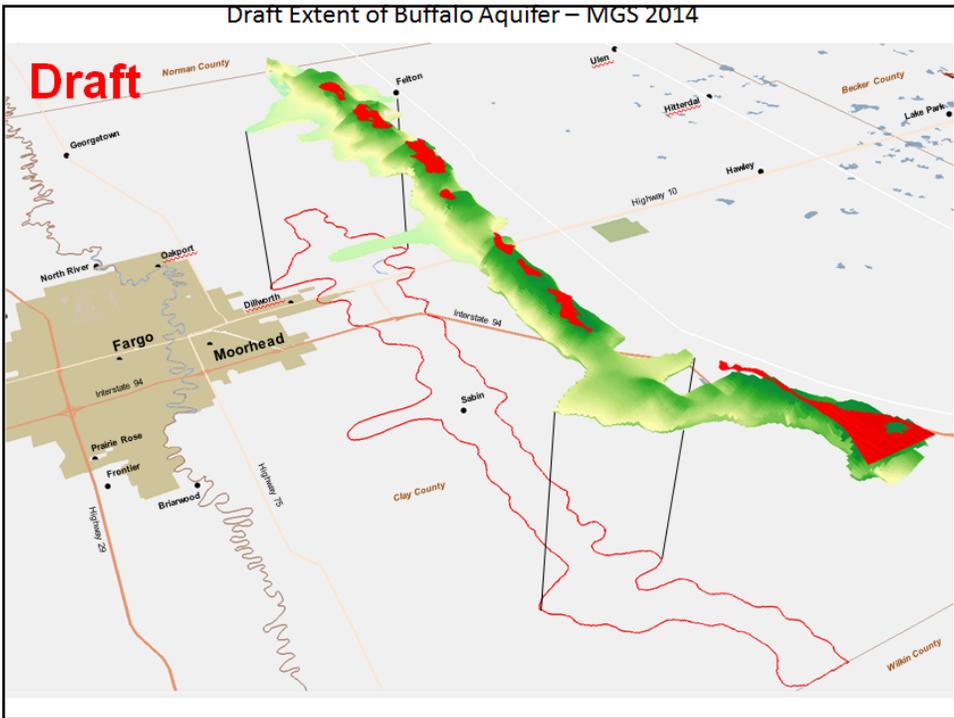
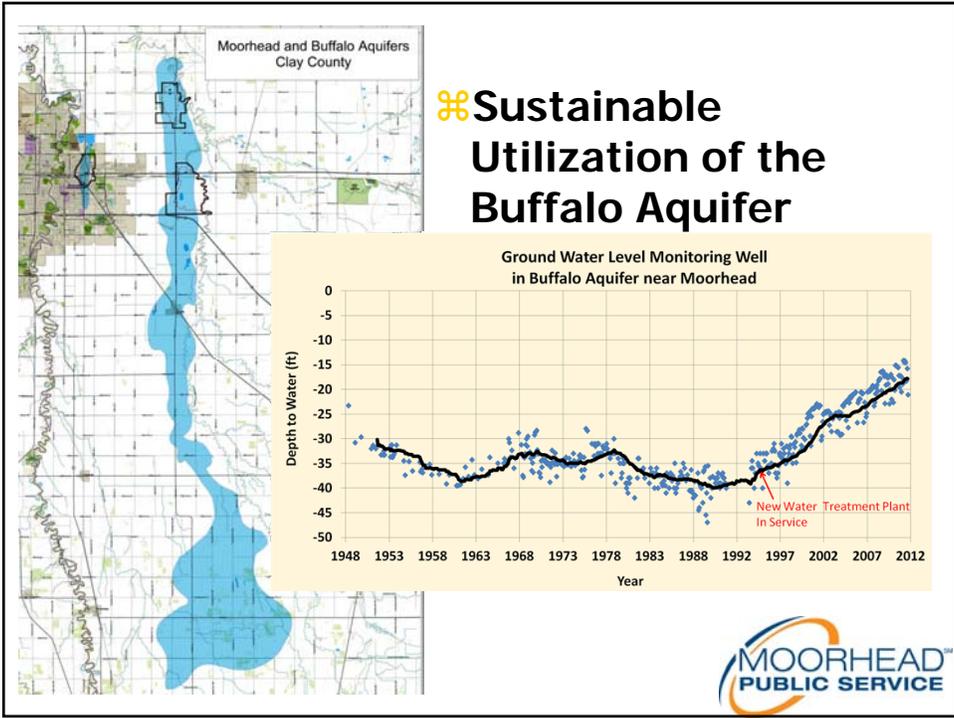


## Aquifer Management Plan Goals

⌘ **Quantity:** To promote public health, economic development and community infrastructure by maintaining and adequate drinking water supply, both now and into the future. Promote sustainable utilization of Aquifer resources. **(Aquifer Management Plan)**

⌘ **Quality:** To preserve and protect the quality of groundwater resources





## Water Resources: Quantity of Water Available

- ⌘ **Quantity:** Buffalo Aquifer is primary source of aquifer water during an extended drought
- ⌘ **Moorhead Aquifer** Can only supply 100 MG/Year Sustainably. Aquifer Storage and Recovery (ASR) could potentially supplement drought supply
- ⌘ **Drought Quantity:** Approximately 120 BG available in aquifer, of which 10% is able to be withdrawn

