

## **Draft Notes from Upper Rio Grande Basin Water Operations Review Technical Teams Workshop, April 8, 1999, 9:00 AM, Corps of Engineers Building**

In attendance:

Brian Ahrens, Colorado State Engineer Office  
Roberta Ball, Corps  
Deborah Callahan, Bureau of Reclamation  
Ellen Dietrich, SAIC  
Richard Fike, Corps  
Kevin Flanigan, NM State Engineer Office  
Don Gallegos, Corps  
Erik Galloway,  
Chris Gorbach, Bureau of Reclamation  
Rhea Graham, Pueblo of Sandia  
Steve Hansen, Bureau of Reclamation  
Ed Kandl, Bureau of Reclamation  
Conrad Keyes, Jr., RGCC-TX  
Marsha Mose, NMISC

Robert Padilla, Bureau of Reclamation  
Cynthia Piirto, Corps  
Steve Piper, Bureau of Reclamation  
Lori Robertson, Bureau of Reclamation  
Gary Rutherford, Bureau of Reclamation  
Bill Spurgeon, Corps  
Gail Stockton, Corps  
Paul Tashjian, FWS  
Rae Van Hoven, NM State Highway and Transportation Department  
Chris Velasquez, Corps  
Larry White, Bureau of Reclamation  
Jeff Whitney, FWS  
Jim Wilber, Bureau of Reclamation  
Doug Wolf, Corps

(  marks items that require immediate action.)

- ❖ Chris Gorbach began the meeting by explaining the purpose of the workshop and the Water Operations Review, and by providing some background information.
  - The purpose of the workshop was to organize the technical teams and begin discussion of the Water Operations Review process.
  - Chris pointed out that the notebook for each technical team member is to be used to keep basic project information, technical team study plans, and draft EIS sections. The stack of documents at each participant's place consists of background information, directories, and a table of contents for an EIS.
  - The Upper Rio Grande Basin Water Operations Review is intended to be a comprehensive review of the water operations above Fort Quitman, Texas, jointly led by the Bureau of Reclamation, the Corps, and the New Mexico Interstate Stream Commission. The review will incorporate the NEPA process.
  - An as yet unresolved issue is how to address water operations at Elephant Butte and Caballo, due to the ongoing litigation.
  - Objectives of the Water Operations Review include:
    - Developing an integrated plan for Corps and Bureau of Reclamation water operations using existing authorities.
    - Reviewing potential changes to Corps and Bureau of Reclamation water operations.

- Revision of the Corps' water control manual.
- Planning for managing New Mexico's delivery to Elephant Butte.
- Developing a better understanding of system operations, coordination, and decision processes.
- Comprehensive NEPA and ESA compliance.
- Marsha Mose commented that originally the state wanted to be involved because they feared allowing the federal agencies to conduct the review alone. More recently, they have taken a more proactive approach and have taken a primary interest in addressing ESA, socioeconomic impacts, and public involvement in the process.
- Chris listed some of the major issues that will be addressed during the Water Operations Review.
  - Water supply
  - Compact delivery
  - Flood protection
  - Economics
  - Social impacts
  - Recreation
  - Cultural resources
  - Sedimentation
  - Drainage
  - Bank stability
  - Riparian and aquatic habitats
- Some operations alternatives that may be reviewed include:
  - Safe channel capacity through Albuquerque
  - Storing native water at Abiquiu
  - Jemez Canyon Reservoir sediment pool
  - Management of carryover flood storage
  - Operation Cochiti and Abiquiu for flood protection below Caballo
- Technical teams should expect additional issues to arise during scoping and technical team work. Issues that are outside existing authorities of lead agencies could be addressed through another process outside this effort.
- Current activities include:
  - Drafting a Memorandum of Agreement by the co-Project Managers to address their agency responsibilities.
  - Formation of the technical teams.
  - Initiation of the public involvement process.
  - URGWOM development.

- The formal EIS process will begin with the Notice of Intent in January, 2000. The projected ending date is in 2004.
- Chris reviewed the organizational structure of the Water Operations Review, including how the technical teams fit in. He explained that the Management Team, composed of the Project Managers, has the responsibility for daily progress and activities. They will also handle public involvement and lead the Interdisciplinary (ID) Team, composed of a representative from each technical team. The ID team will be responsible for development of the alternatives to be considered during the EIS and for integration of the needs and recommendations of the technical teams.
- Gail Stockton informed the group that Don Gallegos has written a historical summary of Corps operations on the Rio Grande since 1975, which is available for technical team members to use as good background information. It is a preliminary draft and technical team members can request copies. She is hoping that someone from the Bureau of Reclamation will prepare a similar summary of its reservoir operations.
- ❖ Lori Robertson presented a brief overview of the National Environmental Policy Act (NEPA) and the Section 7 consultation process.
  - Purpose of NEPA
    - To create the Council on Environmental Quality (CEQ).
    - To promote efforts to minimize damage to the environment caused by federal actions.
    - To promote harmony between man and the environment.
  - There are two main parts to the NEPA process.
    - The process, including interdisciplinary analysis and public participation, assists the decision-maker.
    - The product, an Environmental Impact Statement (EIS), documents the work and informs others of the resource conditions and effects of the proposed actions on the environment.
  - Lori reviewed the twelve basic steps involved in developing an EIS.
    1. Identify the federal action, purpose, and need for the project.
    2. Publish Notice of Intent (NOI) in the Federal Register and other press, as needed. This describes the project and lists the dates of scoping meetings, if possible.
    3. Select the ID team. The disciplines to be included depend on the type of action being proposed and the expected impacts.
    4. Identify alternative actions.
    5. Identify resources present that could be affected.
    6. Identify environmental issues and the potential impacts to the resources.
    7. Ask others for their issues and concerns related to the proposed action and alternatives.
    8. Modify the proposal, possibly adding mitigation, to improve the project.
    9. Determine direct, indirect, and cumulative impacts to the environment as a result of the proposed action and alternatives. Impacts should be quantified, when possible,

and compared to the conditions if no action was taken. Indicators help to quantify the magnitude of the impacts, if available.

10. Prepare a draft EIS, which is the analytical compilation of the NEPA process.
  11. Distribute the draft for public review and comment. Comments must be compiled and considered before revision of the EIS.
  12. Prepare the final EIS and issue the Record of Decision (ROD).
- Within the NEPA umbrella are other federal laws like the Endangered Species Act (ESA).
    - The purpose of ESA is to provide a means for preserving endangered and threatened species.
    - Section 7 is a part of ESA involving consultation with the Fish and Wildlife Service. Steps include:
      - Transfer of funds to FWS for coordination.
      - Involve FWS early in the NEPA process, before developing alternatives.
      - After selecting the preferred alternative(s), prepare a Biological Assessment, if Section 7 consultation is formal. Consultation could be informal if the effects on endangered species are beneficial.
      - The FWS prepares a Biological Opinion on the effects of the action on T&E species.
      - Ideally, Section 7 consultation is completed prior to publication of the draft EIS so the recommendations can be incorporated.
  - The strengths of the Upper Rio Grande Basin Water Operations Review project are that
    - It includes up-front NEPA planning.
    - It is the right time for evaluating water operations because water issues are in the news. Improved water management may be welcomed by the public.
    - It is a federal-state partnership.
    - Its small budget should result in a focused effort and a more meaningful process.
  - ❖ Chris discussed resources, issues, and indicators as they relate to the NEPA process and to the development of the technical team study plans. The technical team study plans will be used to develop the work plan by the Project Managers.
    - Technical teams should develop their study plans while keeping in mind the purpose of the NEPA process and the goals of the Water Operations Review, to evaluate alternative water operations.
      - Technical teams should “think interdisciplinary” to facilitate development of an integrated EIS.
      - Each technical team will contribute a work plan to be kept in the notebook, so that all technical teams will have access to all study plans.
      - As a guide for developing study plans and planning their approach, technical team members should think about what kinds of resources would be affected by changing reservoir water operations, how those resources and conditions can be described, the

types of data necessary to collect, and analytical methods to be used to evaluate the impacts to those resources.

- Chris reviewed the standard EIS format by referencing the preliminary outline provided in the notebooks.
  - The majority of the technical team work will be centered on chapters 3 and 4 in the outline.
  - Technical teams should think about developing possible alternatives to be addressed in the EIS. This would be key to defining the rest of the EIS process. Technical teams do not have to be exhaustive in their development of alternatives, but they must be analytical. They should expect additional alternatives to arise during scoping.
  - Technical teams must focus on requirements of the EIS early in the process so they can plan to address those requirements in the study plans. Eventually, narratives in the EIS must be concise, relatively simple descriptions of resources and impacts for each alternative, understandable by the general public.
- Chris reviewed sample issues, resources, and indicators from the Glen Canyon EIS, included in the notebook.
  - In the example, for each affected resource, an issue is listed, then the indicators that can be used to measure that resource.
  - Measurement or evaluation of the resources, using indicators, enables the technical team to determine the effects of each alternative on that resource. Also important is how any change to that resource caused by implementation of each alternative affects people's interest or use of that resource.
  - The example summarized how each alternative would affect resource indicators using a table.
- Technical teams should expect more complex sets of alternatives for the Upper Rio Grande Basin Water Operations Review than they had for the Glen Canyon EIS. During the Columbia Basin EIS, the Bureau of Reclamation started with 90 alternatives and reduced them to a manageable number.
  - Technical teams will have to screen the proposed alternatives for the Water Operations Review.
  - Issues identified for the Rio Grande Low Flow Conveyance Channel EIS are included in the notebook for reference.
  - Also included in the notebook is a section on "Selection of the Preferred Alternative" from the Missouri River Manual EIS, in which they assigned values to resources based on changes caused by different alternatives, then compared the values to identify the preferred alternative.
  - Jeff Whitney recommended using the draft environmental assessment (EA) on the silvery minnow, just released by the FWS, to derive potential resources, issues, and indicators. The draft EA also has an economic analysis and additional useful information.

- ❖ Chris reviewed the organization and content of the technical team notebooks. Any technical team changes or additions should be shared with the Project Managers so they can inform the other teams.



- All technical team members should review the directory and provide updated information to the Project Managers..



- Technical teams should review reaches shown in the notebook and discuss delineations that would facilitate their analysis. Recommendations to the Project Managers will be considered so they can standardize the reaches for the project.



- Technical teams should review water operations alternatives in the second section of the notebook and add to them.



- Under section 11 is a list of Upper Rio Grande Basin projects. Marsha recommended that the ISC check and add to the list.

- ❖ Following is a summary of the items discussed relating to how the technical teams should proceed and what they should consider.

- Upon request, Chris reiterated the geographic scope of the Water Operations Review, from the Closed Basin in Colorado to Fort Quitman, Texas. The Bureau of Reclamation assists Colorado in meeting their Compact requirements by managing the wells in the San Luis Valley.

- El Vado is a MRGCD facility, but the Bureau of Reclamation is involved in the water operations.

- The Water Operations Review is evaluating the effects of changes to water operations down to Fort Quitman(water operations related to flood control only from Elephant Butte Dam to Fort Quitman,TX). The water operations under review involve the Corps and Bureau of Reclamation reservoirs and management. Other locally operated dams, such as Cuchillo Negro, a local protection project are not included. Galisteo, a Corps Dam will not be included since its outlet is only an ungated conduit which involves no operations.

- Chris recommended that technical teams consider identifying alternatives for each reach. The big challenge is describing the alternatives in a concise form.

- Possible problems and solutions for technical team analysis include:

- Many of the water quality indicators are unknown and the relationship between water quality and quantity is unknown so impacts cannot be determined. Technical teams should realize, however, that the major water quality studies that are ongoing are not expected to be fully developed but data and assessments of impacts can be incorporated before the studies are completed.
- It is difficult to know the effects of the proposed Albuquerque, Santa Fe, and Las Cruces withdrawals. In this project, the emphasis will be on evaluating the impacts of changes to water operations, not necessarily evaluating all operations and activities in the river basin system. An understanding of other actions will have to be discussed, however, under cumulative impacts.
- To date, technical teams do not have access to data on tribal water use. It is important to encourage tribal participation so tribal participants can assist with data acquisition and the evaluations of impacts.

- A question was raised on what technical teams should use for baseline conditions.

- URGWOM is using the physical system from 1975 to the present for its baseline, and will route hydrologic conditions from other time periods, such as the 1950s drought, through the current physical system. A good source of information on this is Don Gallegos' report on Corps water operations.
  - This issue must be discussed further by the ID Team to reach a decision on the baseline for the Water Operations Review, with input from the technical teams (Also an action item for the ID Team).
  - Section 2 of the Biological Assessment provides an explanation of baseline conditions.
  - There are data from Elephant Butte available from 1915 to the present.
  - After baseline conditions are determined, technical teams must evaluate impacts to the system under other hydrologic conditions, from drought conditions to wet periods.
  - The scope of work and timeline in the technical team study plans should be developed with knowledge of the baseline to be used for the Water Operations Review, to insure that each technical team addresses the correct data and operations.
- ❖ Doug Wolf from the Corps and Deborah Callahan from the Bureau of Reclamation presented information on the types and use of Geographic Information System (GIS) data available.
- Doug discussed the types of GIS data available from the Corps. The Corps' Web site for GIS data and information is <http://gis.usace.army.mil>.
- The Corps is acquiring digital geospatial data, including digital orthophotographs from American Dam in El Paso, TX to Caballo Dam.
    - Bernalillo County is currently being mapped.
    - He showed samples of the color photographs printed at a scale of 1:20,000.
    - The digital data include a digital terrain model (DTM) which allows for three-dimensional analysis.
    - This type of GIS data would be useful for analyzing riparian areas.
  - State and other federal agencies have additional useful GIS datasets.
  - The standard GIS/CAD software packages in use by the Corps are Microstation (CAD), ArcView and ARC/INFO (GIS).
  - Doug recommended that the Water Operations Review project consider using Web-based GIS to share information and provide public access.
  - For CAD files, it is best to start with a base layer that is georeferenced, to facilitate use of that data with GIS programs, for spatial analysis, and map creation.
  - There was discussion from the group on the types of GIS data that will be needed, including riparian vegetation, wetlands, reservoir shoreline habitat, and inundation areas.
    - Some reservoir shoreline is available, and USGS is working on acquiring the area from Velarde to Española.
    - Steve Hansen pointed out the FWS is going to fly the Middle Rio Grande to get the vegetative types digitized for the ET Toolbox.

- USGS is working on preparing digital mapping along the Mexican border, which was flown in 1995.
- ➔ ■ Technical teams should think about how to use digital information of different scales, dates, and levels of detail so the analysis is comparable across reaches. They should also identify the GIS coverages they will need.
- ➔ ■ It was recommended that the ID Team should discuss as soon as possible what base GIS layers and standards are needed.
- Deborah showed some maps generated from Bureau of Reclamation's GIS to demonstrate how GIS can be applied. The maps showed willow flycatcher habitat, based on vegetation that was digitized and classified from aerial photographs.
- ❖ Gail briefly discussed current and upcoming URGWOM activities.
  - A Technical Review Committee meeting will be held at the Corps building on April 29 to review progress on the backbone of the model, which is planned to be completed by January, 2000. This version will include forecasting and accounting capability.
  - April Fitzner is going to work for the Fish and Wildlife Service in May.
- ❖ Chris gave an overview of the technical team study plan content and format.
  - A template for the study plans was distributed. All study plans should follow the template, including those already in draft form. The Project Managers will use the technical team study plans to create a project work plan.
  - Study plans should include the type and amount of resources (time, people, funding) needed to get started in the NEPA process.
  - For now, technical teams should address activities that can be accomplished this fiscal year in the most detail.
- ❖ Other discussion and questions about technical teams were addressed by Chris and Gail.
  - The Project Managers plan to invite tribal participation soon, before the MOA is developed or the NOI to prepare an EIS is published. Tribal participation will be needed to evaluate effects on tribal resources.
    - Rhea Graham suggested that tribes be invited as soon as possible. If tribal participants hear that technical team study plans have already been written, it will be more difficult to get their participation.
    - Rhea also recommended establishing a government to government relationship and avoiding addressing tribes as interest groups or stakeholders. Gail said that invitations to tribes to participate in URGWOM activities have been expressed, in most cases, at the government to government level, separate from other public invitations.
    - Rhea also asked for the requirements for a group to participate as a cooperating agency. Chris responded that cooperating agencies should have a significant stake in the project outcome and/or have technical expertise.
  - Larry White asked if a great deal of mitigation and monitoring is anticipated. Gail responded that they do not expect much mitigation because the purpose of the Water Operations Review is to do a better job of water operations.

- Larry suggested that monitoring may be significant to insure or to determine the success of changes in operations.
  - Chris thought that the Section 7 consultation generated from this EIS will result in a Biological Assessment that may recommend some mitigation.
  - The ongoing TMDL study, being conducted by NMED, will include some water quality monitoring. Data can be used to update background information and will be available in GIS format.
- ❖ After technical team members met in their groups to discuss their study plans and to rewrite the plans using the new format, a representative of each team presented an overview of the plan. They summarized the issues, affected resources, and indicators they plan to address in the EIS. Draft study plans will be distributed to all technical team members by the Project Managers. Summarized below is any assistance needed from other teams, discussion, or questions that arose after each presentation.
- Recreation–Cynthia Piirto
    - This team should work with the Riparian Habitat Team to identify areas for evaluation of recreational use.
    - Input is needed from other teams to assist in identifying land-based recreational facilities that may be inundated due to water operations decisions.
  - Riparian and Wetland Ecosystems–Larry White
    - Assistance will be needed from the River Morphology Team, and possibly others, to select representative river reaches for study.
  - Aquatic Systems–Jim Wilber
    - They are considering whether to assess macroinvertebrate habitat.
    - The team is going to look into using the model RIOFISH, which also evaluates economic impacts and may be applicable to reservoir fish.
  - River Morphology, Sedimentation, and Mechanics–Robert Padilla
    - They recommend having all teams agree on standard reaches for analysis. They developed a tentative list that will be e-mailed to technical team members. (Another action item).
    - They plan to review the geomorphology in the recommended reaches and consider how it relates to the hydrograph outputs from URGWOM. Gail recommended that they consider how the reaches correlate with existing data. An another suggestion was made to use the reaches defined for water quality standards.
  - Land Use, Socioeconomics, and Environmental Justice–Gary Rutherford
    - They do not have an adequate way to assess the value of some indicators.
    - The team should remember that the census data, especially for the tribes, may not be accurate, so they should seek updated information.
  - Water Operations–Don Gallegos
    - This team will be running URGWOM to evaluate the alternatives.
  - Water Quality–Bill Spurgeon

- URGWOM Integration–Steve Hansen
  - This team provides the interface between the URGWOM model and the other technical teams’ needs, the “technology brokers.”
  - They recommend having presentations to the technical teams on URGWOM and the ET Toolbox.
- Technical team study plan summary: Technical teams should focus on analyzing the effects of the proposed alternatives on the current river system, not on the natural system or the natural hydrographs. Technical teams must take into account the quality of data they are using obtained from different sources, and the consistency of data used by different technical teams.



❖ Next steps

- Define and develop baseline conditions.
- Technical teams develop study plans in the new format, focusing on relevant issues and indicators. Revised study plans are due to Project Managers **by April 22**.
- Project Managers will send out the study plan template in electronic format to technical team leaders.
- Technical team members should think about the types of data they need and how it should be organized.
- Technical team members should update or fill in the technical team directory and send to Gail.
- ID Team meetings are scheduled for the second Thursday of each month at 1:00 PM at the Corps building. **The next meeting will be held on May 13** and will involve only the technical team leaders.