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April 26, 2006

MEMORANDUM

TO: Members of the State Water Forum

FROM: Patrick Tyrrell, Chairman

SUBJECT: Attached for your review and information is a copy of the April 4, 2006 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 May 2nd in the **Capitol Building, LSO Room 302 at 10:00 a.m.**

WATER FORUM SCHEDULE
2005-2006
1ST TUESDAY OF EACH MONTH

DATE	INVITED GUEST	DISCUSSION ITEM
May 2 nd	Steve Markstrom, National Research Program, USGS	GSFLOW - A Coupled Groundwater/Surface Water Model

SPECIAL REPORT

The next meeting of the Water Forum will be May 2, 2006 at 10:00 a.m. in Capitol Building, LSO Room 302. Steve Markstrom, who is with the U.S. Geological Survey National Research Program out of Denver, Colorado will be the special presenter. He will be speaking about GSFLOW - a basin-scaled model for coupled simulation of groundwater and surface water flow.

WYOMING STATE WATER FORUM MEETING MINUTES

April 4, 2006

Jodee Pring called the two hundred and fifty-sixth 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>
Mike Beus	USBR	mbeus@pn.usbr.gov
Mick Birge	KTWO Television	k2tv@wyoming.com
David Fetter	SEO	dfetter@seo.wyo.gov
Lee Hackleman	NRCS	lee.hackleman@wy.usda.gov
Scott Horgen	SEO	shorge@seo.wyo.gov
Rick Huber	G&F	rick.huber@wgf.state.wy.us
Ed Kouma	USBR	ekouma@gp.usbr.gov
Harry LaBonde	SEO	hlabon@seo.wyo.gov
Jeremy Lyon	WDEQ-WQD	jlyon@state.wy.us
Hugh McFadden	AG	hmcfad@state.wy.us
Jared Miller	Casper Star-Tribune	jared.miller@casperstartribune.net
Kirk Miller	USGS	kmiller@usgs.gov
Ben Neary	Associated Press	bneary@ap.org
Erika Olson	AG	eolson@state.wy.us
Jodee Pring	SEO	jpring@seo.wyo.gov
Phil Stump	SEO	pstump@seo.wyo.gov
Jed Rockweiler	SEO	jrockw@seo.wyo.gov
Pat Tyrrell	SEO	ptyrre@seo.wyo.gov
David Willms	AG	dwillm@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. For more information on the following reports, please contact the agency representative listed above.

BUREAU OF RECLAMATION / WYOMING AREA OFFICE

John Lawson submitted the following:

1. Water Supply Conditions of the North Platte River Basin

March 31, 2006 Reservoir Conditions

<u>Reservoir</u>	<u>Elev. (Ft)</u>	<u>Content (AF)</u>	<u>% Full Conservation Storage</u>	<u>% Avg.</u>
Seminoe	6315.48	411,054	40	86
Pathfinder	5798.98	289,089	28	44
Alcova	5488.70	157,622	85	100
Glendo	4613.00	346,286	67	82
Guernsey	4405.84	17,278	38	92

March 31, 2005 Reservoir Conditions

<u>Reservoir</u>	<u>Elev. (Ft)</u>	<u>Content (AF)</u>	<u>30 Year Average (AF)</u>
Seminoe	6299.66	274,489	475,500
Pathfinder	5793.37	247,056	664,500
Alcova	5488.01	156,065	158,300
Glendo	4617.94	339,855	420,900
Guernsey	4608.21	21,139	18,900

March 2006 Inflows

<u>Reservoir</u>	<u>Inflows</u>	<u>% Of Average</u>
Seminoe	42.9	77
Pathfinder (Includes Sweetwater)	11.9	100
Alcova to Glendo Gains	10.0	56
Glendo to Guernsey Gains	0.8	53

The Pathfinder Reservoir storage was the fourth lowest March storage in the last 30 years. The Alcova to Glendo gains was the fifth lowest March gain in the past 30 years.

Kendrick ownership was 535,334 acre-feet (AF) on March 31, 2006 and approximately 58% of average (929,800 AF), which compares to the 635,566 AF of Kendrick ownership on this date last year. The Kendrick ownership was the third lowest March ownership in the last 30 years. The March 31, 2006, North Platte ownership was 616,963 AF, which was approximately 97% of average (635,500 AF), which compares to the 326,300 AF of North Platte ownership on this date last year. The Glendo ownership was 52,620 AF on March 31, 2006, which was approximately 37% of average (143,200 AF), which compares to the 62,107 AF of Glendo ownership on this date last year. The Glendo ownership was the second lowest March ownership in the last 30 years.

Flows in the Miracle Mile below Kortez Dam are approximately 521 cubic feet per second (cfs) but will be increased to 1,800 cfs by April 5, 2006. Releases from Gray Reef Reservoir are approximately 500 cfs but will be increased to 1,700 cfs by April 8, 2006.

a. North Platte River Basin Forecast

The April 1, 2006 water supply forecast indicates above average April – July runoff for Seminoe Reservoir and for the Sweetwater River above Pathfinder Reservoir. The forecast for the North Platte River between Alcova Reservoir and Glendo Reservoir was below average.

North Platte Water Supply Forecast

Forecast Points	April 1, 2006 Forecast Of April-July Runoff			30 Yr. April-July Runoff Avg. ²	Most Probable % of Avg.	Comparative Actual April – July Runoff			
	Reasonable Maximum ¹	Most Probable	Reasonable Minimum ¹			W. Yr. 2005	W. Yr. 2004	W. Yr. 2003	W. Yr. 2002
Seminoe Reservoir	1125	875	625	702	125	733	277	530	118
Sweetwater River above Pathfinder Res.	105	65	30	63	103	66	34	17	15
Alcova to Glendo	170	90	10	123	73	39	34	93	18

¹ The probability is estimated to be 8 chances in 10 that the actual volume will fall between the reasonable minimum and reasonable maximum

² Average is based on the 1976-2005 period.

2. North Platte Allocation of Storage Water

The allocation letter is being sent to Nebraska and Wyoming according to paragraph B.1.b of Appendix E, of the Final Settlement Stipulation of the North Platte Decree. Reclamation is advising that there is no need for allocation of storage water this season.

3. Water Supply Conditions of the Big Horn Basin

March 31, 2006 Reservoir Conditions

<u>Reservoir</u>	<u>Elev. (Ft)</u>	<u>Content (AF)</u>	<u>% Full</u> <u>Conservation Storage</u>	<u>% Avg.</u>
Bull Lake	5776.63	73,037	48	95
Boysen	4714.42	556,819	75	111
Buffalo Bill	5371.01	474,963	73	120
Pilot Butte	5453.21	27,853	83	108

March 31, 2005 Water Supply Conditions

<u>Reservoir</u>	<u>Elev. (Ft)</u>	<u>Content (AF)</u>	<u>30 Year Average (AF)</u>
Bull Lake	5788.90	104,823	77,100
Boysen	4720.29	653,505	500,300
Buffalo Bill	5371.06	475,055	396,100*
Pilot Butte	5452.10	26,941	25,900

* The average used for Buffalo Bill Reservoir reflects data from 1993 through 2005. 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.

March 2006 Inflows

Reservoir	Inflows	% Of Average
Bull Lake	2.5	139
Boysen	42.0	79
Buffalo Bill	14.7	77

The total release from Buffalo Bill Reservoir to the river is currently 200 cfs, pursuant to the Winter Release Agreement signed in December 2004. With the inflow from the springs, the flow measured at the Cody river gage is 278 cfs. The release from Boysen Dam is currently 800 cfs.

a. Bighorn River Basin Forecast

The April 1, 2006 water supply forecast indicates below average April – July runoff can be expected at all forecast points in the Bighorn Basin. The water supply forecasts are based on the snowpack at the Snotel stations, along with precipitation and soil moisture data.

Bighorn Water Supply Forecast

Forecast Points	February 1, 2006 Forecast of April-July Runoff			30 Yr. April-July Runoff Avg. ²	Most Probable % of Avg.	Comparative Actual April – July Runoff			
	Reasonable Maximum ¹	Most Probable	Reasonable Minimum ¹			W. Yr. 2005	W. Yr. 2004	W. Yr. 2003	W. Yr. 2002
Bull Lake Reservoir	110	130	150	139.5	93	155	117	110	99
Wind River above Bull Lake Creek	240	310	380	410.5	76	388	294	302	277
Boysen Reservoir	250	450	650	564.5	80	589	321	262	159
Buffalo Bill Reservoir	500	600	700	653.1	92	513	387	668	553

¹ The probability is estimated to be 8 chances in 10 that the actual volume will fall between the reasonable minimum and reasonable maximum.

² Average is based on the 1976-2005 period.

4. Snow Conditions (from NRCS April 3, 2006 report)

The following table shows the current and preceding weeks' percentage of average snow water equivalent amounts for Wyoming basins. Average is based on all reporting Snotel sites in the basin. The reference period for average comparison is 1971-2000. The table does not include manually read snow courses.

Snow Pack

Drainage Basin	4/03/06	3/27/06	3/20/06	3/13/06	3/06/05
Wind River	86	86	88	87	91
Bighorn Basin	84	83	84	82	68
Shoshone	79	78	81	79	60
Upper North Platte	110	111	113	113	94
Lower North Platte	101	103	105	105	85

5. Other

- a. Flushing flows were conducted on the North Platte River below Gray Reef Dam during the week of March 20, 2006. The river was pulsed up to 4,000 cfs for six hours each day over a period of five days.
- b. Flushing flows were conducted on the Wind River below Boysen Dam during the week of March 29 and 30, 2006. The river was pulsed up to 5,000 cfs for ten hours and gradually decreased back to 800 cfs.

UNITED STATES GEOLOGICAL SURVEY

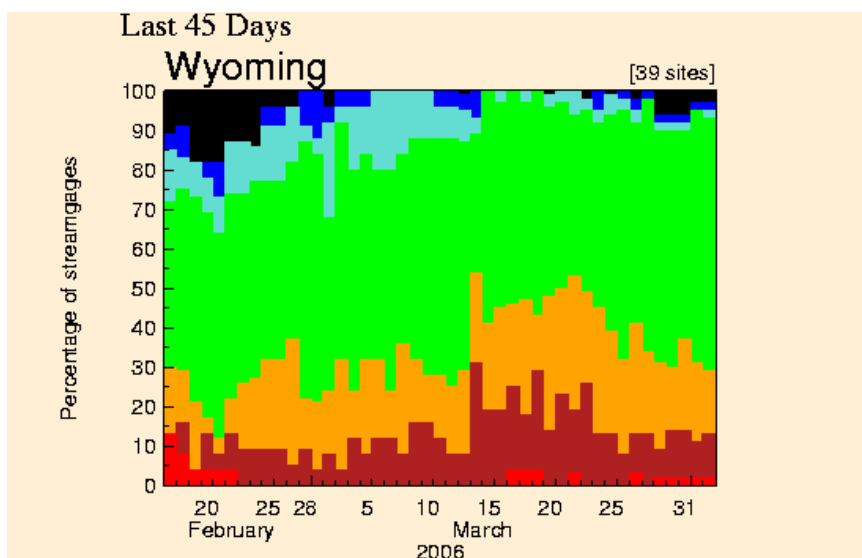
<http://wy.water.usgs.gov/>

Kirk Miller reported the following:

Current Streamflows

<http://waterdata.usgs.gov/wy/nwis/rt>

Preliminary real-time streamflow data over the last 45 days at about 60 percent of reporting gaging stations in Wyoming with 30 or more years of record indicated near normal (25th to 74th percentile) conditions. As of April 1, streamflow conditions at about 30 percent of these stations are below normal (24th percentile or less). Note: Streamflow data are not included for those stations where the stage-discharge relation is affected by ice.

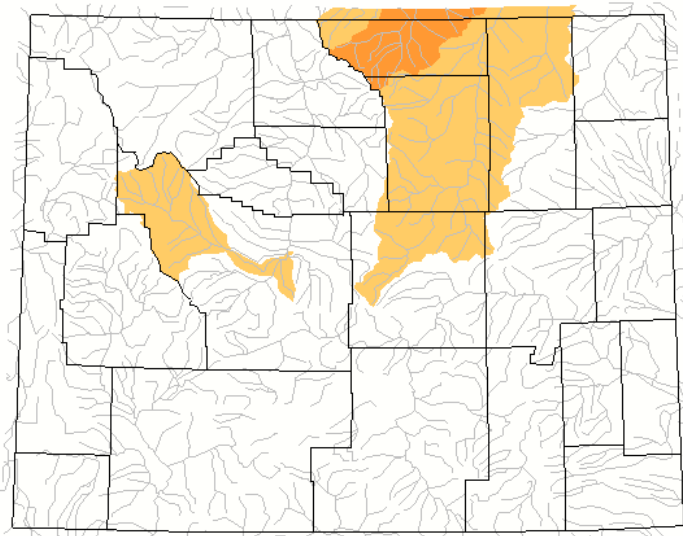


Explanation - Percentile classes						
New low	< 10	10-24	25-74	75 - 89	≥ 90	New high

Hydrologic Drought <http://wy.water.usgs.gov/projects/drought/>

The most recent 7-day average streamflow conditions for the Tongue River basin of northeastern Wyoming were in the 6th - to 9th percentile (moderate hydrologic drought). Similar conditions existed throughout the month of March for the Tongue River basin.

Saturday, April 01, 2006



Explanation - Percentile classes				
New low	≤ 5	6 - 9	10 - 24	Insufficient data for a hydrologic region
Extreme Hydrologic Drought	Severe Hydrologic Drought	Moderate Hydrologic Drought	Below Normal	

2005 Water Year Retrospective

Statewide precipitation for water year 2005 was about 101 percent of average; however, snowpack accumulation through May 1 only was about 75 percent of average. Snowpack accumulation and the cumulative effects of prior drought conditions resulted in average annual discharge at 66 percent of stations with 10 or more years of streamflow record being less than the median average annual discharge. Water year 2005 average annual discharge was the 3rd lowest on record at 06674500 North Platte River at WY-NE state line (76 years) and 13011000 Snake River near Moran (101 years); the last 4 years were the 4 lowest on record at 06674500. For more information, see Watson and others (2006).

2006 NRP Guest Lectures

The Wyoming Water Science is pleased to sponsor the following USGS National Research Program (NRP) guest lecturers for 2006:

Steve Markstom will present GSFLOW, a basin-scale model for coupled simulation of ground-water and surface-water flow. Steve is tentatively scheduled for May or June; the exact date is TBD.

Al Moench will discuss two benchmark aquifer tests. Al is tentatively scheduled for August or September; the exact date is TBD.

New Online

Maps, data, photographs, and other related information resulting from an assessment of aquatic communities in northeastern Wyoming and southeastern Montana are online at <http://wy.water.usgs.gov/projects/atg/>

New Publications

Watson, K.R., Woodruff, R.E., Laidlaw, G.A., Clark, M.L., and Miller, K.A., 2006, Water resources data for Wyoming, water year 2005: U.S. Geological Survey Water Data Report WY-05-1, 590 p., online at <http://pubs.water.usgs.gov/WDR-WY-05/>

Blajszczak, E.J., Mason, J.P., Watson, K.R., Roberts, S.C., and Miller, K.A., 2006, Water resources data for Wyoming, water year 2005: U.S. Geological Survey Water Data Report WY-05-2, 173 p., online at <http://pubs.water.usgs.gov/WDR-WY-05/>

Bartos, T.T., Hallberg, L.L., Mason, J.P., Norris, J.R., and Miller, K.A., 2006, Water resources of Carbon County, Wyoming: U.S. Geological Survey Scientific Investigations Report Miller, XXX p., at the printer.

NATURAL RESOURCES CONSERVATION SERVICE

Lee Hackleman reported the following:

Lee handed out copies of the April 3, Monday morning snow report. For the most recent Monday morning report, go to <http://www.wrds.uwyo.edu/wrds/nrcs/snowrept/snowrept.html>. These reports will be published until June.

STATE ENGINEER'S OFFICE

Jed Rockweiler reported the following:

The SEO has a new policy out concerning coordinate system requirements on applications. A copy of the policy memo can be found on the State Engineer's Office website at: <http://seo.state.wy.us/Press/2006/021006.aspx>.

Jodee Pring reported the following:

There will be a Water Resources User Meeting on April 13, 2006 from 10:00 am - 12:00 noon at the Riverton library. This meeting is sponsored by NOAA/ National Weather Service (NWS) in Riverton, WY. An overview of hydrologic products and services that NOAA/NWS

provides to its customers will be the first session and the second session will be a customer feedback and input discussion in which people can provide suggestions on how the NWS can improve hydrological services. Please contact Jim Fahey at 307-857-3898, ext. 493 or James.Fahey@noaa.gov for more information.

The Yellowstone River Compact Commission will be holding their technical committee meeting April 12th from 1pm to 3pm and their Commission meeting on April 13th from 8am to 12pm. Both meetings will be held in Thermopolis.

The following basin advisory group (BAG) meetings will held in the next few weeks:

Wind/Bighorn BAG - April 11 - Dubois
Powder/Tongue BAG - April 12 - Buffalo
Northeast BAG - April 13 - Newcastle
Platte BAG - April 18 - Douglas

SPECIAL REPORT

Ed Kouma, who is with the Wyoming Area Office of the Bureau of Reclamation and Mike Beus, who is with the Snake River Area Office of the Bureau of Reclamation both gave interesting and informative presentations today on the Water Forecast for their respective areas. A copy Mr. Kouma's powerpoint presentation can be found [here](#). A copy of Mr. Beus' powerpoint presentation can be found [here](#).

The meeting adjourned at 12:00 p.m.