MEETING NOTES
UPPER RIO GRANDE WATER OPERATIONS MODEL
ADVISORY COMMITTEE MEETING

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

January 28, 2014

Amy Louise called the meeting to order at 10:00 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.

William Miller presented the draft updated five-year plan Gantt chart that had been circulated to Committee members the previous week. The chart is an outline of the updated 2011 Plan and considers the 2014 - 2018 period, and the chart will be accompanied by task cost estimates and task descriptions documentation. Three categories of activities are presented; regular activities, enhancement and development and planning support. Significant accomplishments in model development since 2011 include the completion of all three areas of model development; the middle valley, the Colorado and Lower Rio Grande models and design and development of water quality methods for ground water. The chart indicates additional time is required for further testing and linking all the models together. Work continues for the planning period for maintenance of URGSiM monthly model. Miller also reported that the Technical Team had reviewed the draft five-year plan and their comments were incorporated into the current draft. Committee members were invited to submit comments or questions on the 5-year plan to W. Miller by February 14, 2014.

Amy presented a report on the status of URGWOM water quality modeling development. After the completion of the design document in August 2011 and incorporation of design in RiverWare test models of the Bernardo to San Acacia reach were constructed. The time period for testing was determined to be January 1990 through December 31, 1992 based on specific conductance plots. A spreadsheet model of the system was constructed for use in verifying the results of the RiverWare two-layer conceptual design model simulations. Additional model

testing of the water quality methods and expansion of the testing area will be conducted as shown in the five-year plan schedule.

Mike Roark presented a report on the results of middle valley calibration work. The availability of additional data on return flow and seepage and improved model methods have allowed for better model calibration. Mike presented histograms showing the distribution of the difference between simulated daily flow and actual flow at URGWOM reach gages through the middle valley. The histograms of low flow and all flow data were presented, as well as the simulation results at each reach under the reach linked and un-linked conditions, the linked model would propagate model error from one reach to the next. Mike reported that the model calibration indicated that there may be some problems with the historic record of discharge at the Bernardo gage, and that in the model simulation the river is in deficit until the San Acacia gage, where the simulation flow recovers to a more neutral condition.

Middle Valley model simulation results were also presented by comparing the simulated average seepage gain/loss with the results of seepage runs through the middle valley and by comparing overall simulated depletion against measured depletion between Cochiti and San Marcial. The middle valley conceptualization has been merged with URGWOM and is being used for the 2014 AOP runs. Future work in this area, as shown in the five-year plan, includes model documentation and the review of the method for computing unmeasured inflow in the San Marcial to Elephant Butte reach.

Jesse Roach reported on the investigations into hydrologic impacts due to climate change that was performed using the URGSiM monthly model. Jesse presented slides demonstrating the effect of climate change on streamflow, temperature, ET and reservoir storage during the period of simulation. The climate change modeling does not include population growth. Jesse also reported on daily timestep data analysis related to unidentified gains and losses in the San Marcial to Elephant Butte Dam reach. As outlined in a technical memo from Jesse to the URGWOM Tech Team in the fall of 2013, the investigation into the San Marcial to Elephant Butte Dam reach local inflow indicates that the unexplained losses or gains in the reach may be explained to some extent by biases in ACAPS relationships, bank storage, and seasonally reduced monthly pan evaporation coefficients, or some combination of these. Jesse demonstrated a new graphical interface of URGSiM to allow for user defined model inputs. The

interface is a mass balance calculator that could be used for different hydrologic conditions; surface water, ground water, evapotranspiration, aquifer storage, etc. This outreach tool is still under development.

Nabil presented a report that summarized the development of the Lower Rio Grande model, between Elephant Butte Dam and Hudspeth County, TX that was developed by Hydros. The groundwater/surface water interaction simulation in the lower Rio Grande is conceptually similar to the middle valley groundwater/surface water simulation. The model simulation period of record is 1975-2010, and the rules logic is based on the 2008 Operating Agreement. The model calibration runs indicate that simulated drain flows are not mimicking the historic drain flow very well and additional calibration is required. Work will continue on this model development including improvements in lag-time, daily values of CIR, and ruleset development under a contract. Once this work is completed, the Lower Rio Grande model can be linked to the middle valley portion of the model.

Carolyn reported on the status of the Aamodt litigation modeling of the supply of San Juan-Chama (SJ-C) Project water available for Cochiti Lake recreation pool being prepared for the Bureau of Reclamation. The model hydrologic data are based on five different paleo-hydrologic sequences, with delivery of SJ-C water based on the Corp's standard operating procedures or based on historic operations. Model results compare the amount of water required to maintain the 1,200 acre pool with alternative operations and the frequency of shortages anticipated to occur. The SOP delivery alternative was the least efficient alternative, and moving the delivery date to January 12 of each year is an efficient operating alternative. Reclamation is still reviewing the results of these model simulations.

Under other business, Conrad reported on the following schedule of meetings regarding the lower Rio Grande; Conrad will provide copies of the meetings agendas to Amy.

- South-Central New Mexico Stormwater Coalition is meeting February 13, 2014 at the EBID office in Las Cruces at 1:30 pm;
- The Paso del Norte Watershed Council is meeting on February 14, 2014 at the Las Cruces City Hall at 1:00 pm;
- The Clean Rivers Monitoring Project is meeting at the IBWC Office in El Paso on March 24, 2014 at 1:00 pm;
- IBWC will sponsor a citizens forum at the Las Cruces City Hall on April 3, 2014;

- IBWC will meet in El Paso, TX on April 22, 2014 beginning at 9:00 am.

The next meeting of the Advisory Committee is tentatively scheduled to be held on July 22, 2014 beginning at 10:00 am at the ISC Office in Albuquerque.

There being no further business, the meeting adjourned at about 12:15 pm.

URGWOM Advisory Committee Meeting
January 28, 2014

Attendance List

NAME	ORGANIZATION
Nabil Shafike	NMISC
Mike Roark	U. S. Geological Survey
Amy Louise	Corps of Engineers, Albuquerque District
Jessica Driscoll	U. S. Geological Survey
Carolyn Donnelly	Bureau of Reclamation, Albuquerque Area Office
Walt Kuhn	Tetra Tech
William J. Miller	WJM Engineers, Consultant to Corps
Jesse Roach	Sandia National Laboratory
Kyle Shour	Tetra Tech
Cynthia Abeyta	Fish and Wildlife Service
Rick Carpenter	City of Santa Fe
Via telephone:	
Zhuping Sheng	Texas A&M University
Conrad Keyes Jr.	Consulting Engineer, Consultant to Corps
David Neumann	CADSWES
Brian Hanson	
Connie Martinez	Ohkay Owingeh Pueblo

Advisory Committee Meeting

January 28, 2014 – 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. Five-Year Plan
3. Water Quality Modeling
4. Middle Valley Calibration
5. Monthly Model
6. Lower Rio Grande
7. Aamodt Modeling
8. Other Business
9. Next Meeting Date