# Our 'Muddy' Buddy: Misso

# ouri River a Lot of Things to a Lot of People

By Scooter Pursley

The Missouri River has its origin near Three Forks, Montana. There, in the shadows of the Rocky Mountains, the Jefferson, Gallatin and Madison rivers merge and begin a 2,500-mile journey across the Northern Plains to its confluence with the Mississippi River near St. Louis, Missouri.

Along the way, cities tap into the "Big Muddy" for their water supplies; dams hold back water to relieve pressure or release water to help with downstream navigation and provide electrical power; landowners irrigate from it; and millions of people in seven states boat, fish and swim in its waters.

"It's one of the best things North Dakota has," Missouri River Joint Water Board Chairman Wade Bachmeier said. "The focus for many years has been that we better use it or we're going to lose it."

According to figures compiled by North Dakota Water Education Board Chairman Ken Royse, more than 16.5 million acre-feet of Missouri River water passes out of the state each year. And it only picks up steam from here, regardless of drought conditions.

The average flow in a non-drought year is 22,000 cubic feet per second (cfs). It dropped to between 12,000 and 15,000 cfs in the "Dust Bowl" days of the 1930s and early 1940s but never has been lower in any drought year. That's one reason why states along the length of the river fight so hard for their share of this reliable water source.

There is plenty of water to go around. River gauges near the Montana-North Dakota border show average flows into North Dakota below the confluence of the Yellowstone and Missouri rivers to be 15,600 cfs. By the time it exits south of Bismarck, the flow is up to 22,300 cfs, and by the time it reaches St. Louis, the average flow is 68,000 cfs.

"North Dakota puts in 6,700 cfs, which is 10% of the flow, and we certainly don't take that much out," Royse said. "We should be entitled to use some of that."

And we are. Bachmeier said most of the river water pulled by North Dakota is for municipal, rural or industrial (MRI) use, with recreation being another large, but non-consumptive, use.

"If it's not number one, it's close," Bachmeier said of MRI. "We've got a lot of cities that have water treatment plants along the river. But there is a lot we could do with MRI yet. We've got the water available but we're not getting it used to our full benefit."

In North Dakota, which has just 3% of water intakes found throughout the whole river system, the water impacts cities both on the river and far from it. Cities like Mandan pull water for municipal use, but also for rural water systems like Missouri West Water, which has a partnership with Southwest Water to provide quality water to North Dakotans south and west of the river. Water also is used for industrial purposes like ethanol processing as far away as Richardton.

The Missouri River has been lot of things to a lot of people since the 1940s when the U.S. government began controlling the flows of the water, that for eons flooded uncontrollably across the prairie. It literally took an act of Congress in the form of the Flood Control Act of 1944 and the Pick-Sloan Missouri Basin Program to finally take control of the river.

The series of dams built in the upper basin states of Montana, North Dakota and South Dakota in the 1950s fell under control of the Army Corps of Engineers, while management of the water went to the Bureau of Reclamation.

Benefits to North Dakota included reliable water supplies for drinking water and irrigation, power generation, recreation and fish and wildlife habitat. The only benefit the state did not receive was navigation – that benefit is seen almost exclusively in downstream states. A benefit North Dakota was to have received – irrigation – hasn't played out as expected.

"Irrigation is one of the things that bothers me the most about the Flood Control Act of 1944," Bachmeier said. "North Dakota was promised [1.27 million] acres for irrigation and we've only been apportioned a minor amount. One area we need to focus on is getting that water to North Dakota."

Royse said if North Dakota is permitted more irrigable acres, water use could rise by two acre-feet per irrigated acre. But that is still just a drop in the bucket in terms of water use.

Upper Basin states Montana, North Dakota and South Dakota store 72.4 million acre/feet of water in three of the five largest dams in the United States. North Dakota's Garrison Dam is the largest reservoir in the system with a holding capacity of 23.5 million acre/feet.

In exchange for losing land that would eventually become lakes Sakakawea and Oahe, Royse said North Dakota was originally slated to receive 1.7 million acres of irrigation through the Flood Control Act, or Pick-Sloan Act. In 1986, the Reformulation Act passed and North Dakota exchanged a big part of those irrigation acres for $200 million, which was used for drinking water programs in the state. "A lot of those acres designated for irrigation were not compatible for irrigation," Royse said of the exchange.

Royse said that the Dakota Water Resources Act of 2000 further reduced irrigation to 72,000 acres in exchange for another $436 million. Currently, about 20,000 acres in North Dakota are irrigated with water from the river. There's potential for much more, though.

"One of the things we need to do is take this water and get it to southwest North Dakota for irrigation," Bachmeier said. "It's always ongoing; always, always."

So how much water is being pulled from the Missouri River now? According to the figures Bachmeier presented to the Upper Missouri Water Association in October, North Dakota currently consumes approximately 1% of the flow of the Missouri River. Taking out another 80,000 acre/feet, or 165 cfs for the Red River Valley Water Supply Project, which will carry Missouri River water to Fargo and north, and accounting for future growth along the corridor would result in just another drop in the bucket.

"There would still be 98.3% of the water in the system for other water users [downstream]," Royse said.

There is plenty of water to go around, and North Dakota needs to make sure it will continue to be able to draw enough to fill its needs in the future. Several factors standing in the way of that include infrastructure costs – some of which the North Dakota legislature addressed in its last session – federal permitting issues and lawsuits that slow the process of development.

Missouri protects what it believes is its right to the river vigorously through litigation to prevent even the slightest withdrawal of water from the river system. For example, Missouri sued North Dakota, and lost, when North Dakota requested to draw 20 cfs from the river, which flows at nearly 70,000 cfs in St. Louis.

"You can't even measure 20 cfs out of that river," Royse said, noting that Missouri has a line in its budget for challenging any withdrawals from the river by upstream states to protect its navigation season.

And a bigger threat may be looming. The Southwest part of the nation is in a multi-year drought and getting desperate to find water sources for drinking water and irrigation. California, Colorado and Arizona already are looking at ways they can tap into the Missouri River as an alternative water source. North Dakota needs to make sure it retains access to water that's flowing through, Bachmeier said.

"We've got to perfect our water rights in the state, whether it's for municipal water supply or irrigation or whatever," Bachmeier said. "States are looking at the Missouri River for water because they are losing their source of water. If we don't secure our own water rights for the Missouri River, we lose them. If we lose them, even though there is water flowing by, we won't be able to pull that water and utilize it."

Despite it all, there is plenty of Missouri River water available to meet all needs. North Dakota needs to make sure it stays that way.

"If they want to build a pipeline from Kansas City to Denver, I don't think we care as long as it doesn't interrupt our ability to use it," Royse added.