Wind/Bighorn River Basin Advisory Group
Meeting Record
Thermopolis, WY
December 11, 2001

Welcome

Facilitators Sheri Gregory-Schreiner and Cathy Lujan opened the meeting at 3:00 p.m. Each person in attendance was then given the chance to introduce him or herself by stating their name, affiliation, and place of residence. Following the introductions, the agenda for the meeting was reviewed. The facilitators then sent the sign-in sheet around the room. There were 69 people in attendance.

The next three Wind/Bighorn Basin Advisory Group meetings were then scheduled as follows:

Tuesday, February 12th, Dubois, 3:00 p.m. (Headwaters Conference Center)
Tuesday, April 9th, Cody, 3:00 p.m. (TBA)
Tuesday, June 11th, Lander, 3:00 p.m. (TBA)

Planning Team Issues - Barry Lawrence, WWDC

Barry Lawrence began by introducing Vicki Beckman who has been with the WWDC for 26 years. Barry noted that Vicki was recently promoted into the river basin planning unit and would be attending the BAG meetings from time to time.

Barry then gave a brief review of the items discussed at the last BAG meeting, and distributed handouts from that meeting. Barry also gave a report on the progress of other basin planning efforts in the State, and discussed the other BAG meetings that were to take place during the week. Anyone interested was invited to attend any of the BAG meetings across the state.

Consultant Update / Ground Water Hydrology - BRS Engineering, Inc.

Doug Beahm, BRS, discussed ground water quality and quantity in the area using geologic and structural contour maps. He explained that BRS is examining the Thermopolis area for additional ground water sources to augment the water supply for the Hot Springs Rural / Worland Pipeline project. The Madison formation provides ample yields in some locations, and is the primary target of this exploratory effort.

Mark Stacy, Lidstone & Associates, Ft. Collins, Co., introduced himself and gave a brief description of his qualifications and background. He explained that four criteria were used in screening potential drilling sites:

1. Drilling depth
2. Water quality
3. Water temperature

4. Impacts on nearby ground water supplies

Four structurally enhanced areas that met these qualifications were found:

1. West of Thermopolis
2. South of Thermopolis
3. East of Thermopolis
4. Black Mt./Lysite Mt.

It was noted that an exploratory well in the Madison formation at the site east of Thermopolis has been completed. Testing results from that well show the static water level is deeper than anticipated, the yield is relatively low; and the water quality is good. With this information they are reviewing their other selected drill sites.

Hot Springs/Worland Regional Water Supply System/WWDC/BRS Engineering

Kevin Boyce, a geologist with the Water Development staff, talked about an existing water planning project for the WWDC, the Hot Spring Rural/Worland Pipeline Level II Study. This is a drinking water supply project envisioned for users in the Big Horn River valley from Thermopolis to Greybull. He explained the reason that prompted this planning came about five years ago when the Worland well field supply line had a rupture and failure. As a result of this rupture the city of Worland and surrounding areas were without water for five days. This planning project hopes to avoid other events like this and provide a reliable supply, both quantity and quality, to users in the region. He stated that along with water development comes economic development as well. A test well that was drilled in Hot Springs County, as a source supply to the regional system was a dry hole, but the WWDC will be going to Legislature to ask for funding for a second test well. Again, Doug, Mark and Kevin took questions from the attendees.

Wyoming's Current Drought Status & Related Issues - Jan Curtis, WRDS

Jan Curtis, State Climatologist for Wyoming, presented information regarding the current drought situation in the state, such as the Palmer Drought Index, Standardized Precipitation Index, and a review of the precipitation over the last 90 days. Mr. Curtis stated that Wyoming is currently in a drought, and that it will take precipitation significantly above average to return to normal conditions. It was noted that there are many methods used to make long-term forecasts, however it is very difficult to be accurate that far in the future. Mr. Curtis then presented data related to El Nino/La Nina and sunspot activity, and indicated that this data has been statistically significant in the past when making long-term forecasts. Many websites were also reviewed that contained extensive climate and weather information.

Mr. Curtis stated that he is currently part of the Governor's Drought Task Force. In an attempt to quantify drought, Jan indicated that he was developing a drought trigger mechanism that will provide ample lead-time to prepare for drought (i.e., declare emergency, implement water priority access, etc.). The triggers are based on 1 Oct historical reservoir level departures, actual winter snowpack

by 1 April, and soil moisture. Using winter and summer precipitation forecasts (6 months in advance) and April's forecast (one month in advance) for prairie grassland growth potential, a template is expected to assist State of Wyoming departments on being more proactive in reacting to a developing drought. If the drought is more than one year long, additional factors are added in order to determine just what amount of precipitation is required to end the drought.

Jan indicated that the Water Resources Data System (WRDS) website at: http://www.wrds.uwyo.edu has important real-time and forecast links pertaining to water/snow, soil moisture, reservoir levels, fire potential, and precipitation. The one-stop link is:
http://www.wrds.uwyo.edu/wrds/wsc/wy_drought_2001/wy_drought.html

USGS Data Collection/Monitoring - Myron Brooks, US Geological Survey

Myron Brooks, USGS District Chief, presented information regarding data collection by the USGS. He indicated that the USGS is not a regulatory agency, and does not create or enforce regulations. Rather, they provide water resource data in an impartial and timely manner. Data collected by the USGS include stream gaging, which measures the stage of a river or stream. This is generally done using a stilling well or pressure transducer. Stream discharge can also be measured by determining the cross-sectional area and the velocity. Mr. Brooks stated that rating curves are created which correlate the stage to the discharge, allowing the approximation of the discharge from the stage reading. These curves are calibrated periodically to ensure accuracy. In addition to gaging operations, water quality samples are also collected by the USGS in certain locations. These samples are then analyzed at the USGS lab in Lakewood, Colorado.

Relative to the Wind-Bighorn, Mr. Brooks discussed the many gage locations throughout the basin, the relative periods of record, and instrumentation. Myron stated that periods of record of at least 10 years in length were desirable for statistical purposes. It was also noted that data collected by the USGS can be useful in a variety of applications, such as planning, design, and research.

Myron presented the USGS website, http://water.usgs.gov/nwis which contains a large quantity of data on streams and rivers. Real-time data for many gaging stations can also be found on this website.

Wind/Bighorn Basin Socio-Economic Issues - BRS Engineering, Inc.

Curt Pendergraft, BRS, presented information relative to the social, economic, and cultural differences of the counties within the Wind/Bighorn River Basin. He used several overheads to show the demographics of the area. Specific information included county populations, per capita sales tax by selected retail categories, recreation spending & taxes, agricultural earnings, and mining/oil & gas employment. Curt also discussed the subject of both surface and ground water rights, and the beneficial use of the waters involved. He concluded his remarks by noting the importance of citizen involvement in the planning process. A brief question and answer session followed.

The facilitators then asked for public comments. Hearing none, the meeting adjourned at 6:10 p.m.