

Green River Basin Advisory Group
Meeting Record
Fine Arts Auditorium, Big Piney WY
June 13, 2000

Welcome

Facilitator Joe Lord welcomed the group and the meeting was opened at 5:20 p.m. The overall meeting agenda was reviewed, followed by an introduction of all attendees. A sign-in sheet was passed around to record attendance. Joe Lord conducted a review of the agenda.

Planning Team Issues

Jon Wade provided a rundown of the upcoming meeting schedule:

<u>Date</u>	<u>Town</u>	<u>Time</u>	<u>Location</u>
July 11, 2000	Wamsutter	5:00 pm	Desert School Gymnasium
August 8, 2000	Lyman	5:00 pm	TBA

Mr. Wade also briefly discussed the NE Wyoming BAG meetings that will be held later this week.

Jodie Jackson made a report about the Green River Groundwater Recharge and Alternate Storage Study. Briefly, those volunteering to review the Request For Proposal (RFP) will be getting a scope package in the mail. The schedule is to have the RFP approved by the Water Development Commission members in August and sent out thereafter. The plan is to hold consultant interviews in October, and issue a Notice to Proceed on the work in December of this year.

BAG Member Presentation

Ms. Ann Strand was given a few minutes to discuss RiverWare, a software product from the University of Colorado. The U.S. Bureau of Reclamation has replaced both its long-term policy and planning model (Colorado River Simulation System) and its mid-term operations model (24-Month Study) for the Colorado River with RiverWare rulebased simulation models. Ann suggested that if, in the future, the State will be needing to acquire and use this package, we should consider getting it now and start the learning curve process. Some discussion was held regarding what RiverWare does. Because this product has only recently been suggested for potential use in the Green River Basin for this study, there is little understanding of what it offers relative to the modeling product the consultant is preparing. Finally, the group decided to have the WWDC review RiverWare and make a short presentation at the Wamsutter BAG meeting on the pros and cons of using the software.

Consultant Update

Mr. Pat Tyrrell of States West introduced Meg Frantz of Boyle Engineering to discuss modeling efforts to date.

Ms. Frantz began by revisiting the type of model being developed (spreadsheet) and the scenarios for which it will be run (wet, average and dry conditions). She also indicated that four

models are being developed, one each for the Blacks Fork, Henrys Fork, Little Snake and Upper Main Stem Green River Basins.

To model diversions, Meg described the difference between explicitly modeled structures and aggregated diversions. In essence, explicitly modeled structures are those large diversions for which there are good diversion records and sufficient other information to allow them to be treated individually. Explicit structures are modeled as traditional diversions, with consumptive use subtracted and return flows brought back to the stream in a defined timing and location pattern. Aggregated structures are “lumped” approximations of many smaller structures in a given reach. Typically, these have poorer diversion records even though they have been in continual use. Because the structures are “lumped,” they are not modeled as divert-consume-return as are explicit structures. Instead, only the calculated consumptive use is removed at the aggregate site. Meg indicated over 2,000 water rights and points of diversion have been evaluated in creating the model.

Meg then provided a sample spreadsheet from the Little Snake model. Using the sample spreadsheet, Meg discussed how inflows (outflow from the upstream node), diversions, returns and ungaged gains/losses are computed. Consumptive demand, or the consumptive irrigation requirement for the crops being irrigated, was described as coming from Dr. Larry Pochop’s research. This demand is also affected by the number of days of the month a parcel is irrigated. Typically, irrigation schedules are estimated from hydrographer/commissioner interviews and from patterns observable in historic diversion records.

Calibration of the model was touched upon, although Meg indicated that “calibration” in this model essentially meant checking for reasonableness in the calculation of ungaged gains and losses. In a spreadsheet that tracks water downstream to gages with an historic record, there is no “calibration” per se as one would perform with a deterministic simulation model.

Meg then described progress on the groundwater portion of the study. So far, a literature review and summary has been performed. State Engineer and USGS databases have been retrieved and are being placed into GIS format. The USGS database, for example, includes over 7,100 wells and includes aquifer description, water level information, and water quality. GIS products that will be created include bedrock geology, USGS and Wyoming State Engineer's Office wells, and layers describing yield and TDS (total dissolved solids, descriptive of overall water quality).

Questions of Ms. Frantz follow:

One questioner indicated the number of Wyoming State Engineer's Office permits seemed low. Mr. Tyrrell responded that not all enlargements are counted individually in the estimate given, and that further it also includes all municipal and industrial permits.

Another questioner asked how many climate stations were used by Pochop in developing the consumptive irrigation requirement. The answer is approximately nine, based on in-basin stations reported in Pochop’s research.

Another question was asked about how wind effects were handled. The response given was that Pochop’s research took well-tested consumptive use equations and calibrated certain parameters using field data at the climatic stations. Such field work uses lysimeters, which are placed in the open in areas of irrigation so that they are exposed to the same climatic factors as is the local

crop (i.e. wind, solar radiation, cloud cover, etc.). Therefore, the effects of wind are included in the calibrated results.

A question was asked how dry year consumptive use was handled. Basically, the answer is that dry year consumption is estimated via definition of the irrigation period. In a dry year the crop consumption goes down due simply to there not being water available for consumption. This can be handled in the model by decreasing the number of days of irrigation in water short months. Also, review of diversion records will indicate which lands or stream reaches are supply limited, helping determine which reaches will be harder hit in the dry year scenario.

A final question was how to handle the area east of Flaming Gorge. Because this area drains to no modeled sub-basin, it must be handled independently in a supply vs demand fashion. Therefore, this area (Vermillion Creek and others in that region) will be handled in a separate calculation from the other spreadsheets.

Additional Presentations

Mike Long of the U.S. Fish and Wildlife Service made a presentation on the procedures involved in listing of species as threatened, endangered or sensitive under the Endangered Species Act. His talk included how species come under study via petition, and how the agency goes about determining if the species indeed “may” require further study or not. Also discussed were Recovery Plans, Section 7 Consultation, Incidental Take, Jeopardy Biological Opinions, and Habitat Conservation Plans. The entire presentation can be found on the Water Planning Website (Green River Basin Reference Notebook) at <http://waterplan.state.wy.us/>

Mr. Long then provided a slide show discussion of plants and animals currently listed in one form or another in the Green River Basin or adjacent areas.

Closing

The meeting was adjourned at 9:00 p.m.