

Since 1987 **Richard Kreiner** has been chief of the Reservoir Control Section with the overall responsibility of the Army Corps of Engineer's reservoirs in the Albuquerque district. He has been with the Corps for thirteen years. Richard received his B.S. in Civil Engineering from the University of Arizona.

**Eleonora Trotter** is a research assistant professor in the Department of Biology at UNM. She received bachelor's and master's degrees in zoology from the University of Washington and a Ph.D. in biology from the University of New Mexico. Eleonora is the Rio Grande Basin Consortium coordinator at the Natural Resources Center at UNM. (Dr. Trotter was unable to present this paper at the conference due to injury.)

**Garry Rowe** is a graduate of New Mexico State University with a B.S. in Civil Engineering. In 1968 he accepted a position with the Bureau of Reclamation, Hydrology Division, of the Albuquerque Planning Office. Garry returned to college in 1973 and received an M.S. from Colorado State University. He currently serves as chief of Resource Management for the Bureau of Reclamation.

## THE RIO GRANDE JOINT INITIATIVES — A DEMONSTRATION OF INTERAGENCY COLLABORATION IN WATER MANAGEMENT

*Eleonora Trotter  
Department of Biology  
University of New Mexico  
Albuquerque, New Mexico 87131*

*Richard D. Kreiner  
U.S. Army Corps of Engineers  
P.O. Box 1580  
Albuquerque, New Mexico 87103*

*Garry Rowe  
U.S. Bureau of Reclamation  
505 Marquette NW - Suite 1313  
Albuquerque, New Mexico 87102*

### INTRODUCTION

In November 1990, the Army Corps of Engineers, Bureau of Reclamation, and Fish and Wildlife Service initiated an interagency process to evaluate three possible modifications to reservoir operations in the Upper Rio Grande basin in New

Mexico. The changes could potentially conserve water, enhance fish and wildlife habitat, improve water quality, and increase recreational opportunities in the system. At an initial meeting, more than 40 people representing the scientific community, management agencies, and governmental units discussed these modifications and subsequently

formed three committees (Fig. 1), chaired by the authors of this paper. The committees' goal was to explore the positive and negative implications of the different plans to modify reservoir operation and to make recommendations. All committee members have the support of their agencies, although committee work is in addition to members' job responsibilities.

<p><b>Abiquiu Pre-evacuation Initiative</b>                  Chairperson - Dick Kreiner (Army Corps of Engineers)                  Bureau of Reclamation                  Army Corps of Engineers                  Forest Service                  Bureau of Land Management                  Fish and Wildlife Service                  NM Game and Fish                  Ghost Ranch                  Rio Chama Acequia Association                  NM Interstate Stream Commission                  City of Albuquerque                  Los Alamos County                  Middle Rio Grande Conservancy District                  Rio Grande Compact Commission Engineer Advisors for CO and TX</p> <p><b>Cochiti Re-regulation Initiative</b>                  Chairperson - Rob Leutheuser (Bureau of Reclamation)                  Bureau of Reclamation                  Army Corps of Engineers                  Bureau of Indian Affairs                  Forest Service                  National Park Service                  NM Interstate Streams Commission                  Middle Rio Grande Conservancy District                  Cochiti Pueblo                  NM Game and Fish                  Fish and Wildlife Service                  College of Santa Fe                  Wildlife Consultant                  Rio Grande Compact Commission Engineer Advisors for CO and TX</p> <p><b>Minimum Flow Initiative</b>                  Chairperson - Dr. Eleonora Trotter (University of New Mexico/Rio Grande Basin Consortium)                  City of Albuquerque                  Middle Rio Grande Conservancy District                  Bureau of Reclamation                  Army Corps of Engineers                  Fish and Wildlife Service                  Rio Grande Basin Consortium                  NM Interstate Streams Commission                  NM Game and Fish                  Rio Grande Compact Commission Engineer Advisors for CO and TX                  Bureau of Indian Affairs</p>
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Figure 1. Rio Grande Joint Initiatives Representation

Implementing any one of the initiatives will require Congressional approval. A goal of this interagency effort, therefore, is to develop a consensus at the local and regional level providing Congress a clear mandate to authorize management changes, if recommended.

The geographic area of the Rio Grande basin under examination is shown in Figure 2. The area begins with the Rio Chama in northern New Mexico and extends downstream to the Isleta Diversion Dam on the Isleta Pueblo, south of Albuquerque.

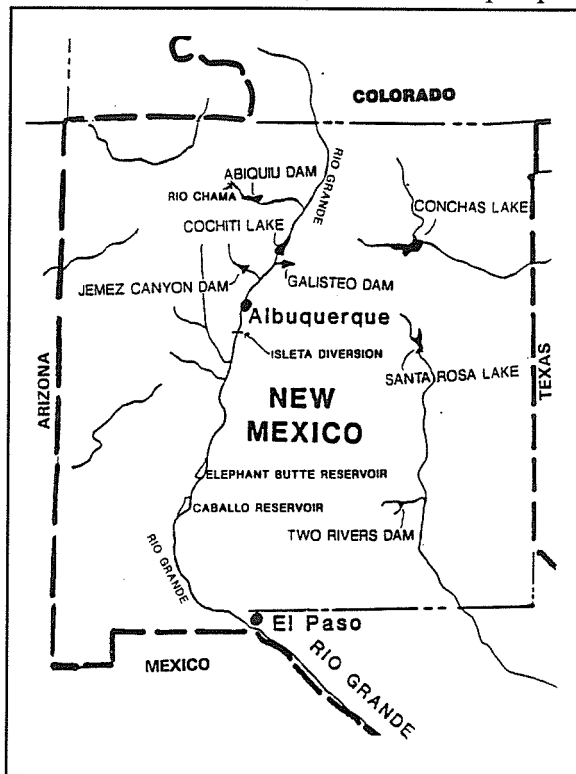


Figure 2. Geographic area of the Rio Grande Joint Initiatives

The three concepts, collectively referred to as the Rio Grande Joint Initiatives are:

- pre-evacuation of water belonging to the City of Albuquerque from Abiquiu Reservoir before the spring snowmelt runoff
- creation of a small irrigation re-regulation pool in Cochiti Lake
- establishment of a minimum flow in the Rio Grande from the Cochiti Dam to Isleta Diversion Dam

This paper's purpose is to describe briefly each initiative and provide an interim report of the committee's work. Also discussed are the emerging benefits of this process that go beyond the specific issues addressed by each committee.

## The Rio Grande Joint Initiatives — A Demonstration of Interagency Collaboration in Water Management

### ABIQUIU PRE-EVACUATION

This committee's charge is to explore the feasibility of pre-evacuating water belonging to the City of Albuquerque from Abiquiu Reservoir to limit the adverse impacts flood control operations have on recreational uses, such as rafting, on the upper Rio Chama. Albuquerque's San Juan-Chama water is stored in Abiquiu Reservoir as a hedge against a future demand on water as the population increases. The concept is that reservoir storage would begin to be evacuated in early February in years of above normal snowmelt runoff. The National Weather Service/Soil Conservation Service snowmelt runoff forecasts will be used to determine the magnitude of the pre-evacuation. The water pre-evacuated from Abiquiu Reservoir, before the runoff, would be replaced by the natural inflow as the runoff progresses. The committee divided itself into two groups to deal with the biological and water management implications of pre-evacuation.

Constraints on pre-evacuation include:

- the unanimous consent of the Rio Grande Compact Commission, because of the water exchange involved
- limited downstream channel capacity, caused by numerous rock and brush diversions
- downstream bank erosion

Major issues being studied include the impacts on the reservoir and downstream fisheries, and inundation of a favorite rafting take-out at the upper end of the reservoir. Last year the committee began identifying key issues and work began on developing pre-evacuation criteria to determine the magnitude of storage to be evacuated for various runoff projections.

### COCHITI RE-REGULATION

The Cochiti re-regulation initiative will explore the feasibility of increasing Rio Grande operational flexibility by authorizing irrigation storage in Cochiti Lake. This could be achieved by establishing a 5,000 acre-foot conservation pool in the lake. This would allow for the temporary capture of water released from upstream storage for irrigation, which is no longer needed due to adequate rainfall in the irrigated areas within the Middle Rio Grande Valley.

The initiative is being evaluated, recognizing the following institutional constraints:

- no instantaneous native (natural) flows would be re-regulated
- additional management opportunities involve only water released from upstream storage for downstream water users
- there would be no changes in overall flood or sediment control operations

This committee, which also is divided into water management and biological work groups, identified biological resources and social issues that could be influenced by re-regulation. Relevant biological resources of interest include the wetlands at the headwaters of Cochiti Lake (with secondary effects on waterfowl and wintering bald eagle populations), game fishes in the lake, and stream flows immediately below Isleta Diversion Dam. Social issues identified include the potential for increased seepage from the lake and its effects on downstream Indian Pueblos, additional public access to portions of Bandelier National Monument, and recreational fishing opportunities on Cochiti Lake.

Over the past year, the committee has been very active in evaluating these issues. The emphasis has thus far focused on the biological resources, supplemented by the water management group developing hydrologic scenarios.

Ultimately, the full committee will prepare recommendations for future actions, which will be submitted to concerned governmental agency heads, the Rio Grande Compact Commission, water users, and the congressional delegation. These recommendations could range from no action, to a range of alternative actions, to a preferred action. If recommendations include changes in current operations, it is likely that the documentation would be used to secure the necessary federal legislative authority.

### MINIMUM FLOW THROUGH THE CITY OF ALBUQUERQUE

The third committee's charge is to explore the feasibility of establishing a minimum flow in the Rio Grande from Cochiti Dam, through Albuquerque, to the Isleta Diversion Dam on the Isleta Pueblo. This committee did not divide itself into two groups, partially because the issue is highly focused, the costs and benefits are relatively clear cut, and the path to a minimum flow is well marked. The concept entails an agreement between the City of Albuquerque and the Middle Rio Grande Con-

servancy District (MRGCD) to leave some irrigation water in the Rio Grande instead of diverting it and running it in riverside canals to its destination at the Isleta Diversion Dam.

Benefits of this concept include meeting the Environmental Protection Agency (EPA) standards for the discharge of sewage effluent from Albuquerque's sewage treatment plant. The EPA permit issued to the City of Albuquerque to discharge sewage effluent into the Rio Grande has lapsed and this minimum flow concept is being used as a basis for the new permit. In recent years it was not unusual for the main channel of the Rio Grande through Albuquerque to be nearly dry during the summer when most of the water was diverted to irrigation canals. EPA standards for discharge into a dry river bed are higher than for other flow regimes. Therefore, EPA standards could be based on a higher flow if there were an established minimum flow agreement between the City of Albuquerque and the MRGCD.

Another benefit concerns rare and endangered species like the Rio Grande silvery minnow found within this middle section of river, which is dependent on year-round flow. Minimum flow would create habitat for the silvery minnow, which has been recommended for inclusion in the U.S. Endangered Species Act.

Costs include the trading of water among water users. However, it is difficult to assign economic value to intrinsic qualities of the river system and the species or organisms using the system. Giving up the idea that the river is something used only by people is also difficult. The river has been and could continue to be a place to learn more about the many uses of water. The suggested plan is for Albuquerque to give the MRGCD a volume of water from its San Juan-Chama reserves when the MRGCD needs more water to maintain the minimum flow. It appears that both users would benefit from this arrangement and enjoy the good opinion of the community because of their cooperation to put water to more "beneficial use" by increasing the variety of habitats for riparian plants and animals as well as for the public's enjoyment in the middle Rio Grande. One of the greatest benefits of minimum flow is the protection of biodiversity.

One problem with forging an agreement between the City of Albuquerque and the MRGCD is the concern that once minimum flow is provided, the U.S. Endangered Species Act will forever re-

quire that minimum flow and there will be no way to adjust or cancel the agreement. Another problem is that the MRGCD does not have river gages accurate enough to monitor the flow in the Rio Grande above Albuquerque. Therefore, MRGCD has agreed to provide a certain discharge at the Central Avenue Bridge, where there is an accurate gage. This does not mean that the water will flow at the agreed flow rate above the bridge.

At an early meeting, Gary Daves, representing the City of Albuquerque, was asked what information he needed to consider the idea of a water trade. Daves asked the Army Corps of Engineers and the Bureau of Reclamation for different scenarios of how much water would be needed. Bob Hogrefe, of the city's sewage treatment plant, was asked how much water he needed to have to show EPA that Albuquerque was moving ahead in good faith to meet EPA standards for sewage effluent discharge. At a subsequent meeting the Corps, Bureau of Reclamation and the city's sewage plant produced data and were able to agree that 250 cubic feet-per-second (cfs) would be adequate for a maintained minimum flow, based on the hydrologic information assembled. Even with this information, the City of Albuquerque and the MRGCD balked at a long-term commitment, but agreed to a one-year trial period for assessing what actually occurred in the attempt to maintain the agreed upon 250 cfs. The city and MRGCD began to discuss a longer term agreement of 10 years, but the city is concerned that a long-term agreement will be made mandatory by the Federal Endangered Species Act to protect the Rio Grande silvery minnow. Albuquerque does not want its water encumbered in the future. It wants to be prepared so that if the groundwater becomes badly polluted, the city residents can use San Juan-Chama surface water for drinking.

## CONCLUSIONS

Why are the Rio Grande Joint Initiatives an important step in the shared management and use of Rio Grande water? In the case of minimum flow, the issues were clearly defined, the area of impact specific, and people could focus on solving a problem of limited dimensions. Each problem addressed was of local interest, had clearly defined costs and benefits, and the interested parties had explicitly state positions and needs. Information needed by the users was available almost immedi-

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ately from the water managers. Those involved were willing to put aside differences to concentrate on solving a problem whose solution benefited all sides as well as benefiting other users of the river. We believe the people who attended the first general meeting one year ago, and the people who attended the second annual meeting were there not so much to defend their position, but to share their concerns and work together, to recreate a part of the Rio Grande. A network of people concerned with the river system's health has been formed. People have a forum in which to express their concerns, and because users and managers are working together, informed policy decisions can be made more rapidly. Most importantly, the people who live with the river in New Mexico now have a way to inform Congress of their wishes for the management and use of the Rio Grande.

The continued level of interest in the Rio Grande Joint Initiatives, and the progress made in evaluating the three plans, underscores the value of these ideas and validates the appropriateness of the process. Agencies, interest groups, and individuals have all donated their time and resources to address the initiatives. We are working together to develop better ideas about operating this portion of the Rio Grande system based on a changing definition of beneficial use. This cooperation will set the state for developing a future consensus on how Rio Grande resources can best benefit New Mexicans.