



# State Engineer's Office

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PATRICK T.  
TYRRELL  
STATE ENGINEER

September 18, 2007

## MEMORANDUM

TO: Members of the State Water Forum

FROM: Patrick Tyrrell, Chairman

SUBJECT: Attached for your review and information is a copy of the September 4, 2007 Water Forum meeting minutes. Please take a few moments and pencil into your calendar the Water Forum dates for this year. The next meeting will be October 2nd in the State Engineer's Conference Room at 10:00 a.m.

### WATER FORUM SCHEDULE 2007-2008 1<sup>ST</sup> TUESDAY OF EACH MONTH

DATE	INVITED GUEST	DISCUSSION ITEM
October 2 <sup>nd</sup>	John Henz - HDR, Inc. - Atmospheric Sciences	Climate change, extreme precipitation events and urban heat islands
November 6 <sup>th</sup>	James Landmeyer - USGS, South Carolina Water Science Center	From Redwoods to Remediation: The Effects of Plant/Groundwater Interactions on Surface and Groundwater Systems
December 4 <sup>th</sup>	Office of Water Programs - University of Wyoming	
January 8 <sup>th</sup>	Office of Water Programs - University of Wyoming	
February 5 <sup>th</sup>		
March 4 <sup>th</sup>	Office of Water Programs - University of Wyoming	
April 1 <sup>st</sup>	John Lawson, Bureau of Reclamation	Water Forecast
May 6 <sup>th</sup>		

### SPECIAL REPORT

The next meeting of the Water Forum will be October 2nd, 2007 at 10:00 a.m. in the State Engineer's Office conference room. We will be hearing from John Henz who is with HDR, Inc. - Atmospheric Sciences Division. Mr. Henz will be speaking to us on climate change, extreme precipitation events and urban heat islands.

## WYOMING STATE WATER FORUM MEETING MINUTES

September 4, 2007

Pat Tyrrell called the two hundred and sixty-seventh meeting of the State Water Forum to order at 10:00 a.m. The following were in attendance:

<u>Name</u>	<u>Agency</u>	<u>E-mail</u>
Matt Bilodeau	ACOE	matthew.a.bilodeau@usace.army.mil
Kevin Boyce	WWDO	kboyce@state.wy.us
Myron Brooks	USGS	mhb Brooks@usgs.gov
Matt Buchholz	DEQ/WQD	mbuchh@state.wy.us
Paul Caffrey	WYGISC	caffrey@uwyo.edu
Kathy Cameron	SEO	kcamer@seo.wyo.gov
Joel Farber	Trihydro	jfarber@trihydro.com
Melissa Goering	NWS	melissa.goering@noaa.gov
Steve Gray	WRDS/State Climatologist	sgray8@uwyo.edu
Beth Hoobler	SEO	bhoobl@seo.wyo.gov
Carol Hopkins	SEO	chopki@seo.wyo.gov
Rick Huber	WY G&F	rick.huber@wgf.state.wy.us
Sue Lowry	SEO	slowry@seo.wyo.gov
Kirk Miller	USGS	kmiller@usgs.gov
Chris Nicholson	WRDS	cnichol5@uwyo.edu
Suzy Noecker	WY Farm Bureau	snoecker@wyfb.org
Mark Opitz	NRCS	mark.opitz@wy.usda.gov
Jodee Pring	SEO	jpring@seo.wyo.gov
Mike Purcell	WWDO	mpurce@state.wy.us
Phil Stump	SEO	pstump@seo.wyo.gov
Mike Sweat	USGS	mjsweat@usgs.gov
Pat Tyrrell	SEO	ptyrre@seo.wyo.gov
Cheryl Verplancke	SEO	cverpl@state.wy.us
Kevin Wells	DEQ-WQD	kwells1@state.wy.us
Vicki Winders	WWDO	vwinde@state.wy.us

### AGENCY REPORTS

In order to assure accurate reporting in the minutes, forms are passed out to be completed by the representative of each agency at the meeting. These minutes consist of a compilation of the written reports received. Please complete a form either at the Forum meeting or return within a couple of days to Jodee Pring, State Engineer's Office. This will increase the efficiency and accuracy of completing the minutes for the Water Forum. Reports can also be sent via e-mail to: [jpring@seo.wyo.gov](mailto:jpring@seo.wyo.gov). For more information on the following reports, please contact the agency representative listed above.

## STATE ENGINEER'S OFFICE (SEO)

Pat Tyrrell reported the following:

The budget was due to the Governor August 31<sup>st</sup>. The State Engineer's Office (SEO) is requesting funding for a statewide gaging program. The money would be used to automate 180-200 gages around the state. The SEO is also requesting full funding on some USGS programs in which we are involved and additional funding for the consumptive use work that is ongoing in the Green River Basin.

Many of the streams around the state are in regulation. Our field personnel have had a very busy irrigation season.

Sue Lowry reported the following:

The SEO has still not received word from the U.S Supreme Court on whether they will accept the case that Montana has filed against Wyoming.

Meetings have been held throughout the summer on operations on Yellowtail. Those meetings continue to be held.

The Western Governor's Association will be holding a conference in Salt Lake City, UT October 10-12. The conference title is Water Policies and Planning in the West: Ensuring a Sustainable Future. For information on this conference, go to [www.westgov.org](http://www.westgov.org).

The Interstate Council on Water Policy (ICWP) annual meeting will be held Oct. 22-25 in New Orleans, LA. Tours will be conducted that will focus on hurricane recovery.

Jodee Pring reported the following:

The schedule for the 2007-2008 Water Forum season is shaping up nicely. There are still a few spots available, so if anyone has an interest in a specific topic, let Ms. Pring know and she will attempt to contact someone to speak on that topic.

An Advanced Negotiation Training Course for Natural Resource Professionals will be held September 18 - 20, 2007 in Ft. Collins, CO. For more information please visit their website: <http://www.fort.usgs.gov/NEGTraining/announcement.htm>.

The University of Wyoming - Casper College Center, the Haub School and Ruckelshaus Institute of Environment and Natural Resources, the University Of Wyoming Outreach School and the Casper Star-Tribune are sponsoring a series of free public lectures. The series is titled, "Delicate Networks: Wyoming's Land and Water and the Decisions Demanded by Growth." The series will be moderated by Anne MacKinnon and will be held from 7:00p - 9:00p at the Wheeler Auditorium, Room 103 in the Casper College Physical Science Building. The dates of the series are Sept. 13, Sept. 20, Oct. 4, Oct. 18, Nov. 1 and Nov. 15.

Scott Yates of Trout Unlimited asked that the following information be passed on to the Water Forum attendees:

Trout Unlimited (TU) has recently moved and expanded our Wyoming Office. Our office remains in Lander, but is now located at 315 Main Street (Suites 1-5). We've recently hired three individuals to work on coldwater fishery conservation issues in Wyoming – Kathy Ellsworth Lynch, Austin Williams, and Nelli Williams. In addition to Wyoming-based work, both Kathy and Austin will be examining both regional and site-specific issues related to oil and gas

development throughout the Rocky Mountain West. Nelli will be providing support for Wyoming Water Project and Public Lands Initiative efforts, as well as working closely with our local chapter members and State Council to organize membership and outreach efforts related to protecting and restoring Wyoming trout streams. Both Austin and Nelli will work out of our Wyoming Office in Lander. Kathy will be working out of a field office in Jackson. For more information, please visit [www.tu.org](http://www.tu.org).

Phil Stump reported the following:

Measuring devices have been installed in all of the private reservoirs above Pathfinder Reservoir. Three weather stations have also been installed at Elk Mountain, Douglas and Encampment. These weather stations include evapotranspiration stations.

On Wednesday Sept. 12<sup>th</sup>, a tour will be held to look at Russian olive eradication in Goshen Co. Steve Brill, Goshen Co. Weed and Pest director, will be heading up the tour. If you would like to attend, please meet at the Little Moon Restaurant at 1:00 p. m.

### WATER RESOURCES DATA SYSTEMS (WRDS)

Steve Gray reported the following:

Mr. Gray introduced Chris Nicholson who is the new GIS coordinator for WRDS.

Two real-time precipitation gages have been installed by the National Park Service and the National Weather Service in Yellowstone National Park. One gage is at Mammoth, which will be a good indicator gage, and the other is at the East Entrance to the park.

An informational workshop, Tree-ring reconstructions of streamflow and their use in water management, will be held September 6<sup>th</sup> in Cheyenne at the Kiwanis Community House in Lions Park. The workshop is sponsored by the Cheyenne Board of Public Utilities, Western Water Assessment, Wyoming State Climate Office and Wyoming Water Resources Data System. Speakers include Steve Gray and Glenn Tootle from the University of Wyoming and Jeff Lukas from the University of Colorado. The workshop is free and will be held from 9:00 a.m. to noon.

Chris Nicholson reported the following:

Public Water System Surveys for 2007 for the Water Development Office:

In 2005, approximately 172 surveys public water system surveys were sent out. This time, with the help of a list of contacts from DEQ, 292 surveys were sent out to municipalities and to small water systems (such as subdivisions, manufactured home parks etc.). Now we are offering an online version of the survey. As a result of updating our contact information, we obtained 172 email addresses and many folks expressed an interest in doing it online. To date, 30 entities have completed the survey; 18 of which went through the web and 12 via regular mail. Another 30 entities have started the online survey but have not completed it...so I'll send out words of encouragement every-so-often to those folks. We hope to have most of those results completed by the end of October.

Irrigated Lands IMS:

At WRDS we're excited about implementing some new web-based mapping applications. Currently we have an irrigated lands IMS site (which is an ESRI web mapping product) that is in its final stages of testing before we put it out to the public. Using irrigation data compiled from the state framework plan, we have all, or hopefully all, the states irrigated lands mapped.

Associated with those mapped lands are attributes such as points of diversion and permits. This interface will allow you to click on a tract of irrigated land and gather information about it, statewide. We hope to have other, similar web mapping products in the not so distant future.

#### State Framework plan:

We are anxiously awaiting the formal release of the state framework plan. WRDS staff has been doing some quality control on the product and we hope to have it online soon. There will be an online presentation tool that will allow folks to go through the document section by section, and will allow them to open up PDF maps and look data tables in addition to the text.

#### U.S. GEOLOGICAL SURVEY (USGS)

<http://wy.water.usgs.gov/>

Kirk Miller reported the following:

#### USGS Budget News

House and Senate marks for FY2008 water-related programs in the USGS budget are as follows (all values are in million dollars):

Program	07 Enacted	08 President	08 House	08 Senate
NSIP	16.6	18.9	21.6	18.9
CWP	64.3	62.4	63.3	64.3

Information on the National budget translates to the allocation for the Wyoming Water Science Center has not been determined. For more information, see:

<http://www.usgs.gov/budget/2008/08fundingtables.asp>

#### NWISWeb Water-Quality Enhancements

Recent additions to the USGS NWISWeb application have enhanced its functionality such that now you should be able to download water-quality sample results as soon as the lab analyses are complete and they have had some initial review. For more information contact Melanie Clark ([mlclark@usgs.gov](mailto:mlclark@usgs.gov); 775-9163) or Kirk Miller ([kmiller@usgs.gov](mailto:kmiller@usgs.gov); 775-9168).

#### Real-time Streamflow on Google Maps

The familiar USGS “dot map” is available with Google Maps functionality. A map, satellite image, or map/image hybrid can be selected as a base layer for real-time streamflow data. For Wyoming, see:

<http://water.usgs.gov/waterwatch/?m=real&r=wy&w=real%2Cgmap>

The same functionality also is available on Google Earth.

#### Recently Discontinued and Threatened Gages

USGS water-resources monitoring was discontinued at the following sites:

<b>2007 Discontinued Stations</b>		
<b>Station ID</b>	<b>Station Name</b>	<b>Date Discontinued</b>
<a href="#">06220800</a>	Wind River above Red Creek, near Dubois, WY	May 10 , 2007
<a href="#">06223500</a>	Willow Creek near Crowheart, WY	May 31 , 2007
<a href="#">06228350</a>	South Fork Little Wind River above Washakie Reservoir, near Fort Washakie, WY	May 31 , 2007
<a href="#">06228450</a>	South Fork Little Wind River below Washakie Reservoir, WY	May 31 , 2007
<a href="#">06228800</a>	North Fork Little Wind River near Fort Washakie, WY	May 31 , 2007
<a href="#">06244500</a>	Fivemile Creek above Wyoming Canal, near Pavillion, WY	May 31 , 2007

USGS water-resources monitoring will be discontinued at the following sites on October 1, 2007:

<b>2008 Threatened Stations</b>	
<b>Station ID</b>	<b>Station Name</b>
<a href="#">06299980</a>	Tongue River at Monarch, WY
<a href="#">06305700</a>	Goose Creek near Acme, WY
<a href="#">06306250</a>	Prairie Dog Creek near Acme, WY

### Streamflow Conditions

[See following page for supplemental graphics.]

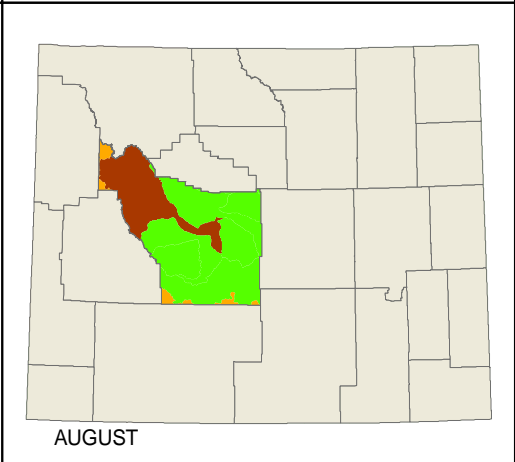
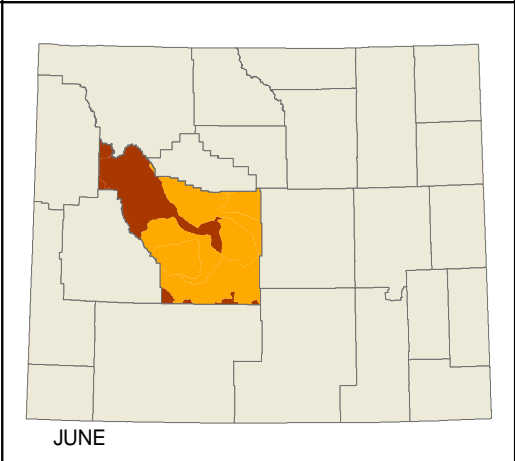
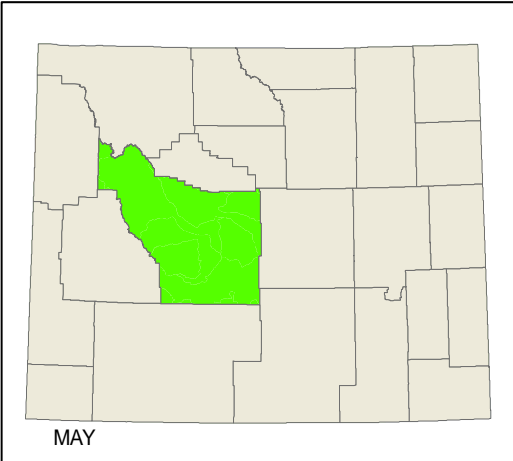
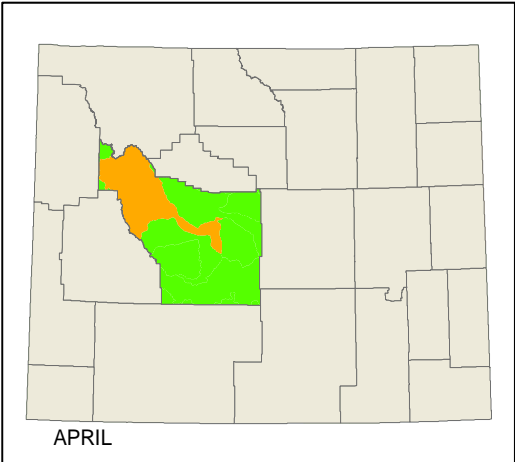
Streamflow conditions for April through August varied across the State. Conditions in the northeast part of Wyoming were average or above average. Streamflows in the Tongue River basin were well above average during late spring through early summer. Conditions in the western part of the State were below average. Streamflows for June in the much of the Green River basin were below the 10<sup>th</sup> percentile, a time when most of the annual runoff usually occurs.

Maps of average streamflow compared to same period of year, Wyoming, 2007

**EXPLANATION**

**PERCENTILE**

- < 10th
- 10th - 24th
- 25th - 75th
- 76th - 90th
- > 90th



WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER QUALITY

Kevin Wells reported the following:

DEQ/WQD is currently issuing Notice of Violations to major CBM companies with regards to compliance issues under the WYPDES program. This division is also strongly watching/monitoring compliance with regards to CBM water discharges to surface water and will eventually shift to non-CBM (municipalities/oil treaters) discharge compliance issues with regards to the WYPDES program.

WYOMING WATER DEVELOPMENT OFFICE (WWDO)

Mike Purcell reported the following:

The second round of water planning has begun with the Green River Basin slated to have both a groundwater study and a surface water study completed.

WWDO has received 40 new applications for project funding. Currently, there is not enough funding to cover all of the projects, especially rehabilitation. The priority for funding will go to projects already in the WWDO process and those with the greatest need.

The WWDO is also working on revising their operating criteria. The draft will be open to public review in mid-September. The small water project program is also being revised.

NATURAL RESOURCE CONSERVATION SERVICE

Mark Opitz reported the following:

The state of Wyoming has a new state conservationist. His name is Xavier Montoya and he can be reached at [Xavier.montoya@wy.usda.gov](mailto:Xavier.montoya@wy.usda.gov)

The WY NRCS has recently undergone reorganization. There are now two districts in the state instead of three with the main offices in Riverton and Douglas.

BUREAU OF RECLAMATION / WYOMING AREA OFFICE

John Lawson submitted the following:

1. Water Supply Conditions of the North Platte River Basin.

August 31, 2007 Reservoir Conditions

<u>Reservoir</u>	<u>Elev. (Ft)</u>	<u>Content (AF)</u>	<u>% Full Conservation Storage</u>	<u>% Avg.</u>
Seminole	6295.62	245,500	24	36
Pathfinder	5783.87	185,500	18	35
Alcova	5489.19	180,000	98	100
Glendo	4576.59	85,700	17	61
Guernsey	4403.55	14,000	31	49



August 31, 2006 Reservoir Conditions

<u>Reservoir</u>	<u>Elev. (Ft)</u>	<u>Content (AF)</u>	<u>30 Year Average (AF)</u>
Seminoe	6300.45	280,400	678,300
Pathfinder	5787.76	209,200	524,500
Alcova	5498.25	180,100	180,000
Glendo	4582.92	110,900	141,400
Guernsey	4403.28	13,600	28,500

October through August 2007 Inflows

<u>Reservoir</u>	<u>Inflows</u>	<u>% Of Average</u>
Seminoe	670.1	73
Pathfinder (Sweetwater)	47.4	35
Alcova to Glendo Gains	151.8	78
Glendo to Guernsey Gains	10.4	33

Kendrick ownership was 368,845 acre-feet (AF) on August 31, 2007 and approximately 40% of average (920,400 AF), which compares to the ownership of 452,000 AF last year at this date. The August 31, 2007, North Platte ownership was 286,800 AF, which was approximately 59% of average (484,500 AF), which compares to 312,700 AF of North Platte ownership on this date last year. The Glendo ownership was 57,700 AF on August 31, 2007, which was approximately 42% of average (138,100 AF), which compares to the 31,400 AF of Glendo ownership on this date last year.

Flows in the Miracle Mile below Kortez Dam are approximately 500 cubic feet per second (cfs). Releases from Gray Reef Reservoir are approximately 2350 cfs. The level of Alcove Reservoir is at the normal summer operating range of 5498± one foot.

2. Water Supply Conditions of the Big Horn Basin

August 31, 2007 Reservoir Conditions

<u>Reservoir</u>	<u>Elev. (Ft)</u>	<u>Content (AF)</u>	<u>% Full Conservation Storage</u>	<u>% Avg.</u>
Bull Lake	5771.61	61,200	40	59
Boysen	4703.38	407,500	55	65
Buffalo Bill	5372.02	482,500	75	97
Pilot Butte	5439.94	17,900	53	82

### August 31, 2006 Reservoir Conditions

<u>Reservoir</u>	<u>Elev. (Ft)</u>	<u>Content (AF)</u>	<u>30 Year Average (AF)</u>
Bull Lake	5775.90	71,300	103,200
Boysen	4707.30	456,500	625,000
Buffalo Bill	5374.92	503,400	495,400*
Pilot Butte	5428.92	11,200	21,900

\* The average used for Buffalo Bill Reservoir reflects data from 1993 through 2006. In 1992, the capacity of the reservoir was increased to approximately 646,565 AF as a result of raising the dam. A long term average cannot be calculated until several years of operation occur under the increased storage.

### October through August 2007 Inflows

<u>Reservoir</u>	<u>Inflows (KAF)</u>	<u>% Average</u>
Bull Lake	138.9	79
Boysen	439.8	50
Buffalo Bill	559.4	71

The total release from Buffalo Bill Reservoir to the river is approximately 900 cfs as measured at the Cody river gage. The release from Boysen Dam is approximately 950 cfs.

### SPECIAL REPORT

Mike Purcell gave a very comprehensive report on the Platte River Recovery Implementation Program. Mr. Purcell started off the presentation with some background information beginning with the construction of Grayrocks in 1978. The presentation continued with significant dates and events pointed out to help the audience understand this very complicated program and the struggles that took place to get to this point.

A copy of Mr. Purcell's handout can be found [here](#).

The meeting adjourned at 11:45 am.