

## **Notes from Upper Rio Grande Basin Water Operations Review Interdisciplinary NEPA Team Meeting; May 13, 2004; 1:00 PM; Corps of Engineers, Albuquerque**

*In Attendance:*

Scott Armstrong, BHI/Corps

Steve Boberg, Corps

John Branstetter, USFWS

Robert Browning, II, Corps

Mike Buntjer, USFWS

Deb Callahan, USBR

Marsha Carra, USBR

Art Coykendall, USBR

Tim Darden, NMDA

Ellen Dietrich, SAIC/Corps

Ed Fierro, EPWU

Susan Goodan, SAIC/Corps

Richard Hansen, NMDGF

Mike Hatch, USFWS

Debbie Hathaway, SSPA/NMISC

Mark Horner, Corps

Ernie Jahnke, Corps

Jon Kehmeier, SWCA/NMISC

Bill Leibfried, SWCA/NMISC

Clay Mathers, Corps

Bill Miller, Miller Ecological/Corps

Bob Mussetter, MEI/NMISC

Claudia Oakes, SWCA/NMISC

Dennis Oyenque, San Juan Pueblo

Jason Remshardt, USFWS

Jesse Roach, Sandia National Labs

Zhuping Sheng, TAMU

Gail Stockton, Corps

Valda Terauds, USBR

Scott Waltemeyer, USGS

- ❖ Gail Stockton chaired the meeting and requested that participants review the draft notes from the April meeting. After self-introductions, Gail introduced Bill Miller and Bob Mussetter to give a presentation on the development and findings of the aquatic habitat model.
- ❖ The aquatic habitat model was developed to enable the Aquatic Systems Technical Team to evaluate the effects of the EIS alternatives on selected areas of the Rio Grande and Rio Chama. Bob Mussetter developed and ran the two-dimensional hydraulic model and Bill Miller developed the GIS interface and the aquatic habitat suitability analysis.
  - Eight sites were modeled, 2 in the Rio Chama and 6 in the Rio Grande between Cochiti and Elephant Butte. The sites were selected to represent different types of river geomorphology in the reaches most likely to be affected by proposed operations changes.
  - Hydraulic model
    - The model used was the RMA-2V model with the SMS interface.
    - This is a finite element model that generates depth and velocity data at nodes in the mesh developed for each site.
    - Hydraulic modeling only considered in-channel flows, no overbank flows.
  - Aquatic habitat suitability model
    - The model evaluates habitat as a function of flow using parameters for the fish species selected by the Aquatic Systems Technical Team.
    - The hydraulic model output of depth and velocity at every node was compared to the habitat suitability criteria for the selected species at each site. These data were used to develop habitat-flow response contours for a time series at each site.

- The summarized model output was shown in a slide as the number of days below a threshold value for each site under each alternative.
- **Question:** Do threshold values change by site?
  - **Answer:** Yes, threshold values were selected based on a visual review of the data and professional judgment of the minimum available habitat for each site.
- **Question:** How do you evaluate whether the threshold values are meaningful?
  - **Answer:** It is up to the Aquatic Systems Technical Team to do that. The technical team calculated the percent difference between the available habitat under each alternative and the No Action alternative.
- **Question:** Did you consider flows below 334 cfs at Bernardo? These lower flows may provide other habitat to be considered. More water may not provide better habitat.
  - **Answer:** No flows below 334 cfs at Bernardo were modeled.
- **Comment:** The aquatic habitat suitability model should either ensure that habitat availability for all life stages of the identified species are considered or determine which life stage is the most limiting to an evaluation of suitable habitat.
- **Question:** When the sites for the model were selected, was there a metric used to determine how much of the reach is represented by each site?
  - **Answer:** The model can be scaled to characterize more of the reach than the site modeled. Each site represents a different proportion of the reach.

❖ EIS Updates

- The revised EIS outline was distributed and reviewed by Claudia Oakes. She reminded technical teams that Chapter 4 is organized by alternative, not by resource and that technical team sections should be organized according to this outline, which is available on Team Link and was distributed at the meeting.
- Claudia also reviewed a handout on cumulative effects analyses for NEPA. The handout includes the CEQ regulations and an article from the Shipley Group that critiques effects analysis in an EIS and outlines what should be included. The article stresses the importance of context and intensity of impacts, as well as how to describe potential resource trends in combination with other foreseeable projects.
- **New deadlines for EIS sections:**
  - **5/17:** E-mail descriptions of graphics for Chapter 4 (charts, maps, etc.) and any spreadsheets with charts embedded to Ellen Dietrich.
  - **5/21:** Final graphics, data, changes to text for Chapter 3 sent to Ellen.
  - **5/28:** Completed decision matrices with scorings sent to Valda Terauds. Completed Chapter 4 sent to Ellen.
  - **6/10:** Draft technical reports submitted to Ellen and posted on Team Link.
- Valda reviewed the project schedule and the current status of the decision support system that documents the weighting system used for ranking alternatives and selection of the Preferred Alternative. Alternatives ranking will be done using Decision Criterium Plus software with scorings provided by the technical teams. The software has a free reader and can be linked to GIS.

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  - **Technical teams must provide information on the uncertainty of their data to Valda. Quantitative criteria can be described in terms of mean, minimum, maximum, and standard deviation.** This should help to identify the most sensitive effects parameters for ranking alternatives.
  - There was discussion on how to address the effects of the release of conservation storage in Abiquiu other than during the November-December period that was modeled in URGWOM.
    - Storage of conservation water was modeled under each action alternative to some degree, but how it would be used should be described as a mitigation measure.
    - **There is no current framework for how to release conservation storage, so technical teams should assume that half the storage would be released without identifying who would call for it.**
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  - **When describing other proposed changes in the action alternatives with potential impacts to the management of the river system, technical teams should consider increased operational flexibility and improved communication qualitatively.**
  - Mitigation measures can be developed to respond to conditions that may occur in order to minimize an identified adverse effect or condition.
- ❖ The Executive Committee meeting is scheduled for May 20 to discuss the EIS schedule and the Preferred Alternative. They will also select the date for the next Steering Committee meeting to review the Preliminary Draft EIS.
- ❖ The technical team representatives in attendance reported briefly on the status of the effects analyses for their resources and any data needed to complete the analyses.
  - Riparian and Wetlands—Art Coykendall, Claudia Oakes
    - The decision criteria scoring is almost complete.
    - The team needs to obtain the Bank Energy Index from the Geomorphology Technical Team to help them determine the potential for scouring during overbank flooding.
    - The team has a meeting planned on May 25 to develop their Chapter 4 sections.
    - Once the Preferred Alternative has been selected, they will develop the Biological Assessment with the Aquatic Systems Technical Team.
    - The team needs to get an assessment of the data quality/estimate of error or accuracy of FLO-2D data by reach to help them develop the data quality assessment for their analysis.
  - Aquatic Systems—Bill Leibfried
    - The team has developed some parts of their Chapter 4 sections and are close to completing the scoring for the decision criteria.
    - In working with the aquatic habitat model output, they are seeing some differences in the suitability of habitat in subreaches.
    - The team needs to obtain the habitat quality data before they can complete their analyses.
  - Land Use, Socioeconomics, Agriculture, Recreation, Environmental Justice—Robert Browning
    - The section on the impacts to reservoir recreation is completed and river recreation is almost done.
    - Flood control and hydropower sections for Chapter 4 are almost done.

- The agriculture section for Chapter 4 is partially done, but the data on overbank flooding of cropland in Reaches 7-9 and the bankfull flows in Reach 7 are needed before it can be completed.
- Water Quality—Jon Kehmeier
  - The technical report is about half done and writing Chapter 4 sections has been started.
  - The final weights and scoring of decision criteria should be done soon, based on the model.
- GIS—Deb Callahan
  - In a review of the grid cells with overbank flooding projected from FLO-2D, Deb noticed some areas of unlikely flooding. She brought some maps that show the inundated grid cells in Reach 7 for technical team members to review.
- Hydrology and Hydraulics
  - Nabil Shafike, NMISC, is developing a way to calculate gains and losses in Reach 14 under low flow conditions, as part of his groundwater/surface water model. This may be of use to some teams, especially those with important resources in this reach.
- ❖ **The next Interdisciplinary NEPA Team meeting will be held in the Corps conference room on June 10.**