

MEETING NOTES
UPPER RIO GRANDE WATER OPERATIONS MODEL
ADVISORY COMMITTEE MEETING

NM Interstate Stream Commission Office
5550 San Antonio Dr., NE
Albuquerque, NM

February 17, 2015

Amy Louise called the meeting to order at 9:00 am. Those in attendance and those participating in the meeting via telephone conference call introduced themselves. The meeting agenda and an attendance list are attached.

Lower Rio Grande Model – No report.

Colorado Model

Kyle updated the Committee on the status of his review of the Colorado model compact accounting and his recommended changes to the accounting methods. His review is based on the comparison of the historic and the rule based simulations for the 1981-2012 period. Kyle reported that the historic simulation results look reasonable and should improve as the model calibration improves. Changes that Kyle recommends be made to the model include:

- Apportion water user curtailment 60%/40% between Rio Grande and Conejos users when the Colorado compact debit exceeds 100,000 acre-feet;
- Accrued credit is limited to 150,000 af
- Refine river loss estimates used to route curtailed diversions – the curtailment changes weekly but a single annual loss rate is used, 15-20% of the Conejos River and 1-5% on the Rio Grande;
- Revise rules to curtail tributary users above Index gages and to allocate future projected inflow above Index gages.

Kyle presented a comparison of results of model simulation runs using the December, 2013 draft model and the current, revised model, for the Conejos River, the Rio Grande and combined or total flow at the state line.

The Committee briefly discussed the need for using the water right solver in the model. If the Colorado water interests do not utilize the model, the model may run more efficiently without the water right solver and still simulate flow at the state line based on forecasted inflows above the index gages for use in URGWOM.

Kyle concluded his presentation by reporting that Platoro Reservoir operations simulation should be improved; Santa Maria, Rio Grande and Continental Reservoirs will not be simulated

in the model; and work to connect the Colorado model with URGWOM has not yet begun. It will be completed after the Lower Rio Grande model is combined with URGWOM.

URGWOM Monthly Model

Jesse briefed Committee members on the changes required to automate the conversion between a daily and a monthly URGWOM model. Jesse's January 28, 2015 Memorandum discusses potential rule changes required for the automated conversion. Jesse estimates that more than 200 rules and functions may not work as intended if a switch to a monthly time step is made. Jesse's recommended approach to proceeding with the investigation is to choose a hydrologic record that includes extreme wet and dry cycles to ensure that as many as possible of the rules and methods are exercised, and then the rules would be revised on a trial and error basis until the model functions properly on a monthly time step. Jesse requested that Committee members review his January 28, 2015 Memorandum and provide him with comments prior to the end of February.

Water Quality Model

Mike Roark updated the Committee on the status of the water quality (salinity) model. He began by providing background information on previous work, including the needs study, the modification of RiverWare objects to include salinity balance, and the compilation of data used in the development of a test reach. The salinity testing is also a mechanism for testing the flow simulation. The results of the test reach simulation (Bernardo to San Acacia) are satisfactory, except for the winter months. Also, spikes in salinity concentration occur when there is drying in the reach. Mike also presented results of a sensitivity analysis of the model performed by varying such parameters as conductivity of water entering the reach (groundwater and surface water) and deep aquifer percolation salinity concentration values. Mike stressed that the historical salinity data are highly variable.

Mike reported on the implementation of the salinity methods into the entire middle valley model. Because of the limited data available, assumptions were made about initial salinity concentrations in the drains and the need for an assumed constant salinity concentration for tributary inflows. He presented hydrographs of discrete points in the model from a simulation of the 2003-2010 period. Study of the salinity model revealed the need to add a general head boundary at the end of the last groundwater object at San Marcial to account for groundwater movement out of the lowest reach. Mike and Scott will also be compiling conductivity data that was collected as part of the U.S.G.S. sediment sampling program and these data will be added to the model database. The salinity modeling will be incorporated into URGWOM. The model run time will not be slowed down due to the salinity simulation since it can be switched off or on for different applications.

URGSiM Model

Jesse presented a demonstration of the URGSiM model user interface. He demonstrated how the model user can navigate between maps, data input pages and hydrograph results of model runs showing streamflow, reservoir storage and accounts, groundwater elevations, ET, precipitations, etc. URGSiM is calibrated to 1975 to 1999 period. Data is available back to 1950, but there are no historical runs to 1950. Data is also available to 2009. The work on the data interface is complete and the model (and excel file data base) are ready to be loaded on to the URGWOM web site.

Other Business

Conrad requested that HYDROS make a presentation on the Lower Rio Grande model at a meeting of the Paso del Norte Watershed Council, Lower Rio Grande Planning or Stormwater Coalition.

The next meeting of the Advisory Committee is scheduled for July 14, 2015. The next meeting of the URGWOM Technical Team is scheduled for March 11, 2015.

The meeting adjourned at about 11:00 am.



Advisory Committee Meeting

February 17, 2015 – 10:00 am

Conference Room – New Mexico Interstate Stream Commission

5550 San Antonio Drive NE, Albuquerque, NM 87109

Call-in line: 1-855-547-8255 (US Gov 703-648-4848), Pass code: 95514#

Agenda

1. Introductions
2. Technical Team Updates
 - a. Database
 - b. Loss Coefficients
 - c. Middle Valley Calibration
3. Lower Rio Grande Model
4. Colorado Model
5. Water Quality Modeling
6. URGSiM Interface
7. Monthly Model
8. Other Business
9. Next Meeting Date

ATTENDANCE LIST
URGWOM ADVISORY COUNCIL MEETING
February 17, 2015

NAME	REPRESENTING
Amy Louise	USACE
Marc Sidlow	USACE
Kyle Shour	Tetra Tech/USACE Contractor
Jesse Roach	Tetra Tech/USACE Contractor
William Miller	WJM Engineers/USACE Contractor
Nabil Shafike	NMISC
Apurba Borah	Bureau of Reclamation
Mike Roark	U. S. Geological Survey

Those participating via telephone conference:

David Neuman	CADSWES
Conrad Keyes, Jr.	USACE Contractor