

# North Dakota's Newest Irrigation Project Begins in Turtle Lake Area



The pump station for the Mile Marker 7.5 Irrigation Project near Turtle Lake.

## By Kimberly Cook

Water at last! After much planning and anticipating, Phase I of the McClusky Canal Mile Marker 7.5 Irrigation Project (MM 7.5) is completed and capable of delivering water to some 28 irrigation pivots in the Turtle Lake area. The project is successfully using Missouri River water from the McClusky Canal, an original feature of the Garrison Diversion Unit Project.

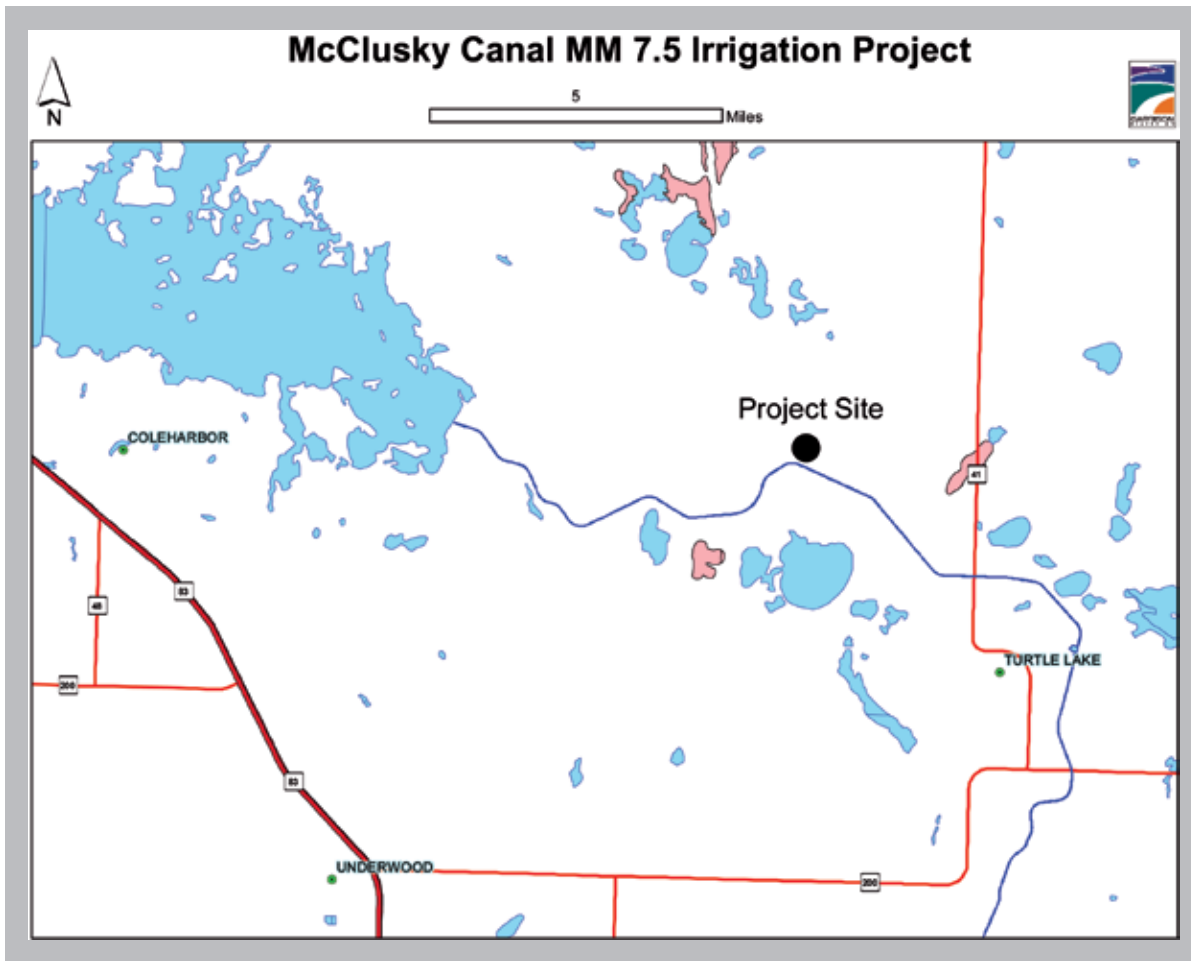
The McClusky Canal currently provides water for recreation, wildlife, and limited irrigation; however, its full irrigation potential has not been reached. The McClusky Canal is 73.6 miles long and was designed to carry 1,950 cubic feet per second (cfs) for the irrigation of up to 250,000 acres, as well as to provide water for municipal and rural water systems. The canal was constructed from 1969 to 1976 as a part of the Garrison Diversion Unit authorized in 1965. The original project scope was revised through the Garrison Diversion Reformulation Act of 1986 and the Dakota Water Resources Act of 2000 (DWRA), and as a result, irrigation acres were decreased while other components, such as funding for municipal, rural and industrial water systems were increased. Currently, 23,700 acres of irrigation are authorized along the McClusky

Canal through the DWRA.

The Garrison Diversion Conservancy District (Garrison Diversion) began developing MM 7.5 in 2010, by canvassing landowners in the McClusky Canal service area to determine their interest in irrigating. A cost of service study was completed to determine potential irrigating costs and a feasibility study was done to determine the income potential from irrigating. The feasibility study showed that irrigating farmland near the McClusky Canal proves to be profitable under current economic conditions.

The irrigation project, which began construction in the fall of 2010, began delivering water early this July. The first phase of the three phase project has been a success. “With the interest that we had in irrigating, we ended up developing 1,300 acres above and beyond what we originally planned for,” says Kip Kovar, district engineer for Garrison Diversion. “The system is operating well. The remote operation has been a success and both Garrison Diversion and the farmers are very happy with it.”

The project will be built in three phases and, once complete, will irrigate about 7,000 acres of farmland. Phase I currently irrigates approximately 3,500 acres. The project’s main transmission line consists of two 24-



inch pipelines, running parallel to each other. The project requires approximately 80,000 feet (or 15 miles) of total pipeline. A large pump station has the ability to carry water as far as 10 miles away, which increases the opportunity to irrigate land in a larger area around the canal system than previously existed. Garrison Diversion has an important partnership with a local rural electric cooperative, McLean Electric, which supplies power to the high-powered pumps.

Garrison Diversion provided the upfront investment for the project so that irrigable land could be determined and initial design work completed. The remaining funding for MM 7.5 was provided by the North Dakota State Water Commission (SWC) and local irrigators. Funding from the SWC comes from a 50 percent cost-share, not to exceed \$1.3 million. Without the SWC, the project would not be feasible, as costs would be too high to be considered profitable. The U.S. Bureau of Reclamation guided Garrison Diversion through the environmental elements of the project to ensure compliance with Reclamation law.

## Benefits of Irrigation

The irrigation project will benefit farm operations in North Dakota and provide extensive economic benefits to the State of North Dakota. Developing the entire authorized area near the McClusky Canal, which is

approximately 24,000 acres, could create hundreds of new jobs and millions in economic activity.

Irrigation also brings a tremendous benefit to farmers. When irrigation features are accessible to farmers, land values increase. Farmers also encounter less risk with irrigated fields, because they do not need to rely solely on Mother Nature to provide adequate amounts of moisture. "Garrison Diversion's development of McClusky Canal irrigation brought economic improvement to our farm and to the Turtle Lake area," says Steve Knorr, an irrigator who is part of the MM 7.5 project. Crop production is also enhanced with irrigation capabilities.

## New Technology

The MM 7.5 project is an innovative project, as the entire system can be monitored and operated remotely. Farmers using the system are able to operate and monitor their irrigation pivots from off-site locations via cell phones and personal computers, and can start and stop pivot operations as needed. Messages are sent to alert the farmer of power failures, stuck pivots, and other impairing situations. "The technology is a valuable tool this day and age," says Knorr. "Remotely operating the system is a fantastic benefit to me as a farmer. Prior to this new technology, monitoring our system was very time

consuming. The new capabilities enhance productivity and bring a tremendous value to us as farmers.”

Knorr is a farmer with K&T farms (a partnership between Knorr and Topp Farms) in the Turtle Lake area. His irrigated acres are 100 percent corn, with a small test plot of ethanol sugar beets. “Prior to the MM 7.5 project, we did have some irrigated acres, but with the help of Garrison Diversion, we were able to expand. Working with Garrison Diversion has been a successful endeavor for us.”

In the future, Garrison Diversion has plans to utilize even more of the authorized irrigation acres. Currently, it is working to identify additional potential irrigable acres in the Turtle Lake area and adjacent to the McClusky Canal.

As Garrison Diversion continues to develop the acres authorized for irrigation along the McClusky Canal, an original purpose of the Garrison Diversion Unit is being fulfilled. In turn, the irrigation project will bring widespread benefits to farmers while economically benefiting North Dakota.



Steve and Bob Knorr stand among the corn irrigated as part of the MM 7.5 Irrigation Project.

The booster station for the MM 7.5 Irrigation Project.

