

# Water News

## Dam & Reservoir Division



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

The WWDO Dam and Reservoir Division, together with local community sponsors, multidisciplinary consulting teams and various other agencies, are engaged in a number of reservoir storage studies throughout the State. Considering the complexity of reservoir planning and construction, the Division takes a systematic approach in its evaluations. Through a planning process where each succeeding level of effort/study adds and refines information, the Division strives to work with communities to identify unique needs and opportunities; understand watershed hydrology to determine water demand and availability; investigate the physical sciences at hand to address site feasibility; identify benefits, impacts, and regulatory requirements; ultimately leading to the design and construction of reservoir storage.

Given that new project applications are accepted from sponsors every year, the status and current level of consideration of individual projects in the project log varies. During the August 2014 WWDC Workshop/Tour/Meeting a number of the Dam and Reservoir Division's projects were highlighted and presented to the Commission and Select Water Committee. Two of the projects highlighted that will be seeking Level II, Phase III Design and Permitting funding during the 2015 Legislative session are:

The off channel Upper Leavitt Reservoir site, located in the Beaver Creek drainage of the Shell Creek Watershed (Big Horn River Basin) which has risen to the top of the alternatives analysis conducted on behalf of the Shell Valley Watershed Improvement District (District). The approximate 6,000 acre-foot reservoir site is located roughly eight miles northwest of Shell, Wyoming and will be an enlargement to the existing 600 acre-foot impoundment (Leavitt Reservoir).



Meadowlark Lake

The reservoir footprint spans lands managed by the Bureau of Land Management as well as lands under private ownership. Upon completion, the Upper Leavitt Reservoir will provide late season supplemental irrigation water for lands within the District, a minimum pool for fishing and recreation, as well as many indirect benefits relating to wildlife and fisheries habitat, conservation and the local community.

Alkali Creek Reservoir site, the second of the two projects seeking design and permitting funds, so named for the tribu-

tary it's located on in the Paintrock Creek drainage of the Nowood River Watershed (Big Horn Basin) is the first storage site being pursued by the newly forming Nowood River Watershed Improvement District. Considering the geography of the Nowood River Watershed, a single storage project is not able to address needs throughout the basin, thus the additional opportunity of enlarging Meadowlark Lake is also being considered but has not been advanced to the level of the Alkali Creek site at this point. The approximate 7,500 acre-foot Alkali Creek Reservoir site is located several miles northwest of Hyattville, Wyoming just north of State Highway 31. Again, the reservoir footprint encompasses lands managed by the Bureau of Land Management as well as lands under private ownership.

Upon completion, the Alkali Creek Reservoir will provide late season supplemental water to area irrigated lands both directly and by exchange. As with the Upper Leavitt site, the Alkali Creek site also has opportunity for a minimum pool for fishing and recreation, as well as many indirect secondary benefits. *Written by: Jason Mead, Dam & Reservoir Supervisor. Photo by: Mark Donner, Trihydro.*

## River Basin Planning Happenings

The River Basin Planning section of the Water Development Office has had some personnel changes in the past months. Phil Ogle, who was the River Basin Planning Supervisor, retired May 16th. Mr. Ogle held this position for seven years and we appreciate his contributions to water planning as well as to the Water Development Office. We wish him and his wife Kathy well in their retirement.

Chace Tavelli, a project manager in the Planning Section, took over the River Basin Planning Supervisor duties in June. In August, Jodee Pring, was hired as a project manager in the River Basin Planning

section. Jodie Pavlica, a long-time employee of the Water Development Office, completes this team. The team has some great ideas and are ready to embark on exciting new products being developed in River Basin Planning.

With these announcements, the River Basin Planning team also wanted to give an update on the status of the various plans across the state. All of the completed surface water and groundwater River Basins Plans can be found online at: <http://waterplan.state.wy.us/>

Bear River Basin – the surface and groundwater updates of this plan are complete and available online.

Green River Basin – the surface and groundwater updates of this plan were completed in 2010 and available online.

Platte River Basin – the groundwater update for this basin plan was completed December 2013. The report can be found online. The update of the surface water portion of this plan was initiated in July. Wenck/States West Water Resources is the consulting firm completing this basin plan. A series of open houses will be held soon this plan, so please stay tuned for dates.

Snake/Salt River Basin – the groundwater update of this

plan is complete and can be found online. Comments on the surface water portion have been accepted and are under review by the planning team. The final report for this plan will be out in the next few months.

Wind/Bighorn River Basin - the surface and groundwater updates of this plan are complete and available online.

Please stay tuned for additional news on river basin planning. Feel free to contact the Water Development Office – 307-777-7626 if you have any questions regarding River Basin Planning.

## Instream Flow - Hearing & Discussion

Recently, a hearing was held in Jackson, WY on ten instream flow applications submitted to the Wyoming State Engineer's Office. Many times at these hearings, questions come to light. We hope to answer some of those through this article.

The first 'instream flow' application was filed on the Green River from Green River Lakes down to Warren Bridge, on January 13, 1969. The filing, which predated any instream flow law, was submitted for a recreation use by a few different organizations including: the Wyoming Wildlife Federation, Izaak Walton League, and the Wyoming Outdoor Council. Floyd Bishop, State Engineer at the time, subsequently rejected the application based on the following four reasons: 1. If a minimum streamflow right of this nature were to be granted, it

would be of such value to all of the people of Wyoming that it should be vested in the State and not in a few selected individuals or organizations. 2. There is a complete absence of evidence to support the necessity of the magnitude of flow requested. 3. There is no diversion or storage of water proposed, and under Wyoming Law, there can be no appropriation. 4. The water right requested under this application could not be abandoned; therefore there is no legitimate appropriation.

This outcome prompted the first attempt to pass an instream flow law, starting in the early seventies. This attempt failed, along with several subsequent attempts. Fast forward to 1986; in this year, the instream flow law was enacted. This legislation addressed the four concerns for which the State Engineer's Office reject-

ed the initial Green River application. For example, it was determined that *only* the State of Wyoming can own an instream flow right (41-3-1002 (e)). It established that the Game and Fish perform a biological report (41-3-1003), while the Wyoming Water Development Commission provide the feasibility report (41-3-1004). Instream flow was recognized as a beneficial use of water (41-3-1001), meaning a diversion wasn't necessary and the appropriation *could* be abandoned (see W.S. 41-3-1001 through 41-3-1014).

Instream flow applications require a different and more involved process which other applications do not endure. Both agencies involved have technical reports that must be submitted. Once those reports are completed, the State Engineer's Office holds a public

hearing where more information is gathered and the public is offered the opportunity to voice their opinion in regard to the instream flow segments. Finally, the State Engineer, based upon the information presented to him through the reports and the hearing process, makes a decision and signs or rejects the application.

To date, the State Engineer's Office has permitted 109 segments. Nineteen instream flow applications remain unpermitted, with ten in the Hoback River region, just completing the hearing stage.

For more information about the instream flow law or its application, please contact the Wyoming State Engineer's Office, The Wyoming Game and Fish Department, or the Wyoming Water Development Office. *Written by Jeff Geyer, SEO.*

## WWDC/SWC Summer Meeting & Tour

The third week of August brought cooler weather to Wyoming. This time of year also brought together Water Development Commissioners, Select Water Committee, Water Development Office staff, and members of the public to Sheridan for the annual summer meeting and tour.

A workshop was held on Wednesday afternoon and began with a presentation from Nephi Cole of the Governor's Office on the Wyoming Water Strategy. The group in attendance also received information on water storage projects in a variety of basins around the state.

Thursday morning, a group of approximately 40 people embarked on a tour of projects in and around the Sheridan and

Buffalo area. The tour began with a drive to Park Reservoir. At this stop, Dave Engels, of EnTech, spoke about the Sheridan Supplemental Storage project.



Tie Hack

The next stop was Tie Hack Reservoir. Les Hook, Public Works Director for the City of Buffalo, led the group down to dam and detailed the construc-

tion process of this facility. This reservoir is in a scenic location and provided a great setting for tour attendees to sit, enjoy some lunch and visit.

After lunch, the tour headed back down the road towards Buffalo. Along the way, stops were made to show the group a couple of different sites for a potential reservoir on Bull Creek.

The tour then made its way to Lake DeSmet. At this site, tour attendees were given a history of the reservoir and offered an opportunity to explore the intake tunnel. Quite a few people took advantage of this and journeyed approximately 100 feet under the ground to walk the length of the dam and look at the butterfly valves located deep below.

After a very interesting and educational day, the group gathered at the McMurray Lodge and were provided a delicious dinner by the Johnson County Commissioners.

On Friday morning, business resumed with a full agenda.

The next meeting of the Water Development Commissioners and the Select Water Committee members will be held in Casper November 5-7.

- ◆ **Park Reservoir**
  - ◆ **Tie Hack Reservoir**
  - ◆ **Bull Creek Reservoir Sites**
  - ◆ **Lake DeSmet**

## News from the Water Resources Data System (WRDS):

### *Wyoming Water Library*

As some of you may know, the Wyoming Water Development Office, in conjunction with the Water Resources Data System at the University of Wyoming, maintains the Wyoming Water Library (<http://library.wrds.uwyo.edu>). This comprehensive collection of almost 21,000 documents is an exceptional resource for individuals desiring more in-depth information on the State's water resources. Materials in the collection range of WWDC Level I and II reports to State Engineer's Office documents, USGS Reports, and University of Wyoming theses.

Staffed with a Water Librarian, the Wyoming Water Library at the Water Resources Data System has added several

new items to the collection this year. New Wyoming Water Development Commission project reports have been added to the shelves and are available online. Some of these include reports on the Nowood River storage project, Sheridan supplemental storage, Wheatland irrigation district, Hawk Springs Reservoir, Gillette Regional Master Plan, Cottonwood Lake Enlargement, and River Basin Plan updates. In addition, the library has received many new items on water in the west, energy and water, climate, regional aquifers, watershed studies, in-stream flow reports, and bulletins on water resource management. A recent publication on Hans Albert Einstein, by Dr. Robert Ettema, faculty in Col-

lege of Civil and Architectural Engineering Department at the University of Wyoming, "Hans Albert Einstein: Life of a Pioneer in River Engineering," has also been recently added. And the library's newest addition to its extensive reference section is the "Encyclopedia of Snow, Ice and Glaciers."

Items from the Water Library may be checked out by anyone for one month at a time with renewals available. Not only can the Wyoming Water Library be searched using the WYLD CAT link on the library homepage (<http://library.wrds.uwyo.edu>) but all libraries connected to the WYLD CAT database can be also be searched for related materials. These include the

community college libraries, public libraries, school libraries and special libraries. The Water Library website is an excellent resource for other online documents including historical planning documents, River Basin Plans and the water series entitled, "Occurrence and Characteristics of Ground Water in Wyoming" ([http://library.wrds.uwyo.edu/wy\\_gwater.html](http://library.wrds.uwyo.edu/wy_gwater.html)).

If you need help locating a document on water or climate, or have any questions, please feel free to contact the library with any questions ([library@wrds.uwyo.edu](mailto:library@wrds.uwyo.edu); 307-766-6661).



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## Calendar of Water Events

Oct. 14, Nov. 12, Dec. 9 2014,  
Jan.13, Feb.10, March 10, April  
14, May 12 2015 - Wyoming  
Water Forum, SEO Conference  
Room

October 28-30, 2014 - Upper  
Missouri Water Association,  
Annual Meeting, Billings, MT

October 29-31, 2014 - Wyoming  
Water Association Annual Meet-  
ing, Hilton Garden Inn, Casper,  
WY

November 5-6, 2014 - Upper  
Colorado River Basin Water  
Forum, Grand Junction, CO

November 5-7, 2014 -  
WWDC/SWC joint meeting,  
Casper, WY

November 18-20, 2014 - Wyo-  
ming Association of Conserva-  
tion Districts, Annual Meeting,  
Holiday Inn, Sheridan,WY

Dec 1-3, 2014 - Wyoming  
Stockgrower's Winter Roundup,  
Parkway Plaza, Casper, WY

December 1-5, 2014 - Level III  
Project Hearings, various state  
sites

December 10-11, 2014 WWDC  
Workshop/Meeting, Cheyenne,  
WY

December 12, 2014 - SWC  
Meeting, Cheyenne, WY

December 10-12, 2014 - Colo-  
rado River Water User's Associ-  
ation Meeting, Las Vegas, NV

December 31, 2014 - Small  
Water Project Program Applica-  
tions due to WWDO office,  
Cheyenne, WY

January 14-16, 2015 - 4 States  
Irrigation Council Meeting, Hil-  
ton Hotel, Ft.Collins, CO.

January 21-23, 2015 - WAM  
Winter Workshop, Cheyenne,  
WY

March 5-6, 2015 - WWDC  
Workshop/Meeting, Cheyenne,  
WY

May 4-7, 2015 WWDC Consult-  
ants Selection Interviews,  
WWDO Office, Cheyenne, WY

May 8, 2015 - WWDC Meeting,  
Cheyenne, WY

**PLEASE NOTE:**  
There is an **ENRR10 - Project  
Manager Position** open in the  
**Dam & Reservoir section at  
the Wyoming Water Develop-  
ment Office.**  
To view and/or apply to the  
official announcement do the  
following: 1)Go to  
[http://agency.governmentjobs.c  
om/wyoming/default.cfm](http://agency.governmentjobs.com/wyoming/default.cfm)  
2) Find Job # **01637** and click  
on the Position Title, EN-  
NR10 Project Manager.  
3) Click on the Apply link  
located above the Description  
and Functions section.  
4) Sign in or create an account  
in order to submit an applica-  
tion.