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PATRICK T. TYRRELL
STATE ENGINEER

May 10, 2005

M E M O R A N D U M

TO: Members of the State Water Forum

FROM: Patrick Tyrrell, Chairman

SUBJECT: Attached for your review and information is a copy of the May 3, 2005 Water Forum meeting minutes.

The Water Forum will be taking a break for the summer, but will resume in September. Please visit our website at http://seo.state.wy.us/ for the 2005-2006 schedule. Thank you to all of the Water Forum members for your support this last year. We will see you September 6, the first meeting of the 2005-2006 season.

WYOMING STATE WATER FORUM MEETING MINUTES

May 3, 2005

Phil Stump called the two hundred and forty-eighth meeting of the State Water Forum to order at 10:00 a.m. The following were in attendance:

Name	Agency	E-mail
Jan Curtis	WRDS/State Climatologist	jcurtis@uwyo.edu
Kirk Miller	USGS	kmiller@usgs.gov
Justin Mulbay	WRDS	jmulbay@uwyo.edu
Phil Stump	SEO	pstump@seo.wyo.gov
Patrick Zimmerer	Hageman and Brighton	pzimmerer@hblawoffice.com

AGENCY REPORTS

In order to assure accuracy in the reporting of the minutes, forms are passed out at the meeting to be completed by the representative of each agency. 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.

STATE ENGINEER'S OFFICE

Phil Stump reported the following:

The final plan presentation of the Platte River Basin Water Plan will be held June 14 at 10:00 am in Cheyenne at the Wyoming Water Development Office, 6920 Yellowtail Road.

The calls for the Federal Reservoirs on the North Platte River were lifted as of midnight on Saturday, April 30th. A North Platte Decree Committee (NPDC) meeting was held on April 14, 2005 in Scottsbluff, NE. Significant actions taken at the meeting were to approve funding to study consumptive use above Guernsey Reservoir as follows: installation, operation, and maintenance of 3 weather stations located above Guernsey Reservoir near the towns of Douglas, Medicine Bow, and Saratoga; and the mailing of a questionnaire this coming fall to producers located above Guernsey Reservoir.

BUREAU OF RECLAMATION / WYOMING AREA OFFICE

John Lawson submitted the following:

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

April 30, 2005 Reservoir Conditions

Reservoir	Elev. (Ft)	Content (AF)	% Full Conservation Storage	% Avg.	30 Year Average (AF)
Seminoe	6308.36	344,869	34	70	494,200
Pathfinder	5790.64	228,150	22	32	704,300
Alcova	5498.36	180,376	98	101	178,600
Glendo	4622.30	380,015	73	83	457,500
Guernsey	4409.20	22,878	50	72	31,800

April 30, 2004 Reservoir Conditions

Reservoir	Elev. (Ft)	Content (AF)
Seminoe	6305.65	321,779
Pathfinde	5804.31	333,750
Alcova	5497.60	178,525
Glendo	4623.87	395,284
Guernsey	4408.58	21,780

April 2005 Inflows

Reservoir	Inflows (KAF)	% of Average
Seminoe	102.5	101
Pathfinder (Includes Sweetwater R.)	15.4	75
Alcova to Glendo Gains	9.0	24
Glendo to Guernsey Gains	0.8	20

The April inflows were below average for all reservoirs in the North Platte River Basin except for Seminoe Reservoir which was above average. The April inflow into Glendo Reservoir was the 6th lowest inflow in the last 30 years.

Kendrick ownership was 633,400 acre-feet (AF) on April 30, 2005, and approximately 67% of average (952,400 AF), which compares to the 737,300 AF of Kendrick ownership on this date last year. The Kendrick ownership was the 4th lowest April ownership in the last 30 years. The April 30, 2005, North Platte ownership was 434,500 AF, which was approximately 59% of average (737,600 AF), which compares to the 378,000 AF of North Platte ownership on this date last year. The Glendo ownership was 60,100 AF on April 30, 2005, which was approximately 40% of average (152,100 AF), which compares to the 99,200 AF of Glendo ownership on this date last year. The Glendo ownership was the 2nd lowest April ownership in the last 30 years.

Flows in the Miracle Mile below Kortes Dam are approximately 518 cubic feet per second (cfs). Releases from Gray Reef Reservoir are approximately 800 cfs but will be increased to 1800 cfs by May 6, 2005.

a. North Platte River Basin Forecast

The May 1, 2005, water supply forecast indicates below average April - July runoff for Seminoe Reservoir and Alcova to Glendo, and near average for the Sweetwater River above Pathfinder Reservoir.

North Platte Water Supply Forecast

Forecast Points	May 1, 2005 Forecast of April-July Runoff with actual April			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. 2004	W. Yr. 2003	W. Yr. 2002	W. Yr. 2001
Seminoe Reservoir [3]	603	403	303	706.8	57	277	530	118	387
Sweetwater River above Pathfinder Res. [4]	83	63	48	64.0	98	34	17	15	21
Alcova to Glendo [5]	89	39	24	126.0	31	34	93	18	113

[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 1975-2004 period.

[3] The actual April inflow into Seminoe Reservoir was 103,000 AF.

[4] The actual April inflow from Sweetwater River was 13,000 AF.

[5] The actual April gain between Alcova Reservoir and Glendo Reservoir was 9,000 AF.

2. Water Supply Conditions of the Big Horn Basin

April 30, 2005 Reservoir Conditions

Reservoir	Elev. (Ft)	Content (AF)	% Full Conservation Storage	% Avg.	30 Year Average (AF)
Bull Lake	5789.07	105,290	69	138	76,300
Boysen	4719.02	631,241	85	133	474,400
Buffalo Bill	5372.18	483,224	75	133	362,000*
Pilot Butte	5447.70	23,460	70	82	28,700

* The average used for Buffalo Bill Reservoir reflects data from 1993 through 2004. In 1992, the capacity of the reservoir was increased to approximately 646,565 AF as a result of raising the dam.

April 30, 2004 Reservoir Conditions

Reservoir	Elev. (Ft)	Content (AF)
Bull Lake	5771.79	61,637
Boysen	4706.57	447,016
Buffalo Bill	5370.88	473,892
Pilot Butte	5456.94	31,014

April 2005 Inflows

Reservoir	Inflow (KAF)	% of Average
Bull Lake	3.9	111
Boysen	38.9	79
Buffalo Bill	26.3	63

Inflow to Bull Lake was above average and Boysen, and Buffalo Bill Reservoirs was below average during April.

a. Forecast

The May 1, 2005, water supply forecast indicates below average April - July runoff for Boysen, and Buffalo Bill Reservoirs and the Wind River above Bull Lake Creek. April-July inflows in the Bull Lake watershed are expected to be near average.

Bighorn Water Supply Forecast

Forecast Points	May 1, 2005 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. 2004	W. Yr. 2003	W. Yr. 2002	W. Yr. 2001
Bull Lake Reservoir	165	140	120	139.4	100	117	110	99	86
Wind River above Bull Lake Creek	390	290	220	415.6	70	294	302	277	181
Boysen Reservoir	600	420	350	572.4	73	321	262	159	118
Buffalo Bill Reservoir	500	400	350	662.6	60	387	668	553	375

[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 1975-2004 period.

3. Snow Conditions (From NRCS May 2, 2005 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	5/2/05	4/25/05	4/18/05	4/11/05	5/2/04
Wind River	95	88	83	89	79
Bighorn Basin	64	61	59	68	59
Shoshone	57	57	56	60	50
Upper North Platte	84	74	80	89	60
Lower North Platte	80	72	86	83	67

4. Alcova Reservoir Summer Level

Alcova Reservoir is at its summer operating range between 5497 and 5499 feet.

WATER RESOURCES DATA SYSTEMS

Jan Curtis reported the following:

Drought continues to show slow improvement over SW and SE Wyoming. Recent moisture will help ranching interests but hydrological drought remains a problem over the North Platte River System. Reservoirs elsewhere are fairing better but the NW and NE corners of the state have seen low snow pack this season and improvement in water supply will be slowed. Forecast thru mid-May is for cooler and wetter than normal weather and the summer forecast is calling for similar conditions.

Despite record snows over the lower Colorado, Lake Mead and Lake Powell are not expected to change much in total capacity this year. This will probably result in more pressures on the upper Green-Colorado River appropriations/allocations.

CoCoRaHS: Wyoming total count up to 166 cooperative observers. Recently featured in USA Today.

Economic Impact from Drought: Mike Hayes, NDMC, is looking for anyone interested in working on this subject in Wyoming. If interested, he can be contacted at 402-472-4271. The proposal is being drafted in the next week or two.

Soil Moisture Sensors: Several sensors installed recently are now providing data. These UW sites are being used to determine biomass yield at experimental plots across the state. The write-up of this study is provided here.

WRDS Library:

The Water Resources Data System will be hosting 3 workshops taught by instructors from the Collaborative Digitization Program and the Bibliographic Center for Research June 1, 2, and 3 in Laramie at the University of Wyoming. The classes include:

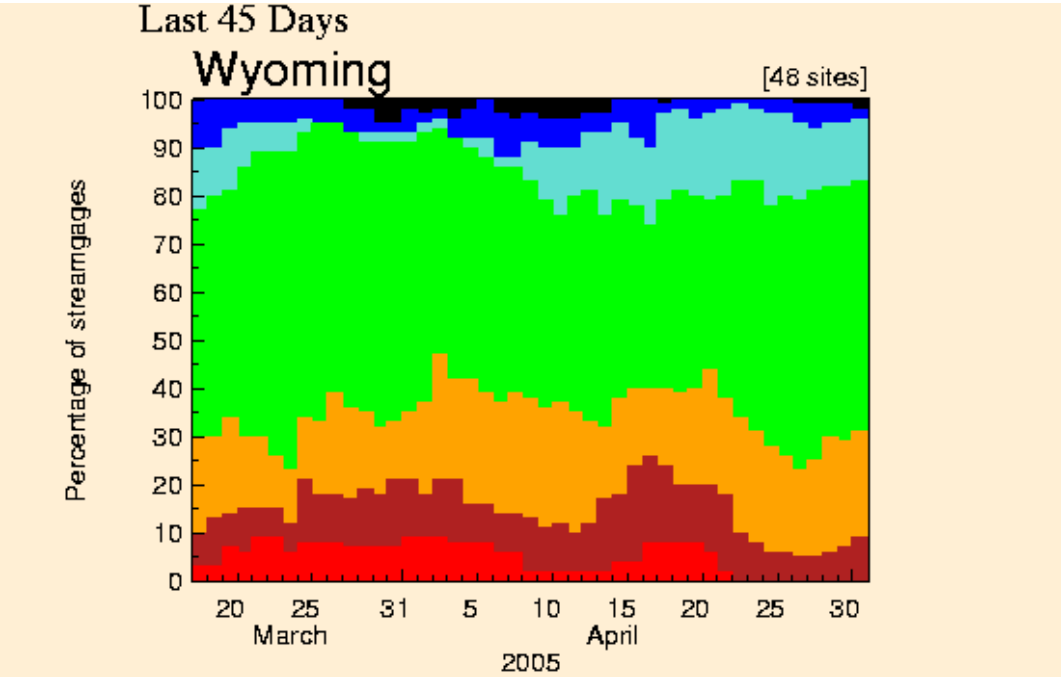
Digital Project Management
Introduction to Digital Imaging
Introduction to Dublin Core Metadata

More information on the program and registration for the classes is available at:
http://www.bcr.org/training/workshops/CDP-workshops.html

U.S. GEOLOGICAL SURVEY **http://wy.water.usgs.gov/**

Current Streamflows http://waterdata.usgs.gov/wy/nwis/rt

Preliminary streamflow data over the last 7 days at about 50 percent of reporting gaging stations in Wyoming with 30 or more years of record are near normal (25^{th} to 74^{th} percentile); about 30 percent are below normal (24^{th} percentile or less).



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

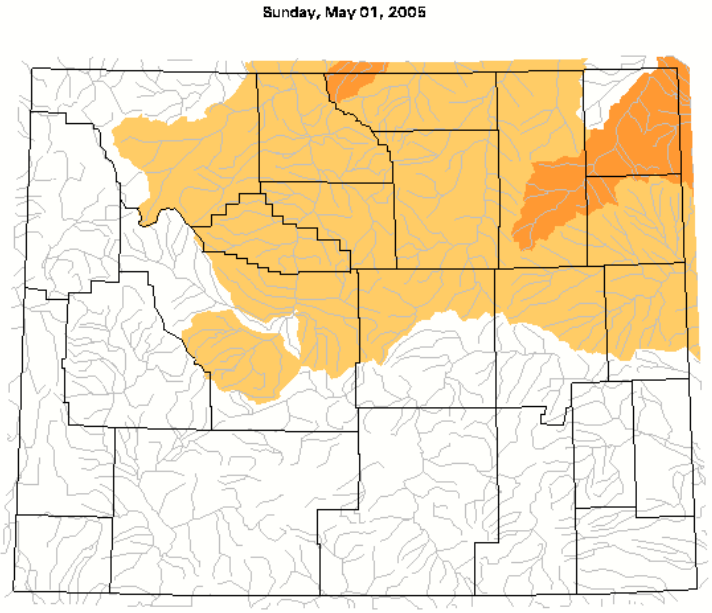
Streamflow Timing http://wy.water.usgs.gov/projects/drought/ [link to abstract only]

Recent studies have shown an advance in the timing of snowmelt-runoff by 1 to 4 weeks for streams in the western U.S. relative to conditions during the 1950's through the mid-1970's (Stewart and others, 2005). The advance is documented in the earlier onset of snowmelt runoff as well as a change in the center of mass of the annual hydrograph. Consistent with these advances are decreased April through July monthly flows and increasing parts of annual flow occurring earlier in the water year. The primary cause for the trend toward earlier snowmelt- and streamflow-timing is believed to be a 1 to 3 degree Celsius increase in winter and spring temperatures over the last 50 years.

Iris T. Stewart, Daniel R. Cayan and Michael D. Dettinger. 2005: Changes toward Earlier Streamflow Timing across Western North America. *Journal of Climate*: Vol. 18, No. 8, pp. 1136–1155.

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

Hydrologic drought conditions over the last 7 days continue to persist in northeastern and north-central Wyoming.



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	

New Publications http://wy.water.usgs.gov/pubs/

Watson, K.R., Woodruff, R.E., Laidlaw, G.A., Clark, M.L., and Miller, K.A., 2005, Water resources data, Wyoming, water year 2004; Volume 1. Surface water: U.S. Geological Survey Water-Data Report WY-04-1, 578 p., available online ***only*** at http://water.usgs.gov/pubs/wdr/2004/wdr-wy-04/

Blajszczak, E.J., Mason, J.P., Watson, K.R,. Roberts, S.C., and Miller, K.A., 2005, Water resources data, Wyoming, water year 2004; Volume 2. Ground water: U.S. Geological Survey Water-Data Report WY-04-2, 181 p., available online ***only*** at http://water.usgs.gov/pubs/wdr/2004/wdr-wy-04/

SPECIAL REPORT

Rik Gay, who has worked with the Natrona County Conservation District was our special speaker for today. Mr. Gay gave an interesting presentation on the Kendrick Selenium Watershed Project. A copy of his powerpoint presentation can be found here.

The meeting adjourned at 12:00 p.m.