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Water News

High Savery Reservoir – A Decade of Operation



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

High Savery Dam and Reservoir (Project) is located approximately 20 miles north of Savery, Wyoming, on Savery Creek, a tributary to the Little Snake River, located in the Green River Basin. The drainage area of Savery Creek at the dam site is 107 square miles and comprises approximately 2.86 percent of the entire Little Snake River watershed. The Project is State owned, and operated and maintained by the Wyoming Water Development Office (WWDO). Chapter 2, Section 4, 2001 Wyoming Session Laws, and Chapter 79, Section 7, 1988 Wyoming Session Laws as amended by Chapter 268, Section 2, 1989 Wyoming Session Laws, authorized the Wyoming Water Development Commission (WWDC) to construct the Project. Construction of the facilities took place from 2001 to 2004. The purpose of the Project is to serve as an agricultural and municipal water supply, as well as recreation, environmental enhancement, and mitigation for the Stage I and II trans-basin diversion water supply projects for the city of Cheyenne. High Savery Dam, a zoned earth-fill structure, is 130 feet high, 1,100 feet long and has water storage capacity of approximately 22,433 acre-feet at the normal high-water line

(NHWL). Surface acreage and depth at the NHWL are approximately 482 acres and 130 feet, respectively. Per Wyoming Water Law, beneficial uses applied to the stored water are as follows; Irrigation and Recreation – 15,661.2 acre-feet, Municipal and Environmental – 1,000 acre-feet, Fisheries – 5,724 acre-feet, Dead Pool – 47.7 acre-feet.

High Savery Reservoir began filling in 2004 and spilled for the first time in 2005. Trial operations and irrigation releases were carried out during the 2005 water year. Beginning in the 2006 water year, the WWDO

purchase water that accrues to the top 14,000 acre-feet of storage space in High Savery Reservoir. S-LSRWCD can then re-sell the accrued water to the District's Sub-contractors, namely irrigators throughout the basin. Water is then released by the WWDO during the water year in accordance with a release schedule submitted by S-LSRWCD. WWDO and S-LSRWCD strive to collaborate throughout the year to amend the release schedule as needed to provide for the most efficient use of the stored water.

As required by the Clean Water Act Section 404 permit authorizing construction of the Project, High Savery Reservoir maintains a minimum inviolate pool of 5,724 acre-feet. The minimum pool is sized to accommodate approximately 14,600 adult



High Savery Dam and Reservoir

began releasing supplemental irrigation and municipal water per a water sales agreement with the Savery-Little Snake River Water Conservancy District (S-LSRWCD). The agreement provides for S-LSRWCD to

throat trout which the Wyoming Game and Fish Department (WGFD) use as brood stock for the regional species recovery plan. Kokanee salmon and tiger trout

Calendar of Water Events



<p>April 11, 2013 - Yellowstone River Compact Commission Technical Advisory Committee meeting</p> <p>May 6-10, 2013 - State Board of Control meeting, Cheyenne, WY</p> <p>May 8, 9 2013- WWDC consultant interviews, Cheyenne, WY</p> <p>May 10, 2013 - WWDC Meeting, Cheyenne, WY</p>	<p>May 15-17, 2013 - Colorado River Basin Salinity Control Forum/Advisory Council, Grand Junction, CO</p> <p>May 21-23, 2013 - Missouri River Recovery Implementation Committee meeting, Rapid City, SD</p> <p>June 19-20, 2013 - Upper Colorado River Commission meeting, Santa Fe, NM</p> <p>June 24-26, 2013 - Western States Water Council meeting, Casper, WY</p> <p>August 12-16, 2013 - State Board of Control meeting, Water Division II</p>	<p>August 13-15, 2013 - Missouri River Recovery Implementation Committee meeting, Council Bluffs, IA CO</p> <p>August 15, 2013 - New project applications due</p> <p>August 21-23, 2013 - WWDC/SWC joint meeting, summer tour</p> <p>November 4-8, 2013 - State Board of Control meeting, Cheyenne, WY</p> <p>November 7-8, 2013 - WWDC/SWC joint meeting, Casper, WY</p>	<p>Water Forum meetings, SEO Conference Room, Cheyenne, WY:</p> <p>May 7, 2013; program to be announced</p> <p>September 3, 2013; program to be announced</p> <p>October 1, 2013; program to be announced</p>
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High Savery Reservoir
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have also been stocked in the reservoir by the WGFD.

Tiger trout are a sterile hybrid cross between brown trout and brook trout. Being an aggressive fish, they were introduced to help control the creek chub and white sucker populations, which have a tendency to prey on the zooplankton that the native Colorado River cutthroat trout need to survive. In addition to the species mentioned, rainbow trout and brook trout are

also present in the reservoir. To date, the reservoir fisheries is thriving and record tiger trout are being taken every year, the latest being 11.07 lbs taken on May 6, 2012.

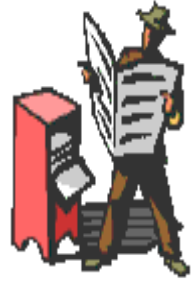
In addition to reservoir fisheries, stream fisheries below the dam on Savery Creek have been strengthened. Utilizing late season irrigation releases, seasonal minimum releases, fluvial engineering, monitoring equipment and a multi-level hydraulic gate outlet works structure to control release temperatures, WWDO has worked collectively with

WGFD and the S-LSRWCD, to provide a viable fishery for a good majority of Savery Creek. The ability of the stream to maintain temperatures suitable for trout, despite the high air temperatures and low precipitation that have been experienced, speaks to the value of High Savery Reservoir and the associated downstream improvements completed by the Little Snake River Conservation District and local landowners.

Considering the agricultural, recreational, environmental and flood

control benefits realized during the first decade of operation, the High Savery Reservoir Project has been quite successful in meeting its multiple purposes.

News from the Water Resources Data System



The Community Collaborative Rain, Hail, and Snow Network (CoCoRaHS) is an organization of volunteer observers measuring and reporting precipitation. It was started in 1998 in Fort Collins, Colorado after the 1997 flood. Following the flood, it was recognized that high density precipitation observations were necessary to understand the local variability of rainfall. The network spread from north-central Colorado, and in 2003 Wyoming became the second state to take part in the venture. The program has since spread to all 50 states and two Canadian provinces.

CoCoRaHS has become the largest provider of daily precipitation observations in the United States. The average day

sees about 10,000 observations reported with about 140 of those being from Wyoming. This may seem like a small number but it turns out that Wyoming observations make up 1.4% of the total. That's not too bad for a state whose population makes up less than 0.2% of the country!

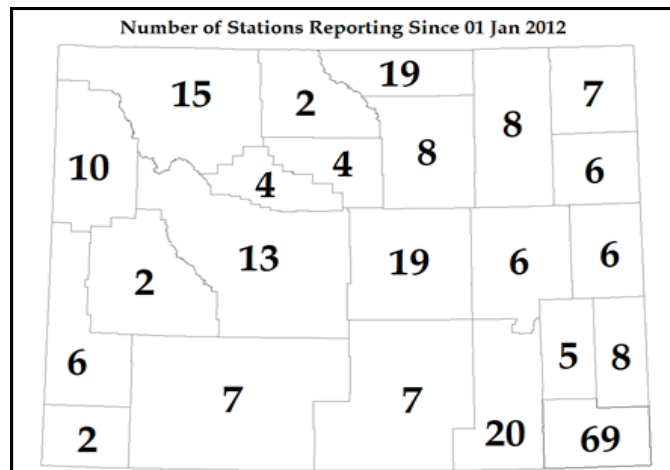
Despite the relatively high percentage of observers, there is always a need for more volunteers. Wyoming is a big state with a lot of open area where there is

no precipitation data available. It is easy to take part, simply sign up at <http://cocorahs.org>. Training materials are available online and observers are provided with a 4 inch diameter rain gauge with which to make their observations. Each observer is assigned a Station ID and a login account for reporting.

Observers can also do as much or as little as they are comfortable doing. Typically only a few minutes a day or less are needed to read the gauge and report it

online. This may take a bit longer in the winter since our precipitation is in the form of snow which must be allowed to melt before being measured. There are several other pieces of information that can be collected in the winter such as the total depth of snow, the depth of new snow, and the water content of each, but these are not required. If observers have the time to take these measurements, great! If not, no problem!

The map shows the distribution of observers by county and where we especially need more volunteers. However, if you wish to help and are in an area where there seems to be a higher number of observers, we still want and need you so please consider joining. Contact Tony Bergantino at Antonius@uwyo.edu or 307-766-3786 for more information or visit <http://cocorahs.org>



2013 Omnibus Bills - Planning and Construction Approved

The 2013 Legislature approved the Omnibus Water Bill – Planning, which includes \$10,972,000 for 20 new and ongoing Level I and II water projects. A brief description of each project follows. If additional information is desired, please contact the Water Development Office.

Level I Reconnaissance Studies -- New Development

Belle Fourche Watershed Study. Budgeted: \$345,000.

Blacks Fork Watershed Study. Budgeted: \$345,000.

High Meadow Ranch Master Plan. Budgeted: \$172,000.

Lusk Master Plan. Budgeted: \$198,000.

Osmond Pipeline Master Plan. Budgeted: \$72,500.

Statewide Water Research. Budgeted: \$400,000.

Level I Reconnaissance Studies -- Rehabilitation

Interstate Canal and Beaver Meadows Reservoir Rehabilitation. This study will conduct a canal rehabilitation analysis, a reservoir



Eighteen new Level III construction projects were approved by the 2013 Legislature as part of the Omnibus Water Bill – Construc-

tion, spillway repair analysis, and examine the potential for Bureau of Reclamation Salinity Control Program funding. Budgeted: \$179,000.

Level I Reconnaissance Studies -- Storage

Probable Maximum Precipitation – Cool Season Analysis. Budgeted: \$245,000.

Level II Feasibility Studies -- New Development

Eden Valley (Farson) Master Plan. This study will refine recommendations from the Level I study including transmission and storage. Budgeted: \$88,000.

Hanna Water System. This study will design the eligible improvements recommended during Level I. Budgeted: \$99,000.

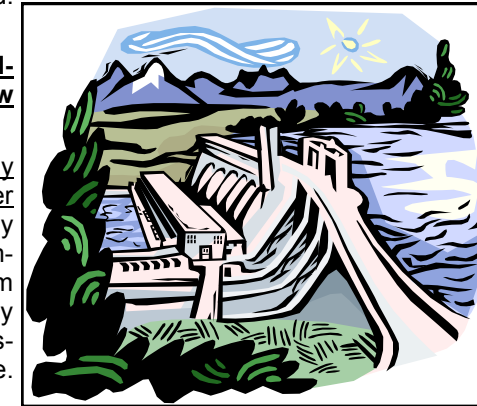
Lower Nowood Water Supply. This study will refine the water supply analysis developed in the Level I report. Budgeted: \$73,000.

Pine Haven Tank and Well Study. This study will evaluate storage tank alternatives, a connection to the

Gillette Regional pipeline, and groundwater options. Budgeted: \$95,000.

Squaw Creek Water Supply. This study will include a groundwater exploration program for the District. Budgeted: \$345,000.

Level II Feasibility Studies -- Rehabilitation



Austin-Wall Reservoir Rehabilitation. This study includes an engineering/geotechnical study of Wall Reservoir dam, including possible enlargement. Also included is an eligibility determination for U.S. Bureau of Reclamation Salinity Control Program funding. Budgeted: \$279,000.

Heart Mountain Irrigation District Master Plan. This study includes a rehabilita-

tion study for the sponsor's facilities and a GIS update. Budgeted: \$173,000.

Level II Feasibility Studies -- Storage

Clear Creek Storage. This study will continue the storage analysis on Clear Creek. Budgeted: \$345,000.

Cottonwood/Grass Creek Reservoir. This study will continue the storage analysis on Cottonwood/Grass Creek. Budgeted: \$65,000.

Shell Valley Storage. This study will continue the storage analysis for the Shell Valley Watershed Improvement District. Budgeted: \$145,000.

Sublette Creek Reservoir. This study will continue the storage analysis for the Cokeville Development Company. Budgeted: \$248,000.

West Fork Battle Creek Reservoir. This study will include preparation of final designs and initiation of the permitting process for West Fork Battle Creek reservoir. Budgeted: \$7,000,000.

(Senate File 069). There are 10 new projects funded from the New Development Program, Account I; and 8 projects funded from the Rehabilitation Program, Account II. In addition, nine prior funded projects (seven from Account I and two from Account II) have been amended to increase the budgets on all but one pro-

ject. The remaining amended project budget was decreased due to a reduced project scope.

New budgets from Account I total \$8,782,639 and \$5,076,900 from Account II. Increased budgets from Account I total \$19,150,858 and \$1,061,000 from Account II. Total 2103

budgets from Account I total \$27,933,487 and \$6,137,900 from Account II.

For additional information concerning the projects, please contact the Water Development Office at 307-777-7626.