

The Great and Continuing Value Of Our Missouri River

Without a doubt, North Dakota is blessed with many benefits and advantages, some natural like our fertile farmlands, exceptional hunting, fishing and wildlife; others developed like our productive and economically important oil and energy industries. North Dakota also benefits from strong leadership with the foresight to use our natural resources to the benefit of all citizens.

This being a water article in a water magazine, we propose that our greatest natural resource now and far into the future is the Missouri River.

The Missouri River is the longest river in the United States, flowing nearly 2,300 miles from west-central Montana to the eastern boundary of the state of Missouri. Its basin is found in all or parts of 10 states and two Canadian provinces and provides drainage for approximately 529,000 square miles of land, or approximately one-fourth of all the U.S. agricultural lands.

A basic economic principle notes the importance of water: wealth and population centers always grow and prosper in areas with availability of good and accessible



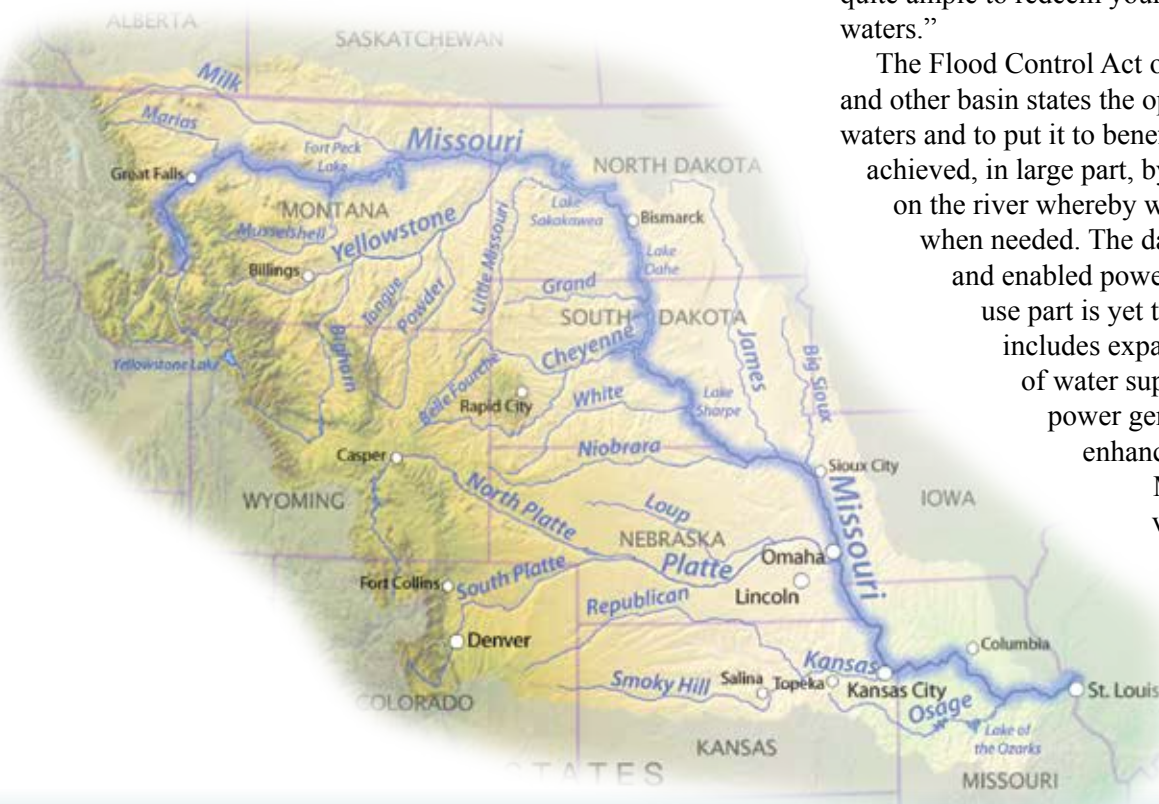
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water. The importance of the Missouri River is evident in the placement of most of the major basin cities developed along its path, including four state capitals: Helena, Mont., Bismarck, N.D., Pierre, S.D., and Jefferson City, Mo.

North Dakota's early settlers recognized the river's value. During the state constitutional convention in 1889, famed western water authority John Wesley Powell advised state leadership that western North Dakota was wholly inadequate to support dryland farming. However, he noted the value of the Missouri by advising "There are waters rolling by you (the Missouri River) which are quite ample to redeem your land, and you must save those waters."

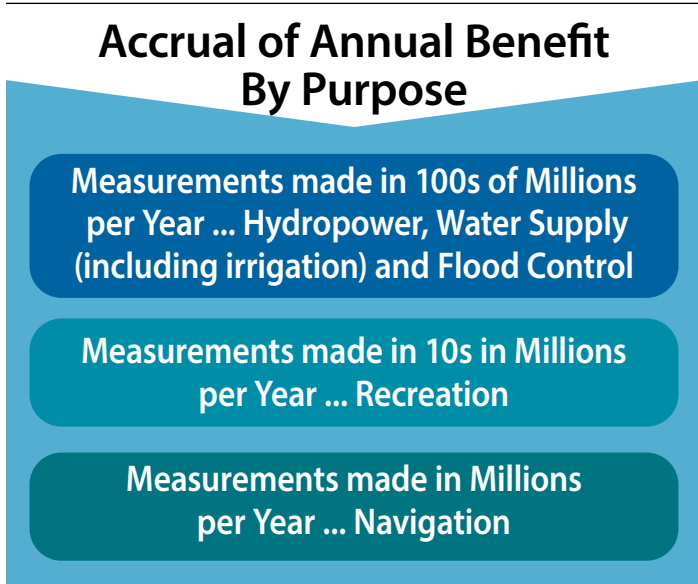
The Flood Control Act of 1944 provided North Dakota and other basin states the opportunity to save such waters and to put it to beneficial use. The saving part was achieved, in large part, by building six mainstem dams on the river whereby water was stored for use as and when needed. The dams also provided flood control and enabled power generation. The beneficial use part is yet to be fully achieved but includes expanded ability for development of water supply, irrigation, flood control, power generation and fish and wildlife enhancement.

Measuring the river system's value can be achieved, in part, by the economic benefit to users of the system. In terms of dollars, the following applies:



- Missouri River flood control measures (largely the Garrison Dam) yield an average flood damage reduction benefit of approximately \$72 million per year. In the high flood year of 2011, that damage reduction was estimated at approximately \$500 million.
- Irrigation development from the river system is approaching 30,000 acres. Various studies also show a potential for additional river source irrigation measuring in the hundreds of thousands of acres.
- Water supply for municipal and rural consumption and use is now progressing so that every North Dakota citizen will soon have access to the reliable Missouri River for their water supply. The Missouri River was the only water source in the state which did not run dry in the dirty 1930s.
- Recreation – fishing, boating and visitation – is now measured in amounts approaching \$30 million per year in direct economic benefit to the state.
- The Garrison Dam produces nearly 20% of the river system’s entire power generation, resulting in an abundance of affordable and accessible electric power for users in North Dakota and neighboring states.

Total basin-wide annual benefits, can be shown as follows:



Source: Dr. Hearn, NDSU

The categories above lend themselves to economic measurement. But how can the benefits the river gives us for safe and dependable drinking water; fish and wildlife enhancements; the enhanced quality of life we enjoy in the state be measured? With very few exceptions, nearly every community and rural water system that has proximity to

the Missouri River depends on and uses that system as their water source. In some cases proximity is not even a requirement, as Missouri River water is now being delivered, or soon will be, to all parts of the state, from the Red River Valley to communities in the far southwest and northwest corners of North Dakota.

What makes the river system particularly valuable is not only the good and treatable water quality, but also the dependable quantity of its source. In many parts of the state, surface water sources are susceptible to rainfall or snow melt recharge. Low rain or snowfall means little to no flow in many of the smaller rivers and creeks. Prolonged low rainfall and low snowfall then impacts surface water supplies.

Not so with the Missouri River. The river flows, on average, at approximately 20,000 cubic feet per second past Bismarck. That equates to approximately 10 million gallons per minute, every minute of every day. Even in the historic drought of the 1930s, the river still flowed at nearly 75% of that flow. Most of that water is not appropriated to any other users or uses and therefore is available for our use. We can take all we need to support population growth, irrigation development, energy development and ag processing. Other basin states have that same advantage, but how many states in our country, outside of our basin, can make that claim?

Reliable water, in and out of drought, is the very reason the Red River Valley Water Supply Project has had more than 20 years of planning and a commitment of hundreds of millions of dollars from the state of North Dakota. The project recognizes the limitations of eastern North Dakota’s water supplies and takes advantage of the reliability of the Missouri River system to overcome that limitation. When completed, the project will provide a good, safe and dependable water supply to most of central and eastern North Dakota.

Some may contend that North Dakota’s greatest state asset is oil or coal or natural gas, and that position may be supported in terms of dollars generated for taxes, wages and related economic benefits. Others propose fertile and productive farmlands are the greatest asset in the state, and that position, too, may be supported in terms of the vast and valuable crops produced each year in areas which have good rainfall or irrigation availability.

But in North Dakota, all benefits flow from water: water for fracking and energy development; water for crop production and processing; water for manufacturing and other economic development opportunities; and water for our healthy lifestyles. In North Dakota, the one and only dependable source of such needed water for all those needs and many more, is the Missouri River.