

**Wind/Bighorn River Basin Advisory Group
Meeting Record
Riverton, WY
January 28, 2003**

Welcome

The facilitator for the Wind/Bighorn Basin Advisory Group, Sherri Gregory of Counterpoise Consulting, Inc. in Cheyenne, opened the meeting at 3:00 p.m. She introduced herself and reviewed the agenda for the meeting. Participants introduced themselves by stating their name, place of residence, and affiliation. The sign-in sheet was then passed around the room.

The next basin advisory group meetings were scheduled as follows:

April 1st - 3 p.m. – Cody
July 15th - 6 p.m.* – Thermopolis

** Note time change for summer meeting only.*

Planning Team Issues

Barry Lawrence, WWDC River Basin Planner, distributed copies of past presentations to be added to the basin advisory group reference notebook. He discussed the importance of the Wind/Bighorn Basin Advisory Group and the need for the group to continue to meet after plan completion in order to address emerging and ongoing challenges with respect to the basin's water resources.

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 invited interested individuals to attend any or all of the BAG meetings in the other basins.

Wind/Bighorn Final Plan Presentation - Doug Beahm, BRS, Inc.

Mr. Beahm introduced the consultants involved with the creation of the plan and outlined the format for the presentation. He indicated that they would discuss the various sections of the plan, which would culminate with a discussion of future water use opportunities. The group would then take a break and reconvene to consider several site-specific future use examples in the basin and how the plan could be utilized to assist in the evaluation of those projects.

Demand Projections

Mr. Beahm began with an overview of the unique characteristics of the Wind/Bighorn Basin. He discussed the demography of the basin, including current population numbers and trends. Employment by sector was highlighted, as was the fact that the largest employment sector was that of governmental. Land ownership was also discussed. It was noted that privately held lands in the basin only account for approximately 16% of the total holdings.

Water Law, Compacts and Decrees

Mr. Beahm reviewed Wyoming water law and some of the water uses that were permissible under Wyoming law. He discussed the concept of “first in time, first in right” and the definition of “beneficial use”. He then reviewed the Yellowstone Compact and the amounts apportioned to each of the states [Bighorn – Wyoming 80%, Montana 20%, and Clarks Fork – Wyoming 60%, Montana 40%]. The Bighorn Adjudication was covered, including the priority date [1868], and existing/future reserved rights [291,000 acre-ft/209,000 acre-feet]. Institutional constraints were then discussed, including the Endangered Species Act, NEPA, Clean Water Act, Antiquities Act, etc.

Basin Water Use and Demand Projections

Mr. Beahm gave an overview of water use in the basin, noting that 82% of the water used went to agriculture. Maps of irrigated lands and points of diversion were then showed to the group. In summary, it was noted that more than 430,000 acres were irrigated, with major crops consisting of alfalfa, beans, corn, hay, grains and sugar beets. Alfalfa made up the largest share, with 43% of total crop acreage. Mr. Beahm concluded the agricultural use discussion by covering the irrigable lands in the basin, and potential future projects such as Riverton East, North Crowheart Canal, Westside, YU Bench, and Polecat Bench.

Municipal and domestic use was next to be highlighted. A map of public water supply systems within the basin was shown to the group. It was noted that current municipal uses serve 87% of the basin’s residents, which equates to 12.2 million gallons per day. Such consumption is comprised of 68% surface water and 32% ground water sources. As for domestic use, approximately 26,000 people are served, which equates to 3.9 to 7.8 million gallons per day. The dominant source for domestic use is ground water.

Total industrial use in the basin is approximately 92,000 acre-feet per year. Industrial uses include oil & gas, mining, manufacturing and power generation. Mr. Beahm utilized a series of maps to show the infrastructure supporting such uses [pipelines, transmission lines, etc]. He further discussed the status of each of the industrial uses.

Environmental and recreational water use in the basin was then detailed. Issues such as threatened & endangered species, wild & scenic rivers, glaciers, national and state parks, wetlands, instream flows, fishing, hunting, waterfowl, and water sports activities

were all discussed. A map depicting the nearly 400,000 acres of wetlands in the basin was also shown.

Mr. Beahm concluded his remarks by summarizing water use from storage in the basin. He discussed the various reservoirs within the Wind/Bighorn, and the quantification of the projected use amounts by category for the low, medium and high growth scenarios.

Available Surface Water

Mr. Jerry Gibbens of Montgomery, Watson & Harza began by explaining the data acquisition methods used in creating the surface water model. Data were collected from the US Geological Survey, State Engineer's Office, and water users to complete the historical record. Data filling for missing dates and/or locations were accomplished through monthly regression analyses with nearby gages and/or precipitation stations. The selected study period for the modeling effort was 1973 to 2001. Mr. Gibbens then went through the classification of wet, dry and average year conditions for indicator stations in the basin. He further discussed the spreadsheet model development and calibration. Prior to demonstrating the model, Mr. Gibbens detailed the purposes and resulting information gained through model execution.

A demonstration of the model's capabilities was then given to the basin advisory group. Broken up into three basins [Wind, Bighorn, and Yellowstone], each model was actually made up of smaller sub-basin models, specifically the Wind River Model was comprised of an Upper Wind, Little Wind, and Lower Wind Model; the Bighorn River Model was comprised of an Upper Bighorn, Owl Creek, Nowood, Lower Bighorn, Greybull, and Shoshone Model; and the Yellowstone River Model was comprised of a Clarks Fork, Yellowstone, and Madison/Gallatin Model. Diversion summaries and available flow information were then presented for each of the basins during the wet, dry and normal year scenarios based on the model(s).

Available Ground Water

Mr. Chris Lidstone of Lidstone & Associates discussed the ground water determination objectives. He indicated that the ground water supply is quantity and quality dependent. It was noted that shallow wells include alluvial and tertiary sources where water quality and quantity can be limiting factors. Deep wells tap into the Paleozoic Aquifers, including the Tensleep, Madison, Bighorn and Flathead formations, where water quantity and the cost of the well completion are the limiting factors. Furthermore, deep well production is dependent on complex geology. Mr. Lidstone mentioned that two areas of intense use were further investigated, the Paintrock Anticline and the Riverton Area. In summary, it was noted that ground water is a future source of high quality drinking water; allows municipalities to meet new and more stringent EPA regulations with reduced O&M costs; is somewhat more drought tolerant and can augment existing surface water dependent systems; and can benefit from regionalization.

Future Water Use Opportunities

Mr. Doug Beahm of BRS, Inc., detailed the future water use opportunity criterion to include: need, water availability, financial feasibility, public acceptance, number of sponsors/beneficiaries, legal/institutional constraints, and environmental/recreational benefits. He then went through the various water use opportunity project categories [development of new resources, distribution of existing resources, water conservation, water management, conjunctive use options, basin transfers, environmental and recreational, and development of new uses] and the specific projects within the basin identified for each. These projects and their associated weightings or positioning were then discussed with the basin advisory group.

Example Future Use Projects

After a brief break, the group reconvened with Mr. Doug Beahm of BRS, Inc. leading a discussion of examples of future potential water use projects identified for the basin. Included in the discussion were a ground water based regional water supply project for Fremont County-Lander, Riverton, Hudson, the Wind River Reservation and rural areas; construction of Steamboat Reservoir; the Bull Lake Project and the Clarks Fork Storage – YU Bench projects. A lengthy discussion followed this presentation.

Public Comment Period

There were no public comments at this time.

The meeting adjourned at 6:00 p.m.