

**Wind/Bighorn River Basin Advisory Group
Meeting Record
Worland, WY
August 13, 2002**

Welcome

The facilitators for the Wind/Bighorn Basin Advisory Group, Sherri Gregory-Schreiner and Cathy Lujan, of Counterpoise Consulting, Inc. in Cheyenne, opened the meeting at 3:20 p.m. They introduced themselves and reviewed the agenda for the meeting. Participants then introduced themselves by stating their name, place of residence, and affiliation. The mayor of Worland, Ms. La Vertha Gotier then welcomed the group to Worland and thanked them for their work. The sign-in sheet was then passed around the room. The next three basin advisory group meetings were then scheduled as follows:

Tuesday, October 8, 2002, 3 p.m. - Thermopolis
Tuesday, December 17, 2002 - 3 p.m. - Powell
Tuesday, January 28, 2002 - 3 p.m. - Riverton

Long List of Future Water Use Opportunities – Joe Lord, Lord Consulting

Mr. Joe Lord began by defining the purpose of the long list as a means of identifying future water use opportunities to meet demands. He continued by saying that the list could be used to meet water needs, but would not be used to establish funding priorities from government agencies. He then detailed the steps used to formulate the long and short lists. Step one was to develop a long list by researching literature on past projects and incorporating additional information as solicited from the Wind/Bighorn Basin Advisory Group. Step two was to develop a short list of opportunities by evaluating the status, location, demand and necessity of the projects on the long list. Step three was to categorize these projects into four categories: rehabilitation, existing demands, future demands, and trans-basin projects. The last step was to apply the screening criteria outlined at the June basin advisory group meeting. Mr. Lord then stated that the long list, which he was bringing before the group, was developed from reviewing 21 studies completed between 1962 and 2001. The list did not include potential groundwater projects, conservation projects, environmental/recreational projects, municipal raw water projects or power generation projects. *[The group will be given time at the next basin advisory group meeting in October to “brainstorm” additional future water use opportunities for inclusion on the long list. This modified list will then be further refined by the consultants to generate a short list of opportunities.]*

Planning Team Issues – Barry Lawrence, WWDC

Barry Lawrence, WWDC River Basin Planner, distributed copies of past presentations to be added to the basin advisory group reference notebook. Barry then updated the group on the status of the planning processes for the Snake/Salt, Powder/Tongue,

Northeast, Bear and Green River Basins. He detailed the activities in each, as well as the invited BAG speakers, and consultant work in progress (if applicable). He then invited interested individuals to attend any or all of the BAG meetings in the other basins.

Worland Well Video Survey – Doug Beahm, BRS, Inc.

Doug Beahm showed a clip of the videography taken inside Worland's Husky Well. The well was drilled in the late 1970's and was tested via open flow methods. Only a couple of years ago the well was retested as part of the system, and was found to have 1/3 reduced production. The videography was shot to look for physical problems with the well. Doug narrated the abbreviated trip down the well, and identified the casing splits at 2100 feet, and the fact that the well casing was blown out at approximately 2400 feet. A brief discussion period followed the viewing of the video.

Water Conservation Opportunities and Technology – Ron Vore, WWDC

Ron Vore gave a presentation regarding water conservation in Wyoming. He began by discussing the history of conservation in the United States and in Wyoming. Theodore Roosevelt had conservation as a cornerstone of his domestic policy, and was behind the passing of the Reclamation Act in 1902, which enabled government sponsored irrigation in the West. The Soil Conservation Act was passed in 1935 following the Dust Bowl era, and conservation districts were being formed in Wyoming in the late 1930's to early 1940's. The Wyoming Water Development Commission was formed in 1979.

Ron presented water demand and surface water availability information from completed river basin plans. This information depicts areas within basins and times of the year when surface water availability does not meet demands, particularly in dry years. Conservation practices, such as storage, conveyance loss mitigation and improvement of on-farm irrigation application efficiencies may address these deficits.

In municipal systems, conservation can result in water savings. Ron presented information indicating that conservation has been shown to save approximately 25 gallons per capita per day for indoor water use. Also, various methods were shown to reduce outdoor residential water consumption. For example, the city of Denver reuses a portion of their wastewater for a water savings of approximately 17,000 AF per year.

Approximately 134 billion gallons of water per day are used for agricultural uses across the nation. Storage facilities typically cost about \$1,000 per acre-foot of storage capacity. Lining of ditches can greatly reduce conveyance losses, as well as reduce maintenance, improve water quality, and provide insurance against drought. Estimated costs for lining of ditches are \$250 to \$600 per acre-foot of water saved. Flood irrigation is used for approximately 50% of the irrigation in the country, and is about 50% efficient. However, there are side benefits to flooding, such groundwater recharge and allowing for a delayed release of peak runoff. Sprinkler irrigation is about 75% efficient, however it requires pressure by means of gravity or pumping. Center pivot sprinklers can be up

to 90% efficient, particularly with low pressure systems. Micro irrigation using surface or sub-surface drip systems can be 95% efficient, and can place water directly in the root zone.

Ron stated that water management is enhanced through measurement. Also, water can be more efficiently used through irrigation scheduling and crop selection. He presented information showing a monitoring well hydrograph in Laramie County. The water level was dropping over time until center pivot sprinklers were installed. The water levels then returned to previous levels and were consistent over time. In the United States, 38 million gallons of water are "saved" every day, with most of the savings due to efficient irrigation practices. He also stated that only 17% of crops in the world are irrigated; however these crops produce nearly 40% of the global harvest. Water can increase crop yield by three to four times.

Surface Water Data Syntesis/Spreadsheet Model Development - Jerry Gibbens, Montgomery Watson Harza

Mr. Jerry Gibbens gave a progress report on the surface water model development for the Wind/Bighorn River Basin. He reviewed with the group exactly what the model did, and did not, contain. He went on to review the data collection procedures, the study period selection (1973-2001), the hydrologic classification, and the river basin schematics. Specifically, he invited BAG members to assist in their efforts by reviewing the basin schematics and providing additional input and/or corrections. Jerry finished his presentation by demonstrating the Clarks Fork Basin model that is under development. *[It was noted that the Wind/Bighorn Basin has been broken down into several smaller sub-basins for modeling purposes.]*

Public Comment Period

There were no public comments at this time.

The meeting was adjourned at 5:55 p.m.