

Notes from the URGWOM Technical Review Committee Meeting; August 22, 2002; 9:00 AM; Corps of Engineers, Albuquerque

In attendance:

James Chavez, City of Albuquerque

Bobby Creel, WRRI/NMSU

Albert D. Gonzales, BIA

Ellen Dietrich, SAIC/Corps

Susan Goodan, SAIC/Corps

Sterling Grogan, MRGCD

Walter Hines, CH2M Hill/City of Albuquerque

Conrad Keyes, Jr., Corps Consultant

Dick Kreiner, Corps

Dagmar Llewellyn, SSPA/NMISC

Art Martinez, BIA/AAO

William J. Miller, W^m. J. Miller Engineers, Inc./Corps

Andy Moore, Colorado Water Conservation Board

Howard Passell, Sandia National Laboratories

Zhuping Sheng, Texas A&M

Marc Sidlow, Corps/URGWOM

Gail Stockton, Corps

John Verploegh, NMOSE

Dave Wilkins, USGS/URGWOM

Mark Yuska, USBR/URGWOM

- ❖ Gail Stockton opened the meeting and explained that the main purpose was to review the changes to the URGWOM Physical Model (described in detail in the third draft of the documentation), changes to the Accounting Model, work on the Planning Model, and to provide an opportunity for discussion and questions. She pointed out that all of the documents provided in hard copy at this meeting are available on the URGWOM web site, in addition to the PowerPoint slide presentations from this meeting. Following is a brief summary of the presentations, focusing on the questions, answers, and discussion. (The reader is referred to the documentation for a more complete discussion of material presented at the meeting).
- ❖ Bill Miller gave a brief slide presentation overview of the meeting. Bill covered the following:
 - Background of URGWOM.
 - Participants in the Technical Review Committee (TRC), the cooperating agencies, and those other people, agencies, and organizations that have assisted in URGWOM development.
 - Agenda
 - Changes in the model since the last TRC meeting held on April 26, 2001.
 - Mission of URGWOM.
 - A quick refresher on the purpose, content, and process.
 - Offered an opportunity for anyone interested to view the model running and ask specific questions of the Technical Team after lunch from 1:00 to 2:00 p.m.

❖ Review of changes to the physical model

- Dave Wilkins discussed significant changes to the physical model including calibration and validation of the six reaches in the middle valley and channel leakage, Cochiti to Bernardo.
 - **Question:** Where is the San Felipe gage located?
 - On Pueblo of San Felipe land, fifteen miles downstream of Cochiti Dam.
 - **Question:** For calculations of river leakage, did you account for changes in flow between the drains and the river during the non-irrigation season?
 - The direction of flow between the drains and the river changes daily in the model, not just seasonally.
 - **Question:** Since some river leakage goes to deep percolation, how is this calculated?
 - Deep percolation is not calculated because it is not used in URGWOM, a surface water model. Only river leakage and that part of river leakage that is captured by riverside drains and returns to the river as surface flow are estimated in the model.
 - **Question:** Why doesn't the model care about deep percolation that would be lost from the river's flow?
 - For URGWOM's application to model daily water operations, the interest is in the amount of water lost from the river through leakage and that part that returns to the river from the shallow groundwater.
 - The amount of water lost to deep percolation would be important to a groundwater/surface water model.
 - **Question:** What are the probabilities (in percent) of the likelihood of certain flows occurring telling us?
 - This provides a way to evaluate the accuracy of the results from URGWOM. The probabilities of occurrence give the expected per cent of time that modeled flows will be within certain limits of historical measured flow.
 - **Question:** Do the plus and minus calibration factors presented make sense?
 - They make sense when modeled river leakage is compared to historic data. All reaches gain or lose at times. Plus and minus calibration factors mean that leakage is underestimated where the calibration factor is positive and overestimated where it is negative.
 - **Question:** Is the beginning of the irrigation season the same for all reaches?
 - Yes, March 15.
 - **Question:** Is the non-irrigation season calibration factor for the Cochiti reach so high because of the seepage below Cochiti Dam is not quantified yet? Or is it due to other river inflow sources?
 - The current assumption is that all water from the riverside drains comes from the river, not from upland flow, but we know that this is not entirely true, especially in the reach below Cochiti Dam.
 - BIA is working with the Pueblo of Cochiti to measure the seepage from Cochiti Dam. It is estimated to be about 30 cfs at the current pool elevation.

- **Question:** Is the error in the predicted flow of each reach idiosyncratic to specific factors for each reach or is there fundamental cumulative error in the model that would improve all outputs if corrected?
 - Data error, such as gage error, and a lack of information contribute to the problem, but the precise cause is not known.
 - When the groundwater/surface water interactions are better quantified through models, the source of the error may be better understood.
- ❖ Review of changes to the physical accounting model documentation
 - Bill Miller provided an introduction to the Accounting Model procedures by demonstration an example computation of losses at Abiquiu Reservoir.
 - Marc Sidlow followed with a more detailed description of Rio Grande conservation pool accounting procedures for Jemez Canyon and Abiquiu Reservoirs. He told the group that the Technical Team could make the C++ code for the accounting methods available upon request.
 - **Comment:** This is the best presentation on water accounting in the basin and should be used for other meetings.
- ❖ Planning model work efforts
 - Dave Wilkins described the development of the Planning Model, which will be used to evaluate alternatives for the Upper Rio Grande Basin Water Operations Review and EIS over a 40-year planning horizon. All San Juan-Chama contractor accounts other than those of Albuquerque and Middle Rio Grande Conservancy District, Cochiti Reservoir and the Bureau of Reclamation are aggregated and will not be tracked separately. No local inflow will be used in the middle valley.
 - Bill Miller described the proposed Rio Grande Compact accounting rules for Elephant Butte and Caballo to be used in the URGWOM Planning Model.
 - Operating rules for all federally managed reservoirs upstream of Elephant Butte Reservoir have been incorporated into the URGWOM rules.
 - Art Martinez stressed that the BIA does not agree to Article VII, which limits storage in reservoirs constructed after 1929. Bill explained that the Compact cannot impair the rights of Indian Tribes.
 - **Question:** Are the same methods used in URGWOM for calculating credits and debits as are used now?
 - Yes. They will be used to project compact credit/debit into the future in the Planning Model.
 - **Question:** Has the El Paso office of the USBR sanctioned this proposal, since they are currently not using these methods?
 - The staff has not commented on this so far, but they may not have had an opportunity to review it yet.
 - These rules have been proposed to the Engineer-Advisors, but not all have yet responded.
- ❖ The meeting was wrapped up after participants were thanked for their interest and attendance.