

*5/23/13 Legislative Hearing on  
H.R. 1963, Bureau of Reclamation Conduit Hydropower Development Equity and Jobs  
Act*

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Manager
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**Written Testimony as I am not able to attend in person:**

The Buffalo Rapids Irrigation District provides irrigation water to approximately 24,000 acres of farmland along the Yellowstone River in Eastern Montana. This project was started in the late 1930's by the U.S. Department of Interior – Bureau of Reclamation. Project Planning started in 1933 and the construction started in 1937. This project provides valuable irrigation water in an arid region that get 10-12 inches of rain per year. This project provided much needed jobs during the 1930's depression. Today this project provides a great economic boost to this region with high yielding crops such as sugar beets, corn, malting barley, beans and alfalfa. It benefits 3 counties here.

The Bureau of Reclamation turned the project over to the Buffalo Rapids Board of Control in 1954 and it has been managed by a local Board of Directors, manager and employees since that time. The Board also assumed the repayment of the project construction costs with a 60 year loan to the federal government. This project will be paid for in 2015. This District is responsible for all project maintenance and improvements.

Since the 1980's, the Buffalo Rapids Irrigation District has been installing underground pipelines to replace all open lateral ditches. This Irrigation Project has 2 separate Districts: #1 and 2. District #2 has 95% of their open ditches converted to pipelines and

District #1, whom I manage, has 82% conversion to pipelines. Over \$6 million has been spent to eliminate leaking ditches with pipe with financial support from the District, the State of Montana, the USDA-NRCS EQIP cost share program and the many farmers.

District #1, which is approximately 17,500 acres in size, has the greatest potential for conduit or pipeline hydropower. Water is lifted out the river at two large pumping plants to the main canal. The pumps lift is 120 feet to 143 feet above the river and we use a lot of electricity each year. The main canal is gravity operated dropping 1 foot per mile. The main canal is 36 miles long and there are 46 miles of lateral pipelines. The drop from the main canal to the farmer's fields is 50 to 150 feet creating pressures of 25 to 60 psi. Underground pipeline sizes vary from 12 to 24 inches. The large water volume and elevation drop create pressure, which at times is excessive, and can be used to create electricity, which is an opportunity.

Like all Irrigation Districts, they are run as a business with a per acre charge for water delivered to a farmer. Ten years ago the water charge here was \$28/acre/year for 2 to 2.5 acre feet per year. Now we have to charge \$40/acre/year. We only have one source of revenue and that is the sale of water on a per acre basis. Costs continue to go up yearly and equipment wears out. Our District must operate at a small profit and we must continue to update our facilities, equipment and yet provide water at a reasonable rate. In 2011 we were hit with a large flood on the Yellowstone River that caused us almost \$900,000 in damages. In 2012 we had to remodel and overhaul all of our pumps, motors and gate valves at Glendive Pumping Plant #1 at a cost of \$550,000.

As a small irrigation district we struggle yearly with budgets and expenses and can not raise our water rates any higher in this region. Due to our extensive program of installing water conservation pipelines we have reduced water use by 1/4 in the last twenty years. Our electricity use for pumping has been reduced as well and farmers are rapidly converting their fields to sprinklers to further reduce costs, improve irrigation efficiency and crop yields.

As the manager of this project I have the responsibility of keeping this irrigation project financially sound while continuing to work on water conservation. Within 5 years the entire Buffalo Rapids Project plans to have no open ditches except the main canal. Our

future improvements need a new source of income and conduit/ pipeline small hydropower should be allowed. The adoption of HR 1963 will allow irrigation districts throughout the west to evaluate the water resources they have been entrusted with. Water is precious to us and we have managed this resource wisely for the good of the community and the world's food supply. Give us the opportunity to look at another renewable resource option that we have been prevented from exploring until now. Adoption of this law will also trigger the development of new engineering technology for small scale hydro power and this may have world wide benefits. Passage of HR 1963 will promote investment, produce revenue to irrigation districts, and provide clean energy.

I urge your support of this innovative and much needed legislation

Thank you,

Mike Carlson

Manager

BRIP – District #1