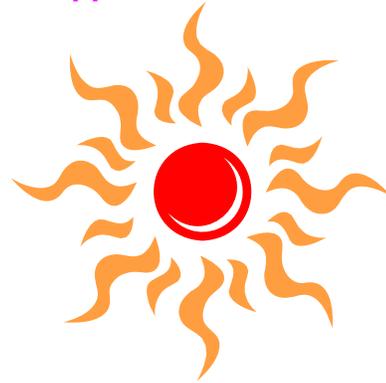


Approved 4-28-05



**HYDROLOGY COMMITTEE MEETING
SAN JUAN RIVER BASIN RECOVERY IMPLEMENTATION PROGRAM
SEPTEMBER 15, 2004**

Member/Alternates Present

Pat Page, Chairman
Steve Cullinan
Chuck Lawler
Ron Bliesner
Rick Cox (Alternate)
Steve Harris
Charles Lawler (Alternate)
Bernadette Tsosie
John Whipple
Mike Hamman
Randy Kilpatrick
John Simons
Bill Miller

Representing

U.S. Bureau of Reclamation
U.S. Fish and Wildlife Service
Southern Ute Tribe
Keller-Bliesner Engineering (Bureau of Indian affairs)
Parsons Water & Infrastructure (Water Development)
Harris Water Engineering, Inc. (Water Development)
Southern Ute Indian Tribe
Navajo Nation Dept. of Water Resources
State of New Mexico
Jicarilla Apache Nation
San Juan Water Commission
U.S. Bureau of Reclamation
Miller Ecological Consultants, Inc. (Southern Ute Indian Tribe)

Other Interested Parties

Dave King
Brian Hanson
Joann Perea-Richmann
Aaron Chavez
Renee Garcia
Mike Roarke

U.S. Bureau of Reclamation
U.S. Fish and Wildlife Service, NM Ecological Services
U.S. Fish and Wildlife Service, NM Ecological Services
San Juan Water Commission
U.S. Geological Services
U.S. Geological Services

Introductions, Review and Approval of Agenda Items and Minutes

Committee approved minutes for July Conference Call.

USGS REPORT ON STREAM GAGING ACTIVITIES IN 2004

Briefing was conducted on streamflow gaging activities in 2004 for the San Juan River gages at Archuleta, Farmington, Shiprock and Four Corners. Briefing was provided and provided as an attachment. At the end of the briefing Renee Garcia indicated that United States Geological Services (USGS) still owed work to San Juan Recovery Implementation Program (SJRIP) in which \$5500 was obligated in FY04 for projects. They stated that this work would be done in FY05 therefore, no money would be needed.

Pat Page mentioned that on the Archuleta Gage there's uncertainty on the right-of-way. The Hydrology Committee (HC) has asked USGS and Bureau of Reclamation (BoR) to look into the status of the ROW agreement.

REVIEW AND APPROVAL OF DRAFT MINUTES FOR MAY 18 AND JULY 13, 2004

The HC tentatively approved both meeting summaries subject to final review after comments have been incorporated.

REVIEW OF ACTION ITEMS CONFERENCE CALL SUMMARY

Action item logs were reviewed and updated. See attached log for September 15, 2004.

AI #136 (explanation of depletion differences between Gen 2 and Gen 3) to be on agenda for next meeting.

Blaney-Criddle – after discussion it was decided that in the next model update (Gen 3), original Blaney-Criddle would be used on old projects in New Mexico.

John Simons addressed the committee stating he's been trying to get a hold of Randy Seaholm to see if the Red Mesa Enlargement depletion had been included in Colorado's baseline depletions.

BUDGET AND STATUS REPORT – PAT PAGE

Indicated that the Coordination Committee met September 10, 2004 to review and approve FY05 Hydrology Committee Scope of Work. It was determined that total requested by all SOW's is over the \$2.139M budgeted for FY05. Therefore, Coordination Committee directed that all SOW's be reduced to meet FY05 budget. By obligating unspent FY2004 funds and re-directing USGS gaging work to model O&M, it was determined that the Hydrology Committee's SOW could meet Coordination Committees directive and all that would be impacted from the model O&M SOW is that the Contingency Funds would be reduced slightly.

Brian gave a budget update on the unused funding for the Program Coordinator and Program Assistant and it was determined that about \$70,000 would be available to put forward into FY05. He also mentioned that if a new coordinator from out of state is selected that the program will have to pay moving expenses.

Dave King indicated that all of the Model Development funding for FY2004 had been spent.

GENERATION 3 (GEN 3) MODEL DEVELOPMENT UPDATE

Ron Bliesner stated that documentation for Gen3 was out as scheduled and on the web. Comments were received from NMISC and _____. SJWC stated they would submit comments as well. NMISC stated the name of model should be changed, since in their opinion it is Reclamation's model not a SJRIP model. Motion was made to change the title but was voted down.

- When going to daily operations in the Gen 3 model, the water balance in the reservoir is more precise and it is more difficult to prevent spills from occurring than in the monthly time-step Gen 2 model. It was the general feeling of those who must operate the dam that to have simulations that include spills from the dam is problematic and we should keep working on the rules to prevent spills. In final rule development and calibration, this will be the goal.
- Presently, we are not meeting all the secondary flow criteria with the Gen 3 model while at the same time preventing spills. While it would be possible to do so with substantial additional work, it was felt by the modelers that it would be a waste of money, as the Biology Committee is apparently going to make recommendations to evaluate changes in the dam operation and flow recommendations. The modelers recommended and the HC approved postponing further calibration of the model until instructions were received from the BC on what changes they would like evaluated. The Gen 3 model will be used to evaluate these changes.
- Until the flow recommendation changes are tested and approved, then Gen 2 model will continue to be used to evaluate impacts of new projects requesting analysis. Long Hollow and Navajo Gallup are still in consultation and will be done with the Gen 2 model. The committee agreed to the following:
 - No further work on matching Gen 2 and Gen 3.
 - Any changes to Gen 3 on new flow recommendation need to include Jicarilla, Long Hollow Reservoir and Navajo Gallup.
 - During this period of development prior to full approval of Gen 3, new model run requests that come to the Bureau will be reviewed by the HC for recommendation of the appropriate modeling tool. However, until any changes in the flow recommendations are approved, Gen 2 is the most likely platform for analysis.

SUGGESTED CHANGE FOR REQUESTING MODEL RUNS – PAT PAGE

The coordination committee suggested removing typo in #3 and adding to #6 in the current format that “it is recommended that the service verify with Reclamation to insure that the model run was done correctly and that the results and conclusions contained in the applicant's report accurately reflect model results.”

EXTREME CONDITIONS – RON BLIESNER (HANDOUT ATTCHED)

The foundation of the recommendation is the criteria used in the Gen 2 model that relate release patterns to basin depletion levels and end-of-July Reservoir content. Reservoir content is also checked against the criteria at the end of October and December. The HC agreed that we extreme conditions still exist and discussion with be done in future meetings to monitor.

Pat Page suggested the following changes to the paragraph under Table 1 include after review annual

hydrologic and climalogical conditions “review and update the current depletion demands and may consider other hypothetic criteria”

At the end of the first paragraph under “Background” insert “The use of minimum probable forecast reduces the level of risks to water users caused by inaccuracies, inherent in weather and runoff forecasting.”

Bill Miller suggested inserting the background prior to recommendations or a lead in page, so that those coming in from the outside will understand better.

After minimum reservoir content *include (661,880 acre feet)* to maintain the net diversion.

1st sentence 2nd paragraph after 250 cfs insert “minimum”.

*Any other comments need to be sent to Ron to update.

SCOPE OF MODELING TO INVESTIGATE MODIFYING FLOW RECOMMENDATIONS (PART OF THE FY05 SOW)

HC agreed to make this an agenda item for November 16, 2004

DISCUSSION OF PROCESS FOR TRACKING DEPLETIONS IN THE BASIN – RON BLIESNER

The process is to give the best estimate. The Navajo Gallup BA has been signed and forwarded to FWS, net new depletions for Jicarilla is 1,840 acre feet which they are providing 8,700 acre feet to the project and all but 1,840 acre feet is already in the base line, it’s in the Navajo River project that would be new depletion transferred to the Navajo Gallup included historic unused depletions. The 27,000 plus acre feet depletions that Navajo nation has in the project will be handled under depletion guarantee. These have gone through section 7 consultation.

STATUS OF NAVAJO GALLUP WATER SUPPLY PROJECT

Navajo Nation indicated that in the event that depletion in the basin reach the baseline number plus the 1,840 acre feet new depletion for Navajo Gallup they would curtail the depletion (cut back on Navajo Gallup or some other project) in order to keep the total baseline in the basin under the baseline level per the Navajo Gallup consultation. But until this they will continue to use utilize whatever water needed up to the full amount listed in the BA. The Jicarillas’ water is all maxed out so they cannot guarantee any extra water at this point. The model is updated every 5 years for informational purposes. It was also suggested that BoR should be the responsible party and the HC should be responsible for tracking and reviewing the data.

Note: It was mentioned that FWS would post BA’s on the list serve or placed on FWS web. This information is correct but please be advised that there is a process of accepting and finalizing BA’s before they can go out public.

ALTERNATIVE METHODS FOR PROVIDING WATER TO FISH

Nothing to report, this is currently an action Item

HYDROLOGIC CONDITIONS DISCUSSION

The committee agreed that we are still in extreme conditions.

NAVAJO RESERVOIR OPERATIONS

Latest Forecast—

Status – Inflow to the reservoir is going to be around 66% for the water year. Using an estimate of 79% of average inflows for next year, we would have the minimum spring peak release next year.

Shortage Sharing Update –

Status - indicates an end-of-December elevation of 6016 feet.

PHREATOPHYTE LOSSES (RON BLIESNER)

Data on phreatic Free Atic use in the system was based on digitization of phreatophyte acreage from aerial photos of the San Juan River from Navajo Dam to Mexican Hat which includes about 21,000 acres of total water using surface. Half of this acreage is below the four corners. When water balance is done it shows that the actual usage is much less than the theoretical usage for this acreage, particularly below four corners. ET estimates from the phreatophyte acreage below four corners appear to be too high, likely due to reduced canopy density, limited water supply and the possibility of unaccounted groundwater gain.

Three runs were done for July & August 2002, July 2003 and then July & August 2004 during periods of no precipitation and it looks as though actual depletion due to phreatophyte use estimated from water balance is about ½ of the theoretical maximum. The bulk of the reduction is in the lower half of the river. The attached tables summarize the result, showing the average phreatic losses in the system reach a peak of about 130 cfs in the middle of the summer.

ACTION ITEMS

- Pat Page will send USGS briefing.
- Comments to Ron Bliesner on Extreme Conditions by September 30, 2004
- FWS to update minor depletions log.
- Pat Page to contact Ray Alvarado to find out if Action Item #58 is still needed.

MEETING ADJOURNED AT 3:30 PM

HYDROLOGY COMMITTEE ACTION ITEM LOG
(Updated October 20, 2004)

	<i>Action Item</i>	<i>Meeting/ Originatio n Date</i>	<i>Responsible Party</i>	<i>Due Date</i>	<i>Revised Date</i>	<i>Date Completed</i>
4	Add model runs and other information to the permanent hydrology website: http://uc.usbr.gov	7/25/01	Erik Knight	Ongoing		
5	Model modification briefings.	7/25/01	Reclamation and Keller-Bliesner	Ongoing		
12	Any new data or methods incorporated into RiverWare or State Mod will be shared with the Hydrology Committee.	7/25/01	Keller-Bliesner and Reclamation	Ongoing		
33	New Mexico will work on developing data on non-irrigation depletions starting in March. [10/29/02] New Mexico has provided provisional data on the prior depletions. Staff will not be available for the next few months to work on this. <i>Dave King has extrapolated pre-1970 non-irrigation depletions data back to a baseline and will send the spreadsheet to Rick Cox.(completed as of 2/11/03)</i> Dave will provide written explanation of how extrapolation was done to Hydrology Committee. The model is operating with provisional generation II data until New Mexico submits further data.	11/27/01	New Mexico	March 2002	Extended (Revised power plant data has been submitted by NM)	
34	Gage error analysis discussion: the Hydrology Committee still needs to determine whether big losses are due to daily disaggregation. The Committee has the option to re-evaluate losses once the 3 rd Generation model is complete.	11/27/01	Hydrology Committee		Postponed until StateMod analysis is completed	

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58	John Whipple will provide a written statement of New Mexico's concerns re: State Mod. Based on that, Ray Alvarado will provide a written description of StateMod. New Mexico's comments have not yet been received. [10/29/02] Still on New Mexico's back burner.	5/7/02	John Whipple Ray Alvarado	6/17/02	Extended	
104	Bernadette Tsosie will work with USGS to determine a good site for the Shiprock cableway.	8/5/03	Bernadette Tsosie	Ongoing	Ongoing	
105	USGS agreed to give a presentation annually to the Hydrology Committee regarding the effectiveness of the gage readings.	8/5/03	USGS	Ongoing	Annually	
115	New Mexico will present issues associated with forbearance.	10/14/03	John Whipple	01/20/04	11-16-04	
124	USBR will conduct a comparison of Riverware versions whenever a new version is available, analyze the results, and recommend to the HC whether and when to incorporate the new version.	1/21/04	Pat Page	Ongoing		
131	Submit comments on Extreme Conditions to Ron Bliesner.	3/23/04	HC members	5/18/04	11-16-04	
136	Coordinate documentation for depletion differences for Gen 2 & Gen 3 specifically on NM non-Indian.	5-18-04	Ron Bliesner & Dave King	Ongoing		
139	Committee will report any new projects which will be coming up.	5-18-04	Hydrology Committee	Ongoing		

140	Follow-up on (USGS) gage at Archuleta right-of-way AGENDA ITEM	5-18-04	Pat Page	7-13-04	Ongoing	
142	Generation 3 Model to be completed	5-18-04	BoR	9-15-04		

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