Draft Project Progress Update

USACE
Coordinated Water Resources Database and Model Development: Phases V and VI

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Christopher Brown (Co-Chair)
Technical Committee, Paso del Norte Watershed Council

10:00 A.M., Tuesday, January 27, 2009
NMWRRI, Las Cruces, NM

Attendants: Bert Cortez (USBR), Bobby Creel (NMWRRI), Conrad Keyes Jr. (Consultant to Corps), Phillip J. King (NMSU CE Dept), Michael Roark (USGS), Derrick O’Hara (USBR), Nabil Shafike (NMISC), Zhuping Sheng (TAMU AgriLife Research), Marc Sidlow (USACE), and Chen Zhiqing and Bai Yungang (Guests from Xinjiang Water Resources Institute, China)

Technical support by the Upper Rio Grande Water Operation Model (URGWOM) Tech Team members (Marc, Michael and Nabil) and others is greatly appreciated. Paso del Norte Watershed Council (PdNWC) members appreciate continued support provided by U.S. Army Corps of Engineers (USACE), U.S. Bureau of Reclamation (USBR), and other agencies.

1. The goals of RiverWare development.
Following two goals for RiverWare Development in the Rio Grande Project were reviewed and discussed:
a. Flood control planning remains as a primary focus.
b. Modeling for water operations planning becomes more important with new operation agreement. Modeling results will be very useful for management and control of arroyo run-off as well as seasonal/multiple seasonal simulations with good monitoring data for flood flow from rainfalls since 2000.
Other goals such as daily operations or accounting will be addressed in future scope of work.

2. Potential users of the model;
The U.S. Bureau of Reclamation is interested in using modeling results for reservoir operations. Both irrigation districts can use RiverWare model to simulate different scenarios for operation planning under new operations agreement, potential for conjunctive uses, and management of surface water and groundwater. FEMA can use information and data for flood control planning and management.

3. USBR's participation and support as well as participation of both districts;
USBR-El Paso Office (Bert Cortez and Derrick O’Hara) will participate in the project activities by providing data needed for the model and review of the RiverWare model as well as associated documentations. The project team will also seek financial support from the USBR as appropriate to support project activities, which will benefit the Rio Grande Project and the Rio Grande Compact Commission. Phil and Zhuping will contact Elephant Butte Irrigation District (EBID)
and El Paso County Water Improvement District No.1 (EPCWID#1), respectively, for their participation in this project by providing data and information, inputs and reviews during model development.

4. **Update on new operation rules**
Phil provided an update on new operation rules and opportunities for both districts to look into water operations planning. It is a win-win resolution for both districts. The model is needed and will help districts in water operation planning.

5. **Conceptual model design**
The project team reached consensus at the meeting. Following major features will be included in configuration of conceptual model:

(a) River and irrigation network (major canals, laterals, drains);
(b) Irrigation acreage and crop consumptive uses;
(c) Flood flow (run-offs from arroyos);
(d) Operations under new operation agreement (Release and diversions) and
(e) Groundwater objects to simulate GW-SW interaction in Mesilla Basin.

The Rincon Valley will be used as a pilot project to start reconfiguration of conceptual model by using groundwater objects to simulate surface water and groundwater interaction. The model will be then expanded into Mesilla Basin. The whole model will be extended to Fort Quitman as originally proposed as part of the URGWOM.

To start the pilot project, Phil will send the group the EBID irrigation network layout. Zhuping will draft layout of RiverWare Conceptual model with GW objects for the Rincon Valley and send it to the group for review. Marc, Mike and Nabil will review the conceptual model and provide technical support as needed during model development. A meeting is scheduled to go over conceptual model and data needs after the URGWOM Steering Committee meeting on March 12. The meeting will be held at NMISC office. Phil could call in through video conference.

The input and output data format was also discussed at the meeting. Current data on PdNWC coordinated database and GIS website are in different format from the HEC-DSS. The project team will explore protocols to convert them into HEC-DSS format for data sharing and access.