

Minutes for the  
Yellowstone River Compact Commission's  
Technical Committee Meeting  
Campus of MSU-Billings  
December 5, 2007

1. Introductions

Keith Kerbel called the meeting to order at 1:30 p.m. Introductions were made and a signup sheet was passed around (attached). The agenda was then modified, moving all the presentations to the top and adding Sally Springer of the National Weather Service to and removing the water supply outlook topic.

2. Invited presentations

Wyoming Water Development Commission

Barry Lawrence and Roelof Bruinljes of Wyoming's Water Development Commission had a power point presentation on their Weather Modification Program. Roelof explained about a five year randomized cloud seeding experiment that will be conducted over the Medicine Bow/Sierra Madre and Wind River Ranges and measuring its effects.

Wyoming Water Science Center

Melanie Clark, USGS, Wyoming Water Science Center had a power point presentation on a Water Quality Report for sites along the Tongue, Powder, Cheyenne, and Belle Fourche Rivers from 2001-2005. She reported that coal bed methane has had some effect on trends. Though there was no single cause of effects, Powder River basin was more variable, having higher levels of SAR and specific conductance, than Tongue River and Clear Creek, which had lower and similar values (See handout 2). Melanie described that after adjustments are made for flow, no significant trend was found for specific conductance. For SAR, there were not sufficient data points on the mainstem Tongue, but an upward trend was found on Salt Creek, Powder River at Sussex and Powder at Arvada. The Little Powder showed a downward trend after adjusting for flow. In the following discussion, Chuck Dalby pointed out a recent article (Wang and others, December 2007 Journal of the American Water Resources Association) that examined water-quality trends in the Powder River and attributed indicated increasing values of SAR to CBM development in Wyoming.

3. National Weather Service

Sally Springer touched on drought and informed the group about a new web site currently under construction. Drought.gov is the website, and there is also a link to it on the weather service page. Kevin Smith mentioned the help the NWS gave the state and its local water users in preparing for a severe rain event. He specifically praised and thanked

the NWS for their timely assistance and notification, which enabled people living along the river to mitigate damages from the rapid river rise caused by a very fast moving storm.

#### 4. Water Management Activities 2007 Irrigation Season

##### Tongue River

*Wyoming-* Mike Whitaker reported on the water supply on Big Goose & Little Goose. Big Goose discharge is at 61,890 acre-feet and Little Goose is at 49,273 acre-feet which are above normal on a 21 year average. Mike has ordered in measuring devices on the mainstem Tongue River.

*Montana-* Keith Kerbel & Kevin Smith reported that the Tongue is doing better than last year. The dam filled early this year on May 13, and had started to spill. Presently it is 65% full.

##### Powder River

*Wyoming-* Carmine LoGuidice reported that Lake DeSmet has plenty of water and there should have good carry over for next year.

*Montana-* Keith's report was based on discussions with local irrigators on the source. Irrigators nearer Broadus reported timely spring rains in this area reduced the need for irrigation in the spring of 2007. River flows were adequate for the first and second cuttings of hay nearer the state line. Deteriorating water quality in the Powder around the middle of July prevented any further water use. The Powderville area, located north of Broadus had a different picture. They were short of irrigation water for their second cutting of hay. Generally, most irrigators in this area got about 60% of their hay ground irrigated a second time. Since about the first of October, there have been good flows in the Powder, with low SAR's and EC's, and the irrigators assumed Lake DeSmet was releasing water this past fall.

##### Big Horn

*Wyoming-* Loren Smith reported that Wyoming's winter snow pack was down around 60% of normal at the beginning of the irrigation season, but the area received some rain showers in late July. The west flank of the basin fared better. Boysen is at 65% capacity and Buffalo Bill is at 75% and with winter releases below Boysen being below what is desired by the Wyoming Game and Fish.

*Montana-* Keith's report was based on information from Fish, Wildlife and Parks, Bureau of Reclamation and personal observations that spring releases from Big Horn Lake were low at 1500 cfs. The rainbow population took a big hit

because there was little or no water in the side channels of the river below the dam which reduces spawning and food production. The summer and fall flows were below 2000 cfs which had the same net effect on the brown trout population.

5. Update of CBM Activities

*Wyoming*- Pat Tyrrell, Wyoming State Engineer, discussed the CBM task force on Coal Bed Methane and Natural Gas. Pat touched on three topics:

1. DEQ is going forward with issuing a general watershed permit for CBM discharges.
2. The Wyoming Legislature's Minerals Committee will sponsor a bill in the 2008 session to give the authority to the State Engineer's Office to measure the natural capacity of a stream channel and then order the construction of ditches or limit the introduction of discharge water from CBM wells in a channel if its capacity is exceeded.
3. SEO is meeting with producers concerning new requirements for the producer to show cause why a CBM well should continue producing water when there is no gas being produced.

Filings for CBM impoundments are down in the Tongue and Little Powder River basins, but the number of facilities increased by about a 100 in the Powder River Basin area. Storage capacity in this basin increased from 31,500 acre feet to 34,300 acre feet.

*Montana*- Art Compton reported that there are 960 wells mainly in the CX, 3 discharge permits were issued and 2 are pending with treatment facilities using the Higgins Loop technology. A water quality lawsuit brought by several oil companies challenging the Montana water quality regulations in Montana state district court was heard on July 2, 2007. Judge Jones upheld the regulations on all counts on cross motions for summary judgment action (The matter is currently on appeal at the Montana Supreme Court)

6. YRCC Website and postings

Sue Lowry and Bill Horak informed the committee that the USGS Web Master is no longer assigned to Bill's department within the USGS and much discussion resulted from this news. It was discussed that maybe each of the states take turns with operating the website or doing a joint venture. It was finally decided with persuasion from the commissioners of each state that Bill should first try and resolve this internally within the USGS and report back at the spring meeting. Another discussion followed regarding the cost of archiving past compact reports and is mainly the cost of labor, estimate by Bill was around \$25,000 to \$30,000.

7. Status of small group reviewing indicator gages

Kirk Miller from the USGS made a presentation regarding indicator gages and passed out handouts. Sue Lowry briefed the group on natural flow gages and a discussion by all followed. It was decided to select the existing state line gages and an existing gage above most water development on each source. Specific existing gage records and methods of graphically presenting information were presented on the handouts provided by Kirk. The Commissioners expressed their support for the work done thus far, but felt some additional work could be done on how the period of record and scales are shown on the box diagrams.

8. Update on the funding for the Tongue River stream gage network.

John Kilpatrick of the USGS passed out handouts showing the funding levels for each gage site and type of samples taken for each site with a total cost of \$711,300. There is presently a shortfall of \$353,530 for the current sampling project to continue. Currently there is only \$357,770 available which will require a reduction of the monitoring effort outlined in John's handout. Each state will contact their local congressional delegation for continued support of this project. Each Commissioner expressed a support for this project, but recognized the pressure that is on all gaging program budgets.

9. Meeting was adjourned at 5:25 p.m.