



Water News

Pathfinder Modification Project



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Pathfinder Modification Project Background:

In 1995, the Wyoming Water Development Commission (WWDC) requested that the U.S. Department of the Interior, Bureau of Reclamation - Wyoming Area Office (Reclamation) evaluate the Pathfinder Modification Project (Project). Originally, the Project was called the "3 Brick Proposal" as it was envisioned the height of the emergency spillway of Pathfinder Dam would only have to be increased by three bricks to provide the needed storage. Originally, the Project was seen as a potential alternative to the Deer Creek Dam and Reservoir, which was embroiled in the Nebraska v. Wyoming law suit. Presently, the purposes of the project are to provide the same municipal water supply benefits as the Deer Creek Project and assist in the resolution of the endangered species issues that have plagued water management and development in the Platte River Basin since the early 1970's.

The Project will recapture approximately 54,000 acre-feet of storage space lost to



Pathfinder Dam

sedimentation in Pathfinder Reservoir. The recaptured storage space will store water under the existing 1904 storage right for Pathfinder Reservoir; however, the Project cannot be the cause of any requests for water rights administration in the North Platte Basin above Pathfinder Reservoir. The concept for the Project came from the Buffalo Bill Enlargement, in which Reclamation and State of Wyoming successfully recaptured storage space lost to sediment under the existing water right for the benefit of downstream irrigation use.

In November, 2001, the operation of the Pathfinder Modification Project was defined and authorized in Appendix F to the Final Settlement Stipulation of the Nebraska v. Wyoming law suit. The Pathfinder Modification Project consists of two storage accounts, the Wyoming Account and the Environmental Account.

Wyoming Account: The

Wyoming Account includes 20,000 acre-feet of storage space. Reclamation, through an agreement with the State of Wyoming, will operate the 20,000 acre-foot Wyoming Account to provide a yield of 9,600 acre-feet annually, the same yield that would have been provided by the Deer Creek Project.

The first priority for the Wyoming Account is to serve as a supplemental supply for North Platte municipalities if and when their water rights are subjected to administration (regulation). Until the municipal demand reaches 9,600 acre-feet per year, the State of Wyoming will utilize the water to meet replacement water obligations specified in the modified North Platte Decree and the Platte River Recovery Implementation Program. In years that the yield is not needed for these purposes, water may be leased to the Platte River Recovery Implementation Program through

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Check out the Calendar of Water Events for upcoming basin advisory group meetings in your area.

The newsletter is available online at (<http://wwdc.state.wy.us/newsletter/>)

More News from WWDO

River Basin Planning

River Basin Planning is over 10 years old now and the process is growing and changing as any program does with experience and additional information. The first eight years of the program were dedicated to completing the seven basin plans and the statewide Framework Water Plan (Wyoming Framework Water Plan, WWC 2007). The WWDO is now in the second phase of river basin planning and the recommendations from the Framework Water Plan have helped set the course. In this second phase, the planning process focuses on looking closely at hydrology of the basins considering the recent drought; conducting an evaluation of the basins' groundwater resources; increasing accuracy of the spreadsheet models; and incorporating data from recent studies.

Currently, there are a number of projects being conducted as part of the river ba-

sin planning program. A review and evaluation of the 2001 Bear River Basin Water Plan is being conducted by a planning team that includes staff from the Water Development Office, the State Engineer's Office and the Water Resources Data System. The review and evaluation will help update the plan and incorporate recent studies. The report should be completed in early 2010. The following paragraphs provide the status of other projects being conducted by the program.

The Green River Decision Support System (DSS) Feasibility Study is moving forward with information gathering meetings between the

State Engineer's Office and the Water Development Office. The consultant will be in an information gathering mode for the next few months. There will be a

meeting scheduled with the Green River Basin Advisory Group in conjunction with the basin plan's final presentation.

The Green River Basin Plan II draft technical memoranda

and report are being written. When the consultant is close to completion there will be a final presentation made to the Green River Basin Advisory Group. As technical memos become available they are being posted on the basin planning website for public review <http://waterplan.state.wy.us/plan/green/green-plan.html/>.

At this time there are 11 memos posted. The second draft of the Ground Water report is very close to being done. The WWDO expects to have this by the end of October.

Work on the Wind / Big-horn River Basin Plan Update continues. MWH is working on GIS data collection and mapping, basin model development, and demand projections. On the groundwater side, the WSGS is working on data collection, groundwater quality analysis, mapping and illustrations, and integrating geology at the Wyoming/Montana state line.

Funding for the Platte River Basin Groundwater Update was approved by this year's legislature. The funding is in place and the WSGS has started initial work on the project.



News from the Water Resources Data System

studies to project construction. This information also allows public water systems to compare operational challenges, water rates, and conservation measures with others around the state. In the near future, WRDS plans to integrate these new results into our online web mapping tool (<http://waterplan.wrds.uwyo.edu/Website/Statewide/>).

Look for irrigation system surveys to be distributed in early 2010!

Additionally, this summer WRDS has updated the Wa-

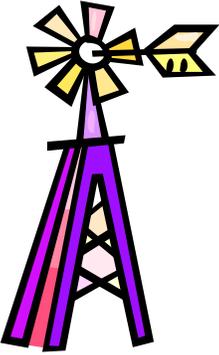
ter Management and Conservation Assistance Programs Directory. This Fourth Edition of the directory provides an overview of local, state and federal programs that offer water users incentive and assistance programs, along with appropriate contact information. At present there are 25 local, state and federal agencies and organizations participating in the directory. These groups provide educational, technical, financial, planning and policy services, with the goal of implementing voluntary water management and

conservation strategies. The directory is available at <http://wwdc.state.wy.us/wconsprog/wconsprog.html>.



Every two years the WWDO and WRDS conduct a survey of all public water systems in Wyoming. The results of the 2009 Public Water System Survey are now available online (<http://wwdc.state.wy.us/surveys/surveys.html>). This survey provides important information for use in WWDO's funding decisions and aids in prioritizing the funds available for projects ranging from feasibility

Conservation and Watershed Studies — What's the Connection?



Today, conservation by watershed is an old concept with new horizons. Watersheds

have long been recognized in the western United States for their significant natural resources and the interrelationships found contained in land areas connected by stream systems. These relationships were recognized by John Wesley Powell from

his early expeditions of the west and resulted in proposed conservation, low density open grazing, irrigation systems and state boundaries based on watershed areas.

The conservation concept developed over time to coalesce in the early 1930's with the formation of special districts whose boundaries were often based on watersheds. At that time the relationship between stream systems and landscape function was recognized. This relationship was broadened to embrace watershed condition and quality and its response to human influences. This further provided

some understanding of the historic land use effect on watershed condition and how management and restoration needs to be based on local landscape characteristics.

Today, these relationships are embraced by the Wyoming Water Development Commission and Office through a watershed study program. On behalf of a local community sponsor, a watershed study can provide a comprehensive evaluation, analysis and description of the resources associated with a watershed and the watershed's water development opportunities. It is best stated that information re-

lated to the physical sciences is incorporated into a biological system.

There are three prominent issues that are important considerations in a watershed information review and study. The first is surface water storage. Surface water storage is often of significant interest to a watershed community in order to address seasonal and/or annual shortages of water supply, augment late season stream flow to benefit riparian habitat and wildlife, address flood impacts, enhance recreation opportunities, improve water quality and stream channel stability.

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annual temporary water use agreements to help defray project operation and maintenance costs.

Environmental Account: On July 1, 1997, the three states (Colorado, Nebraska, and Wyoming), water users and environmental groups in all three states, and the U.S. Department of the Interior entered into a Cooperative Agreement to implement certain provisions of the U.S. Fish and Wildlife Service's recovery plans for four endangered or threatened species (interior least tern, whooping crane, piping plover and pallid sturgeon) and their habitat in the Central Platte Basin in Nebraska. This Cooperative Agreement allowed time to debate and refine recovery program elements and, ultimately, led to the Platte River Recovery Implementation Program (PRRIP).

Water from the Environmental Account is the State of Wyoming's water contribution to the PRRIP on behalf of Wyoming's water users including the federal storage water contractors in Wyoming and Nebraska. This water contribution, as well as Wyoming's monetary contribution of \$6M, will ensure that clearances required under the Endangered Species Act will be provided for existing uses and certain specified new uses.

The Environmental Account has a capacity of approximately 34,000 acre feet. Water from the account will be released for fish and wildlife and environmental purposes to develop habitat in Nebraska for four target species.

Pathfinder Modification Project Status: The Wyoming Water Development Office (WWDO) financed studies considering alternatives for recovering the



54,000 acre-feet of space in Pathfinder Reservoir. Alternatives ranged from installation of radial and inflatable spillway gates to simply raising the height of the existing emergency spillway by approximately 2.4 feet, a little more than three bricks. The recommended alternative is to replace the existing broad crested weir spillway with a more flow efficient ogee spillway.

The Project design is 90% complete and the WWDO is assisting Reclamation with the National Environmental Policy Act (NEPA) review. Most of the federal and state clearances have been obtained. Construction may

take up to eight months. Presently, the WWDO is hopeful that the Project will be completed in 2011.

The Nebraska v. Wyoming settlement provided the State of Wyoming the exclusive right to contract with Reclamation for the Project. Reclamation will retain ownership and water rights for the Project. The State of Wyoming, through the WWDO, will negotiate the final contract with Reclamation, which will define the roles and responsibilities of the parties. The operations for the Project will conform with the terms and conditions defined in the Final Settlement Stipulation for the Nebraska v. Wyoming law suit.



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Conservation and Watershed Studies - What's the Connection?

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Second is the evaluation of irrigation infrastructure and development of information necessary to guide its rehabilitation. Of interest to local water users are ways to improve water delivery and on-farm irrigation efficiencies often timed to address annual or seasonal shortages of water

supply or irrigation water delivery issues.

Third is the enhancement of upland water resources and distribution for livestock and wildlife that allows grazing management adjustments for range resource improvement. Benefits to the watershed, through plant community invigoration, reduction of erosion and stream channel stabilization, can be achieved

from water development projects being strategically implemented over the watershed. Other issues and opportunities such as making beneficial use of produced water and removal of high water demand invasive species can also be important.

A watershed study, providing management and rehabilitation plans for water storage, irrigation systems

and upland water development, can help empower a community to proactively enhance their watershed. Conservation by watershed can be an effective holistic approach to embracing the natural resource challenges and opportunities facing a community. A watershed study can provide the information to meet those challenges.



Calendar of Water Events

October 28-30, 2009 - Joint Wyoming Water Association and Upper Missouri Water Association Annual Meeting and Education Seminar, Sheridan, WY

November 2-5, 2009 - Missouri River Recovery Implementation Committee (MRRIC) meeting - Cheyenne, WY

November 2-6, 2009 - State Board of Control Meeting, Cheyenne, WY

November 4-6, 2009 - WWDC /SWC Work-

shop/Joint Meeting, Casper, WY

November 9-11, 2009 - Colorado River Water Users Association Meeting, Las Vegas, NV

December 1, 2009 - Yellowstone River Compact Commission Annual meeting, Powell, WY

January 5-6, 2010 - WWDC Workshop/Meeting, Cheyenne, WY

March 4-5, 2010 - WWDC Meeting, Cheyenne, WY