

Memorandum

To: URGWOM Technical Team Members
Date: January 20, 2020
Subject: Notes of January 14, 2020 URGWOM Technical Team Meeting

These notes summarize the important matters discussed during the January 14, 2020 Upper Rio Grande Water Operations Model (URGWOM) Technical Team meeting. The meeting began at 9:00 am in the NM Interstate Stream Commission office in Albuquerque, NM. An attendance list is included on the last page of these meeting notes.

The principal meeting agenda topics include reports on the basin snowpack to date, updates and reports on URGWOM related activities from the Corps of Engineers, the Bureau of Reclamation, the NM Interstate and the U.S. Geological Survey. Other items include presentations from CADSWES on recent and upcoming RiverWare enhancements, a report on the comparison of ET values computed using SSEBop and the ET Toolbox, and reports on the Five-year plan and the upcoming Tech Team field trip.

Dave presented current (January 9, 2020) snowpack conditions in the basin based on SNOTEL readings. These include 103% at Beartown, 100% at Wolf Creek Pass, 126% at Santa Fe and 96% at Quemazon, all based on the 1981-2010 average.

Lucas reported that he has utilized an optimization model developed by the Technical Service Center for use in evaluating the Elephant Butte power plant which considers available head, release requirements, and turbine efficiencies. Lucas identified some issues with the model and has been in contact with the Service Center which anticipates resolving them by the end of January. The results of the optimization model could be implemented into URGWOM in time for use in this year's AOP model runs.

Lucas reviewed the history of the use of Reclamation lease water used in URGWOM and has uncovered some discrepancies between what is used in the Model and the actual amount of water leased. He proposed some default values for each San Juan –Chama Project lease that are more consistent with historic values. These unique values proposed by Lucas would be applied for use in planning model runs and individual variable values could be adopted for use in AOP model runs. Lucas also reviewed the dates for the transfer of lease water to Reclamation. Nearly each lease was using a different date and Lucas proposed to use a consistent date for all leases of year one.

Finally, Lucas reviewed the “letter water” releases, including the amounts contained in the model and the timing of the release, which are not consistent from year to year for each contractor. The timing and the locations of impacts of pumping (on the Compact deliveries or on the MRGCD) are not consistent between the contractors. Lucas proposed to make all letter water

releases consistent as to the location and timing of the impacts (that is, 75% of the impacts would be on MRGCD and 25% of impacts on the Compact deliveries). These amounts and schedules apply to planning model runs. Lucas will circulate his proposed changes in letter water quantities and dates for circulation among the Tech Team for further comment and implement the changes after receipt of feedback. The rules file has been reviewed and no changes are required.

Lucas and Carolyn reported that there are three gages in the model that do not have data but are required in the computation of local inflow. These are Alameda, Paseo del Norte and the San Marcial LFCC; data for the Alameda and San Marcial LFCC are available from the USGS and data for the Paseo del Norte station are computed values.

Lucas and Carolyn also reported that Reclamation has implemented new area-capacity-elevation tables for Elephant Butte and Caballo Reservoirs effective January 1, 2020. The tables have also been updated in the models. The tables are based on 2017 survey data; Caballo Reservoir lost 392 acre-feet of capacity and Elephant Butte lost 10,970 acre-feet of capacity.

Phillip reported that the Corps of Engineers has moved back into their old office building on the west side of Jefferson Street. Three representatives of the Corps Albuquerque office will be participating in the January 27, 2020 field trip. Marc and Phil will be attending the CADSWES Sponsor group meeting. Marc reported that the AOP model is set up and ready to run and the new model and ruleset will be implemented in the next couple of weeks.

Cindy reported that the NMISC is working on Rio Grande water accounting for 2019 and they are working on the implementation of the deep groundwater objects in the Middle Valley. Shalamu reported that he has submitted a WaterSMART grant application that if funded, would improve the ability to accurately forecast water supply at the Rio Grande Compact Index gaging stations.

David reported on the status of enhancements to the RiverWare model under work orders with Reclamation and the Corps. He summarized the work by Reclamation task, all of which have been completed and will be included in RiverWare 8.1 release:

#3 – Undo slot edit (numbers only) has been implemented (except in SCT tables).

#7 – An option for automatic script execution upon model loading has been added to the model.

#8 – The ability to save files per MRM traces in RiverWare and RiverSMART has been added to the model.

#9 – Updated model to make it more noticeable that a slot can be switched to periodic mode when in Slot Viewer.

#11 – Added slot viewer and RPL viewer button in workspace.

Work under the Corps task order includes adding flexibility to the hypothetical target simulation control slot to produce a range of solutions in response to warning messages and not terminate the run.

CADSWES requires input from Reclamation prior to developing the ability to save the model after partial runs, and requests a copy of a model to use in analyzing model warnings on AOP and accounting model runs (Lucas will transmit a model copy to CADSWES). Work on the script actions on periodic slots is just beginning and CADSWES has discussed this task with Reclamation.

Miller reviewed the URGWOM model development work activities and their schedule as part of the Five-year plan. These include:

Adding as a public outreach component the URGWOM training development (modules) which are the training classes presented by Marc and recorded for subsequent viewing.

The work tasks of extending the lower Rio Grande model to Ft. Quitman, the water quality modeling and the implementation of the deep aquifer objects should all be completed before final model calibration is completed. Reclamation's Rio Grande basin study also has been added to the Planning Support section of the Five-year plan.

Nick briefed the Team on the status of Hydros' activities. He reported that all deep aquifer objects have been added to the model and the reach below Elephant Butte has been calibrated based on data from the Mesilla Bolson MODFLOW model. Nick is working on acquiring the most recent groundwater for the Middle Valley in order to complete calibration of this area of the model. The model should only then need recalibration if the ET values are changed.

Miller reported that the 2020 Winter Field trip will be conducted January 27, 2019. The Team will accompany the NRCS snow survey crew during their visit to the Taos Canyon and Palo snow courses. Miller requested that those interested in participating in the tour contact him by the end of the day on Thursday to ensure that adequate seating on the bus is available.

Brian requested an update on the status of the ET Toolbox maintenance. Lucas reported that Al Brower has retired but Reclamation's Technical Service Center will continue to host the web page schematics and the database. Reclamation is planning on implementing the new ET computation method into the ET Toolbox, which is being developed in consultation with the Jet Propulsion Lab.

Grady presented a brief summary of a comparison of ET computations performed by the ET Toolbox and the USGS SSEBop system for the year 2015 for irrigated lands in the Middle Rio Grande Valley. He summarized the methods used by each package in computing ET and he presented a series of plots of daily ET values for each reach for riparian vegetation and open

water and for irrigated crop lands. Copies of aerial images with ET values (color coded) shown for each irrigated parcel were also displayed. The results show that the ET Toolbox method does not compute ET during the winter but for the remainder of the months the ET Toolbox ET values are greater than the SSEBop computed ET values.

The next regular meeting of the Tech Team is scheduled for February 11, 2020, at 9:00 am at the NMISC office in Albuquerque.

The meeting adjourned at about 10:50 am.

ATTENDANCE LIST
URGWOM TECHNICAL TEAM MEETING
January 14, 2020

<u>NAME</u>	<u>REPRESENTING</u>
Dave Moeser	USGS
Grady Ball	USGS
Marc Sidlow	USACE
Phillip Carrillo	USACE
William Miller	WJM Engineers/USACE Contractor
Walt Kuhn	Tetra Tech/USACE Contractor
Carolyn Donnelly	USBR
Lucas Barrett	USBR
Cindy Stokes	NMISC
Shalamu Abudu	NMISC
Brian Westfall	KB Engineering / BIA Contractor

Those participating via telephone conference included:

David Neumann	CADSWES
Nick Mander	Hydros Consulting
Mike Brown	Tetra Tech/USACE Contractor