

The Oxbow

FROM THE NORTH DAKOTA STATE WATER COMMISSION

McDowell Dam Reservoir Receives North Dakota's First Alum Treatment

By Ken Royse, Burleigh County WRD

In an effort to improve water quality within the reservoir behind McDowell Dam as well as the public's recreational experience, the Burleigh County Water Resource District contracted with Sweetwater Technology Division of TeeMark Corporation of Aitkin, Minn., to apply aluminum sulfate, or alum as it's generally known, to the reservoir. This treatment process has been proven to reduce existing phosphorous concentrations and to control future phosphorous levels by limiting its migration from the underlying sediment.

Phosphorous, a common nutrient, is a key contributor to algae blooms and degradation in water quality. In addition to removing phosphorous and minimizing the related algal blooms, the process is expected to improve water clarity and the fishery. This alum treatment is anticipated to have a five to seven year life expectancy.

Application of this technology is gaining popularity throughout the Midwest. While this is the first North Dakota lake to be treated with aluminum sulfate, the process has been in use for many years in Minnesota, specifically in the chain of lakes in Minneapolis, and Lake Mitchell in South Dakota.

The application of alum poses no threat to public safety, as alumi-

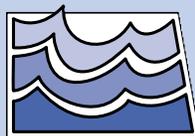
num occurs throughout the natural environment, and a similar process is used in the treatment of potable drinking water. To facilitate the application of the alum treatment, the McDowell Dam Recreation Area was closed to the public on May 10.

The application of about 30,000 gallons of alum took only one day to complete, after which the recreation area was reopened. This closure was simply to ensure the public's safety while the barge used for the application was in operation. Water quality was closely monitored during the application to ensure that fish populations would not be harmed. Monitoring will also be conducted after the treatment to document the project's benefits.

Project funding was provided by the North Dakota Department of Health's Section 319 Program, the North Dakota Game and Fish Department's Save Our Lakes Program, and the Burleigh County Water Resource District.



The Sweetwater Technology Division of TeeMark Corporation of Aitkin, Minn., applying aluminum sulfate to the McDowell Dam reservoir in Burleigh County.



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Red Trail Energy to Become SWPP's Second Largest Customer

By Pat Fridgen

While work continues toward the completion of Red Trail Energy, which will become North Dakota's newest ethanol plant in Richardton, early May also brought the beginning of construction on a project to bring Southwest Pipeline water to this new ethanol facility.

By the time this article is published, Northern Improvement, under contract with Red Trail Energy, will have substantially completed the installation of about 2.3 miles of 12-inch PVC pipe to be connected to the Southwest Pipeline. When completed, the pipeline will ultimately provide up to 315 million gallons of raw Missouri River system water annually, via the Southwest Pipeline Project.

With Red Trail's future need for that much water, it will become the second largest water user on the Southwest Pipeline, behind only the City of Dickinson. In comparison, Dickinson currently uses just over 600 million gallons of Missouri River water per year.

Once Red Trail Energy becomes fully operational, which is anticipated sometime in late 2007, it will use the Southwest Pipeline water to produce 50 million gallons of ethanol from 18-20 million bushels of corn each year.

With regard to the alignment of the 2.3 miles of pipeline to the Red Trail plant, a portion of the pipeline will be located within the highway right of way, some will run through the City of Richardton, and the remainder will be located on private property outside of city limits.



These photos show installation of the raw water pipeline near the city of Richardton.

Water Commission Launches a New Water Institute for 2006

By Pat Fridgen

North Dakota's Project WET (Water Education for Teachers) program will be providing a new water institute this summer for three graduate credits called, "Discover Today's James and Sheyenne Rivers Institute."

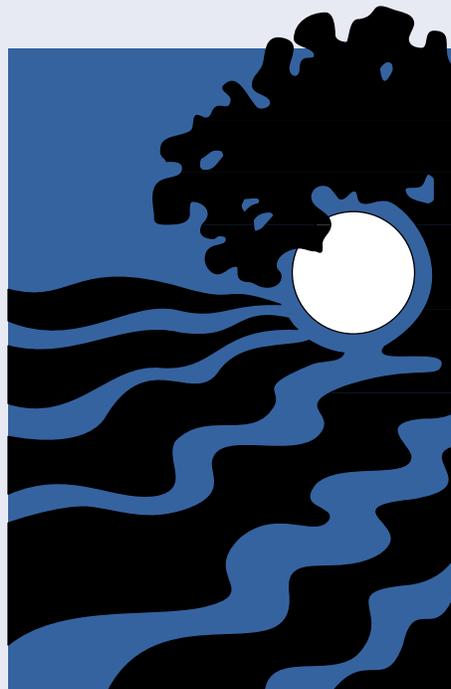
In the past, Project WET has provided institutes that focused on the Missouri River and Devils Lake, but in response to the many contemporary issues facing the James and Sheyenne rivers today, it was decided that both of these waterways would provide an excellent focus for their own institute.

Project WET's 2006 institute will be based out of Valley City State University, and is scheduled for July 9-13. The institute is credited through Minot State University, North Dakota State University, and the University of North Dakota.

This new institute will give participants knowledge and skills to teach about issues facing the James and Sheyenne rivers and their surrounding watersheds, and how area citizens, government agencies, and other decision-makers are meeting the challenges of managing water resources in this region of North Dakota.

Through balanced hands-on activities, presentations, discussions, field tours, an environmental investigation, and many demonstrations, attendees will experience today's Sheyenne and James Rivers like no other opportunity could provide.

In addition, participants in the institute will see, hear, and feel the pulse of these remarkable river systems through some of the region's foremost experts on river and watershed science and social



DISCOVER TODAY'S JAMES & SHEYENNE RIVERS INSTITUTE

Scheduled Tours:

Pipestem Dam
Jamestown Dam
Cavendish Farms
Cargill Malting Plant
Jamestown Wastewater Treatment Plant
Valley City National Fish Hatchery
Baldhill Dam
Hobart Lake WPA
Medicine Wheel Park
VCSU Macroinvertebrate Lab
Valley City Water Treatment Plant
Sheyenne River riparian projects
Fort Ransom State Park/Historical Site
Animal Waste Management Site

issues. More specifically, areas of interest highlighted in this new institute include: fisheries, water-based recreation and public access, bank stabilization, erosion, flood control, agricultural development, irriga-

tion, cultural resource preservation, water quality, best management practices, reservoir management, water supply and distribution systems, the state's Devils Lake outlet, animal waste control, wetlands management, industrial water use, and riparian restoration.

The cost of Discover Today's James and Sheyenne Rivers Institute is \$150 for three graduate credits, and \$225 for registration, room, board, instruction, and materials. The \$225 may be reimbursed to educators through their local county water resource district or soil conservation district after the institute is completed. Local school development funds may also be used to reimburse educators.

There are still a few spots available, and applications will be accepted through the end of June. Any educators who are interested should contact their local teacher center, or call Bill Sharff, Director of North Dakota's Project WET, at 701-328-4833 or e-mail bsharff@nd.gov.

The Discover Today's James and Sheyenne Rivers institute is being funded by the North Dakota State Water Commission, the U.S. Environmental Protection Agency, several North Dakota soil and water conservation districts, and local school districts.

The institute is sponsored by the Water Commission, in cooperation with the North Dakota Department of Health, the North Dakota Water Education Foundation, the North Dakota Soil Conservation Districts, the U.S. Geological Survey, the U.S. Natural Resource Conservation Service, the U.S. Bureau of Reclamation, and the North Dakota Water Resource Districts and Water Users Associations.