

Notes from URGWOM Steering Committee Meeting; January 8, 2004; 10:00 AM; Corps of Engineers Conference Room, Albuquerque

In Attendance:

Douglas P. Boyle, Desert Research Institute	Mike Roark, USGS
Ellen Dietrich, SAIC/Corps	Nabil Shafike, NMISC
Don Gallegos, Corps	Marc Sidlow, Corps
Conrad Keyes, Jr., Consultant to Corps	Gail Stockton, Corps
William J. Miller, WJM Engineers, Inc./Corps	Tim J. Ward, UNM
Jesse Roach, Sandia National Labs	

- ❖ Gail Stockton chaired the meeting and introduced Mike Roark as the new URGWOM Technical Team leader.
- ❖ Mike Roark gave an overview of URGWOM status and Technical Team activities.
 - The Technical Team has updated the Planning Model runs for the Water Operations Review and EIS due to a change in the input parameters for one alternative. The new data will be distributed to the URGWOPS technical teams soon.
 - Mike has taken over the sensitivity analyses that were started by Dave Wilkins, related to Abiquiu conservation storage and Elephant Butte credit water.
 - Marc Sidlow prepared the 2004 Water Operations Model version to be used for developing the Annual Operating Plan (AOP), and compared the 2002 and 2003 AOP model runs with actual data. Some differences he identified include the following:
 - In 2002, the USBR predicted that the release of San Juan-Chama water from Heron would occur at the end of the year and the URGWOM runs for the AOP were based on the USBR prediction. Actual releases occurred earlier to provide minnow flows. This change and smaller inflows resulted in the URGWOM prediction being too large, when compared with actual releases.
 - **Question:** What were USBR projected releases based on?
 - ◆ **Answer:** They are based on normal practices and are used in URGWOM to tell the model when to release water.
 - At El Vado (2002), there was a good match between model-predicted flows and actual data because the reservoir is operated as a pass-through facility.
 - At Abiquiu (2002), URGWOM over-predicted storage because the USBR ended up using much of the San Juan-Chama water to keep flow in the Rio Grande. There were good predictions of snowmelt runoff, but the choice of USBR to release contractor water instead of storing it upstream caused a discrepancy between model predictions for the AOP and actual storage.
 - **Question:** Where does Abiquiu conservation storage show up in URGWOM?
 - ◆ **Answer:** It is part of the total storage.
 - At Cochiti (2002), URGWOM did well compared to actual data because it mostly passed the inflows, but there was some noticeable error.
 - **Question:** Was San Juan-Chama water released to offset evaporation for Rio Grande Compact accounting?

- ◆ **Answer:** Yes, it was released, but the model released it during January-March and it was actually released during November-December.
- At Elephant Butte (2002), there is a very good match between URGWOM predictions and actual releases because the USBR at El Paso adhered to the release schedule that was used in the model.
 - **Question:** Why isn't the error that is apparent at Cochiti noticeable at Elephant Butte?
 - ◆ **Answer:** Elephant Butte is too large for the error to be apparent.
- At Heron (2003), contractor water actually moved early in the year when it was predicted to be released at the end of the year.
- At El Vado (2003), the storage peaks and timing in the model and actual data match well through most of the year. There was a 20,000 acre-foot discrepancy at the end of the year because more water was released than anticipated initially.
- At Abiquiu (2003), storage was over-predicted in the AOP because water was released earlier than anticipated and more water was used.
- At Cochiti (2003), storage was over-predicted because less water was available to fill the recreation pool. URGWOM did predict, almost to the day, when MRGCD water would be depleted.
- At Elephant Butte (2003), the correlation is good.
- In general, Marc and Don Gallegos are satisfied with the accuracy of the URGWOM predictions for the AOP. Many of the differences listed above are affected by politics and demands that could not be predicted at the time of the development of the AOP. The correlation between URGWOM and actual data would be improved if the model runs were updated monthly.
- Tim Ward suggested that comparing the end of year storage at each reservoir, tempered by adjustments to the runoff forecast, may help to explain the discrepancies between model runs and actual data. If people have a better understanding of how the model works and how well it predicts flows with the correct forecasts, it might help "sell" the use and acceptance of URGWOM. Gail pointed out that this might be useful to present at the next engineer-advisors' meeting.
- **Question:** How does URGWOM predict the relinquishment of water?
 - **Answer:** It is predicted in April for the May water operations forecast, which is after the Rio Grande Compact Commission meeting. URGWOM does not predict the relinquishment of credit water, it just enters the information into a model slot.
- **Question:** In the April-May forecast, how do you predict Colorado's input?
 - **Answer:** Colorado water managers provide the spring flows that are inputs to URGWOM. Colorado tries to use up all of their credit water annually.
 - It was recommended that a comparison between Colorado's predicted flows and actual flows be made to determine if that difference affects the success of URGWOM predictions.
- ❖ The Steering Committee discussed the priorities for Technical Team work for this calendar year. The rest of the Steering Committee is needed to finalize the priorities, but Gail encouraged discussion with follow-up later.
 - The Technical Team assembled a list of tasks that includes the following, with additions from the Steering Committee:

- Refine the middle valley portion of the model to incorporate new data such as that from new gages and return flow measurements.
 - Add a switch to enable modeling spike releases (a few days of peak flows), possibly by stopping conservation storage at Abiquiu and matching peak flows on the mainstem.
 - Complete rules for El Vado storage and releasing multiple Rio Grande accounts.
 - Develop monthly Rio Grande Compact accounting and include in the Accounting Model. Currently Compact accounting is done annually. If this were done, it would be necessary to use monthly USBR data that is preliminary. Sharing monthly accounting estimates could help USBR, but any model output would have to be labeled preliminary.
 - Compute unregulated flows at Otowi using a separate model without reservoir storage.
 - Complete the documentation of the rules. This is needed so people will trust URGWOM.
 - Model testing for cooperating agencies. This was planned to be completed last year, as documented in the Database and Model Testing QA/QC Plan, but was delayed to enable the Technical Team to develop the Planning Model for the Water Operations Review. The Technical Team needs to be involved in preparing the tutorial for testing preset scenarios, with outside assistance.
 - MMS development and implementation—MMS is to be installed at the USGS and operated by Mike Roark and Jack Veenhuis.
 - **Question:** Is MMS just for watersheds flowing into the Rio Chama or for the entire Rio Grande basin?
 - ◆ **Answer:** Mainly in the Rio Chama watershed above La Puente and the San Juan watersheds that flow into the Chama. It includes the 8 NRCS forecast points used for predicting snowmelt runoff to Otowi.
 - Other watersheds along the Rio Grande, down to Elephant Butte, are planned to be included in order to evaluate local inflows. So far, these models are developed but not fine-tuned.
 - Run the Water Operations Model more frequently during the year and use as a decision-making tool. If output from monthly URGWOM runs were shared with cooperating agencies, this would improve inter-agency communication and coordination. Interfacing with DSS should improve end-of-year metrics.
 - Format URGWOM Water Accounting Model output so that it corresponds to the USBR accounting spreadsheet. (Development of the report on accounting is underway by the USBR, but has not been completed.)
- Conrad Keyes asked if any of the priorities listed for 2003 have not been completed and whether the QA/QC Plan items to be done in 2003 were completed.
- The completion of rules documentation and the model testing are the two main items outstanding from last year. Updating of the model testing schedule can make use of the same tasks and duration as that listed in the QA/QC Plan.
 - **It was agreed that the Technical Team would review the QA/QC Plan and report any outstanding items at the next Steering Committee meeting. The Technical Team will also print up their task list with recommended priorities for each task, for review at the February meeting.**
- ❖ Gail Stockton reported that the El Paso Water Utilities just signed the URGWOM MOU as a cooperating agency.

- **Question:** When will URGWOM be able to include modeling flows below Elephant Butte?
 - **Answer:** When the gag order is removed. Model development and data collection can begin before this, however. This task is not part of the current QA/QC Plan and must be added if it is to be done.
- ❖ The group acknowledged Gail Stockton for being named Albuquerque District Employee of the Year.
- ❖ Gail reported that some funding has been provided, but it appears to be less than requested for URGWOM.
 - When Conrad learned that there are no letters in support of URGWOM development on file from the three states in the Rio Grande Compact, he recommended that the engineer-advisors be asked for support letters. He stressed that the support letters should also state that they will accept URGWOM output for use in making water management decisions.
 - Conrad recommended that work begin on seeking out additional resources, other than from the Corps of Engineers, for developing and maintaining URGWOM in FY 2006.
- ❖ Questions were raised on the type of total water model being developed by Sandia National Laboratories for the reaches below Elephant Butte. Gail will contact Vince Tidwell or Pete Davies to invite them to present information on this model at a future Steering Committee meeting.
- ❖ **The next meeting of the URGWOM Steering Committee is scheduled for February 12 at 10:00 a.m. in the Corps conference room.**