

Middle Rio Grande Endangered Species Act Collaborative Program
PHVA/Hydrology Ad Hoc Work Group Meeting
August 10, 2010
1:30 pm – 3:30 pm
Reclamation

MEETING SUMMARY

08/10/10 Actions

- Valda Terauds will forward the email with the RiverEye's report location on the Program's website for Tetra Tech to distribute to the work group.
- David Gensler to provide MRGCD's archived hard copies of their Board of Director's Summary Notes for information and comments on Article VIII releases in the 1940s and 1950s to Nabil Shafike. (*modified action from 05/18/10*).
- Jim Wilber will continue to facilitate a joint work group meeting between the PHVA/Hydrology and PVA work groups, as needed an appropriate.
- Leann Towne will schedule a smaller PHVA/Hydrology refresher for new Program members and other key individuals.
- Andrew Lieuwen will provide Valda Terauds with information regarding the City's agreement with MRGCD to keep a certain amount of water in the diversions in the 1990s for inclusion in Operations Calendar.
- Valda Terauds will email the Operations Calendar in spreadsheet format to Tetra Tech for distribution to the PHVA/Hydro work group members.
- Any additional water operations information that should be included in the Operations Calendar is due to Valda Terauds no later than August 25th.
- Craig Boroughs will re-distribute the final version of the Key Points Summary Document to PHVA/Hydro members.
- Leann Towne will contact BIA to (1) determine who will be replacing Randy Shaw as the PHVA/Hydro representative and (2) to propose to keep the P&P rules in the model as is for now.
- Warren Sharp will meet with the URGWOM Tech Team to develop a list of output slots for Dr. Goodman and David Gensler to select which outputs are needed in ASCII.
- Valda Terauds will provide the input on scope of work for modeling to Jericho Lewis.

Meeting Summary

- Leann Towne brought the meeting to order and introductions were made. The agenda was approved with the addition of (1) a contracting update; (2) LTP update; and (3) DBMS update. The May 18th meeting notes were approved with no changes.
- All but 2 of the actions items were completed. The remaining two were added to this meeting's action item list.
- Valda Terauds shared an update on the Operations Calendar developed to assist the PVA modelers in understanding the various factors that could provide "clues" to what might be affecting the hydrograph. Any additional water operations information that should be included in the Operations Calendar is due to Valda Terauds no later than August 25th.
- The Key Points document was presented to the PVA at their last meeting. The attendees expressed that they thought it would be a helpful document, but the modelers did not have any specific questions at that time.
 - In an update on the model changes, the work group discussed the model prediction of the loss of water between San Marcial and Elephant Butte Reservoir and the potential need for additional calibration. Potential changes to the modeling approach for

representing letter water deliveries are still being reviewed. The work group also discussed that there is still time to incorporate any needed small changes into the model, and a model version will then be established in a couple months for new runs.

- Attendees briefly discussed that the previously identified need for longer model runs (40+ years) is no longer a concern since the Program is seeking a BiOp with no term end. Longer model runs could still be pursued if needed, but separate model runs would need to be completed in sequence due to memory limitations when running the model.
- Craig Boroughs then presented an update on the spatial depiction of river drying that was updated with different colors to represent different durations of drying (ex. yellow representing intermediate drying where the triggers that indicate river drying were not met for 3 days and red to indicate more significant drying where the triggers were not met for 14 days.) Attendees discussed referencing the inflow versus outflow for the URGWOM subreaches; although, either approach could be misleading (i.e., portions of a subreach could still be wet even if the inflow or outflow is 0). There may be a need to use a combination of both. To resolve this issue, it was agreed that a future action item will be to switch to inflow and compare the outputs from a model run with 2007 inputs to 2007 data for river drying and complete a similar evaluation against 2009 data (once 2009 data have been incorporated into the URGWOM database).
- In a closed session, the work group members discussed contracting.
- The CC is meeting for a regular business meeting tomorrow from 1:00pm to 4:00pm. There will be a presentation on the database management system (DBMS) – this will be the last presentation given and PHVA/Hydro members are encouraged to attend, especially the modelers. More input is needed on the water pieces and linkages to other information (ex. the state's TMDLs).

Next Meeting

- Tuesday, October 26th from 1:30pm to 3:30pm at Reclamation;
 - Tentative agenda items: (1) discuss the recent, small model changes

Recommendations

- It was recommended that the PVA work group provide input on what they would consider is a good trigger for “intermittent drying” versus “real” or longer-term drying. In the latest example representation of river drying, trigger flows not being exceeded for 3 days is used as defined intermittent drying and 14 days is used for real drying.

Future Actions

- Future Action: Switch to using subreach inflow versus outflow when identifying river drying from model results and compare results with the approach from a simulation with 2007 inputs to the actual 2007 river drying data. Once 2009 data are incorporated into the URGWOM database, compare modeled drying to actual drying data for 2009 as well.

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MEETING NOTES

1. Introductions

- Leann Towne opened the meeting and introductions were made.

2. Agenda Review and Announcements

- The agenda was reviewed and approved with addition of (1) a contracting update; (2) LTP update; and (3) DBMS update.
- Steve Kissock, COE, is the new co-chair replacing April Fitzner; Don Gallegos remains COE's alternate. Terina Perez is Reclamation's new PMT member and will be replacing Amy Louise as the PHVA/Hydrology work group liaison. Randy Shaw has taken a new position with Reclamation starting next week.

3. Approve May 18, 2010 meeting minutes

- The May 18th, 2010 meeting minutes were approved with no changes.

4. Review Action Items from May 18 meeting

- ✓ Jim Wilber will follow up with Leann Towne and April Fitzner on the request to consider scheduling a regularly monthly PHVA meeting day/time in order to accommodate participant's busy schedules. – *complete*;
 - The request to meet on regular monthly meetings was raised to accommodate some member's schedules; however, the PHVA/Hydrology work group is product oriented and hasn't been meeting just to meet. The meetings are scheduled in accordance with the work load so meetings occur only as needed. It was agreed to keep the meeting schedule on an as-needed basis.
- Nabil Shafike will visit the MRGCD office to review the archived hard copies of their Board of Director's Summary Notes for information and comments on Article VIII releases in the 1940s and 1950s. – *not complete*;
 - Nabil contacted MRGCD; David Gensler has not provided the archived notes on Article VIII releases yet.
- ✓ Craig Boroughs will email the diversions flowchart to Paul Tashjian. – *complete*;
- Tetra Tech will send an email to PHVA members letting them know where the RiverEyes summary information (report and data files) is posted on the Program's website. – *not complete; file location on website is unknown*
 - Valda Terauds will forward the email with the RiverEye's report location on the Program's website for Tetra Tech to distribute to the work group.
- ✓ Craig Boroughs will add a table defining the subreaches to the PHVA summary document. – *complete*;
- ✓ Craig Boroughs will add the reference(s) to the URGWOM documents website to the PHVA Summary Document. – *complete*;
- ✓ PHVA work group members have until COB on June 11th to provide comments or revisions on the PHVA Summary Document to Craig Boroughs. – *complete*;
- ✓ Craig Boroughs will adjust the resolution in the Spatial Depiction of Drying example to include suggestions of differing colors to indicate drying durations, inflow versus outflow, etc. – *complete*;

- Jim Wilber will inform the PVA work group about the intent to schedule a joint PVA/PHVA meeting in early August; the joint meeting will include the condensed PHVA refresher. – *unknown status*;
 - The next PVA meeting is scheduled for August 25th and 26th but there is no joint meeting on the agenda at this time.
- Craig Boroughs will add the graphic FLO2D correlations of flow to inundation to the model run post processing outputs. – *ongoing; in progress*;
 - This task is temporarily on hold until other work on the model begins.
- ✓ Work group members have until COB on Tuesday, May 25th to provide comments to Valda Terauds on the PHVA 2010 SOWs. – *complete*;
- Leann Towne will schedule a smaller PHVA/Hydrology refresher for new Program members and other key individuals. – *not complete; ongoing*;
 - Identified individuals include: Paul Tashjian, Steven Kissock, Terina Perez, Lori Robertson, Dave Campbell

5. Operations Calendar Update

- Dr. Goodman (PVA modeler) had requested more information be provided in order for him to better understand what was going on and taking place with the river and water operations from 1990 through 2009. The operations calendar was developed as a response to this request. The calendar was developed with input from multiple sources (COE, BOR, reports, etc.) and was discussed at a special June 22nd meeting with agency representatives involved with historical and day-to-day operations.
 - ABCWUA and ISC are two agencies that have not been able to review or add any significant items to the operations calendar yet.
 - Various information that provide “clues” to what might be affecting the hydrograph are in the calendar and include (1) when reservoir storage was evacuated and pool elevations peaked; (2) the timing of the snowmelt runoff; (3) periods when channel capacity criteria affected operations; (3) irrigation operations for any given year and when irrigation ended early; (4) Prior and Paramount (P&P) storage and releases; and (5) impacts of runoff from monsoonal events. The more recent years also include information on the BiOp requirements.
 - It was pointed out that the agreement between the City and MRGCD from the 1990s to keep a certain amount of water in the diversions was not currently in the Operations Calendar.

Action: Andrew Lieuwen will provide Valda Terauds with information regarding the City’s agreement with MRGCD to keep a certain amount of water in the diversions in the 1990s for inclusion in Operations Calendar.

Action: Any additional water operations information that should be included in the Operations Calendar is due to Valda Terauds no later than August 25th.

Action: Valda Terauds will e-mail the Operations Calendar in spreadsheet format to Tetra Tech for distribution to the PHVA/Hydro work group members.

6. PVA Presentation Update

- The Key Points document was presented to the PVA work group at their last meeting. The attendees expressed that they thought it would be a helpful document, but the modelers did not have any specific questions at that time.
- The lack of interaction, feedback, and response to the document was disappointing.
- There was some discussion regarding the spatial resolution of drying and the need to “figure” out what the different types of drying mean for the fish. For example, RiverEyes data may indicate that a stretch of river is “dry” when in fact there are

residual pools. Some of this level of detail is included in the RiverEyes notes but it is not consistent. Does “dry” mean “bone dry” or is there some water somewhere (pools, small wasteway returns, residual water from occasional rewetting events, etc.)?

- It was suggested that a modification to the RiverEyes data collection approach might be something to consider to help address the need for better, more consistent data.

Action: Craig Boroughs will re-distribute the final version of the Key Points Summary Document to PHVA/Hydro members.

7. Model Changes Update

- There are several minor URGWOM changes that are in process of being completed or still need to be addressed: (1) the model prediction of the loss of water between San Marcial and Elephant Butte Reservoir is being reviewed; and (2) the modeling approach for representing letter water deliveries is being evaluated.
- The work group discussed the deadline for having a final, established model version. There is still some time to continue making minor modifications to the model. BIA’s concern with the current rules for computing P&P storage and releases still needs to be resolved, but it is hoped that the calibration and changes can be finished within the next couple of months for establishing a final model version for new runs.

Action: Leann Towne will contact BIA to (1) determine who will be replacing Randy Shaw as the PHVA/Hydro representative and (2) to propose to keep the P&P rules in the model as is for now.

- The work group briefly discussed Nabil’s test model run with a 50-year hydrology sequence. The Service and others have confidence issues with potential longer-term model runs specifically related to adaptive management and climate change. However, the original desire for longer simulation time periods has been resolved since there are discussions about pursuing a BiOp with no end term. Using the five 10-year sequences for the analysis would provide a range of expected conditions that could be broadly evaluated for management abilities within those brackets. The Service will put specific triggers in place and there will be annual reviews guiding adaptive management or the need to re-consult.
 - Longer model runs could still be pursued if needed and if the separate model runs that would be completed in sequence could still be appropriately strung together.
- Craig Boroughs then presented the updates to the example Spatial Depiction of River Drying. Attendees were reminded that the example drying charts show the occurrence of drying by month not by day (where a daily resolution would result in 3650 images for a 10-year model run). The example only includes one scenario for one sequence at the monthly scale and there are still 120 images. No changes were made to the trigger flows used to identify when river drying would be expected except the subreach inflows, not outflows, are checked against the triggers.
 - Different colors were added to indicate different degrees of drying: yellow for brief intermittency and red for trigger flows not being met for 2 weeks.
 - Attendees discussed how this spatial depiction of river drying has value as a presentation tool to show a targeted audience the big picture of drying and to help them focus on where the issues are before delving into the more detailed charts and information.
 - Concern was raised that zero inflow or outflow does not necessarily indicate that a subreach is dry since the wasteways can provide flow which help support stretches within a subreach. Inflows won’t capture the benefit of wasteway inputs; it was suggested that some combination of inflow and outflow be used.

- The reach from Bernardo to San Acacia is a gaining reach, so if the inflow is less than the trigger flow, the expected portion of the reach that would be dry needs to be determined.
- It was suggested that the reaches could each be examined differently in terms of inflow versus outflow references since this particular issue only applies to the subreach above the San Acacia Diversion.
- It was also suggested that the 2007 RiverEyes data be used to verify the approach for estimating drying from model results and incorporate the 2009 data as soon as possible for an additional comparison/verification of the approach for estimating when drying would be expected based on model results.

8. URGWOM Post Processing

- Dr. Goodman (PVA modeler) has requested that data/information be provided to him in ASCII format. The work group discussed how to get the URGWOM outputs into ASCII format. The easiest method would be to set up a RiverWare DMI in URGWOM. The URGWOM Tech Team will need to know which output slots in the model are needed.
 - Warren Sharp agreed to meet with the URGWOM Tech Team to develop a list of URGWOM output slots along with descriptors that can be provided to Dr. Goodman and David Gensler for selecting the needed model output. It is assumed that the main information needed pertains to flows at the subreach level.
- The work group discussed working with the adaptive management consultant (in progress) to help determine how URGWOM could be used to model adaptive management and potential “if/then” situations.
 - The RFPs for the adaptive management consultants have been evaluated but not awarded yet. It is expected to be filled by the end of the fiscal year. It is assumed that the scope is broad enough to allow for their involvement with the PHVA/Hydrology work group and URGWOM.

9. Status of the Contract Update

- Jericho Lewis will not have enough time to get the reviewed scope of work for a modeling ID/IQ contract out, so he is having to default to a previous scope in order to obligate funds. Warren Sharp will be the COTR for the URGWOM modeling.
- The work group continued discussing the status of the modeling contract in a closed session. Please contact attendees for additional information.

10. Long-term Plan (LTP) Update

- In an LTP update, it was shared that the CC continues to review, edit, and approve work group future activity summaries for inclusion in the LTP. PHVA/Hydro didn't propose any future activities, but the SWM work group did proposed future activities related to modeling for inclusion in the LTP.
- The consultation team has facilitated discussions about having a negotiation process next year for the pre-ESA analysis done. The Service would then come back with an effects analysis with their identified larger concerns relative to the Opinion (ex. target flows, base flows, whatever it may be). Additional modeling would hopefully ultimately arrive at a reasonable alternative. The LTP would be a component of the RPA (although they are not fully related).

11. Database Management System (DBMS) Update

- The fifth and final presentation of the DBMS data model (or conceptual model of the database) will be presented to the CC tomorrow afternoon. This is a worthwhile presentation to attend, especially for the modelers and any work group members who haven't seen it before. The DBMS will ultimately be the Program's data repository and geographical tool to allow for data queries and analysis.
- The contractors are collecting comments and feedback from the Program to (1) identify any missing data sets; (2) ensure all data sets are appropriately linked; (3) ensure no data is misrepresented; and (4) ensure correct terms and common phraseology is being used. Comments and feedback on the data model are due to Monika Mann no later than COB on Wednesday, August 25th.
- More input is needed on the water pieces.
 - At the SWM presentation, identified missing information included: (1) diversion information; (2) wastewater information including permits; (3) water quality; (4) reservoir information (ex. the water bucket diagrams); (5) water toxicity standards; and (6) links to the state's TMDLs.
- Attendees discussed the potential need for a longer workshop-type presentation of the DBMS to allow for some practice runs.

12. Next Steps

- The consultation team is identifying what question and analyses they want the PHVA and PVA to address.

13. Next Meeting

- Tuesday, October 26th from 1:30pm to 3:30pm at Reclamation;
 - Tentative agenda items: (1) Recent model changes;

PHVA/Hydro Work Group 10 August 2010 Meeting Attendees					
NAME	POSITION	AFFILIATION	PHONE NUMBER	EMAIL ADDRESS	Primary, Alternate, Other
Craig Boroughs	Tech Team	Contractor (BOR)	970-513-4459	boroughs@bhandh.com	O
Stephen Kissock	PHVA/Hydro Co-Chair	COE	342-3291	stephen.r.kissock@usace.army.mil	P
Nabil Shafike	Tech Team	ISC	383-4053	nabil.shafike@state.nm.us	O
Leann Towne	PHVA/Hydro Co-Chair	Reclamation	462-3579	ptowne@usbr.gov	P
Warren Sharp	PHVA/Hydro member	Reclamation	462-3637	wsharp@usbr.gov	O
Valda Terauds	PHVA/Hydro member	Reclamation	462-3584	vterauds@usbr.gov	O
Rolf Schmidt-Petersen	PHVA/Hydro Member	ISC	764-3880	rolf.schmidt@state.nm.us	P
Andrew Lieuwen	PHVA/Hydro Member	ABCWUA	768-2570	alieuwen@abcwua.org	P
Jeanne Dye	PHVA/Hydro	Reclamation	462-3564	jdye@usbr.gov	O

	Member				
Terina Perez	PMT	Reclamation	462-3614	tlperez@usbr.gov	O
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