Upper Rio Grande Basin
Water Operations Review

Federal & State Agencies Lead Rio Grande Water Operations Study

Management of the Rio Grande involves many agencies, each with its own mission and set of rules and guidelines. Three of the agencies have recognized the need for development of an integrated plan for water operations at their existing facilities in the upper Rio Grande basin. The joint lead agencies for this effort–the U.S. Bureau of Reclamation, the U.S. Army Corps of Engineers, and the New Mexico Interstate Stream Commission–recently agreed to examine what they can do under existing authorities to improve how water is stored and delivered.

This study, called the Upper Rio Grande Basin Water Operations Review, officially began with the publication of a Notice of Intent in the Federal Register on March 7, 2000. The review will provide the basis for an environmental impact statement (EIS) that will examine selected water operations activities in the Rio Grande basin above Fort Quitman, Texas, that are within the joint lead agencies' existing authorities (see page 3). Cooperating agencies for the effort are being identified.

A major charge of the Corps of Engineers is flood loss reduction and sediment control. The Bureau of Reclamation primarily manages water delivery to private, municipal, and industrial users, and the Interstate Stream Commission monitors compact deliveries and San Juan-Chama project water storage and releases.

What the Review Will Do

The Review will determine how the lead agencies will use their existing water operations authorities to:

- Help meet water needs of all users, including the need for conservation of endangered species.
- Meet downstream delivery requirements mandated by the Rio Grande Compact and international treaty with Mexico.
- Provide flood protection and sediment control.
- Assure safe dam operations.
- Support compliance with local, state, tribal, and federal water quality regulations.

The Review and EIS will also:

- Identify flexibility for operation of federal reservoirs and facilities within existing authorities.
- Assist managing agencies to operate these facilities more efficiently as an integrated system.
- Improve decision-making processes on water operations through better interagency communications and more public input.
- Support compliance by the joint lead agencies with the National Environmental Policy Act, the Endangered Species Act, and all other applicable laws and regulations.

Organization and Process

A **management team** with members from the three joint lead agencies will be responsible for day-to-day aspects of running the Review and producing the EIS. An **executive committee**, composed of agency heads, will have overall responsibility for overseeing the project, allocating resources, and coordinating the effort. A **steering committee** made up of representatives of cooperating agencies, the Rio Grande Compact Commission, and key stakeholders, will be organized to facilitate coordination and information exchange.

As required by the National Environmental Policy Act (NEPA), an **interdisciplinary team** of resource specialists will identify and analyze alternative water operations plans and prepare the EIS. **Technical teams** are being organized to support the interdisciplinary team.

The technical teams, with help from the public during scoping meetings, will identify the resources to be studied, determine the indicators and the methods to be used for analyzing impacts on their resources, and recommend the alternative water operations to be considered. Tools such as the newly developed Upper Rio Grande Water Operations Model will be used to assist in the analysis.

Key Areas Of Conce

The Water Operations Review Technical Teams will initially focus on the following resources. As additional areas of concern and issues are identified during and following public input, this list may be expanded.

Aquatic Systems

The riverine aquatic habitat has deteriorated due to changes in management and in the physical system of the river and floodplain. These include increased diversions, flood control, sediment control, discharge management, urban development, invasion of nonnative plants, and reduced healthy riparian-riverine interaction. Reservoir aquatic habitat is subjected to frequent changes in pool elevation, limiting the ability of aquatic species to effectively use available habitat. Some of the effects on aquatic systems could be influenced by changes in the discretionary actions to manage water operations on the Rio Grande and Rio Chama. Recent studies have focused primarily on the endangered Rio Grande silvery minnow and strongly indicate that unless significant changes are made, the species could disappear from the Rio Grande system in the near future.

Riparian and Wetland Ecosystems

The riparian zone of a river is the area next to the channel where vegetation may be influenced by water tables or flooding. Historically, riparian vegetation along the middle Rio Grande consisted of scattered and often mixed stands of cottonwood trees, willow shrubs, and salt grass meadows. Where groundwater was close to the surface, ponds, marshes and shrub wetlands also occurred. The extent and character of bosque and wetland communities have dramatically changed over the past 100 years due to urban, agricultural, and water resource development, and the spread of exotic species such as Russian olive and salt cedar. In addition to its regionally unique and valuable wildlife habitat, the riparian community functions to stabilize banks, attenuate flood flows, and remove and trap water-borne sediment and nutrients.

River Geomorphology, Sedimentation and Mechanics

The operation of federal flood control and water delivery facilities has altered the hydrology and geomorphology (land forms) of the upper Rio Grande basin by reducing peak flows and the amount of sediment delivered downstream. Peak floods and sediment maintain the river channel, sustain riparian communities, and provide aquatic habitat for fish and other wildlife. Changes in river channel morphology in some reaches, including channel shape, sediment delivery, bed material composition, and interaction between the river and the floodplain have occurred, in part due to the operation of federal facilities. Flood control downstream from federal facilities has limited the amount of bank erosion and flood damage in various reaches. Sustaining a more complex and dynamic channel morphology, while providing adequate flood protection and water delivery, is key to the successful future operation of federal flood and water delivery facilities.

Water Quality

Surface water quality in the Rio Grande and its tributaries is variable both in location and time. It is affected by complex interactions between natural factors such as climate and hydrogeologic setting, and by human influences such as land use and water operations. Due to the dynamic interaction between water quality and river flow, changes in current water operations could change surface water quality. Determining and documenting current surface water quality conditions for the Rio Grande and several of its tributaries along with changes that would occur in response to proposed modifications in water operations will be reviewed and evaluated.

Cultural Resources

The Rio Grande has been a focus of human occupation for thousands of years. More than 5,000 historic properties and archaeological sites have been identified on less than 20 percent of the area adjacent to the river. The river and its surrounding landscape have been and continue to be central to the traditional cultural identity of its diverse communities. The region contributes immeasurably to the cultural heritage of the state and nation. Changes to the flow regime of the river have the potential to dramatically affect historic resources and cultural practices that are important to all who live along the Rio Grande.

Land Use, Socioeconomics, Environmental Justice

The Rio Grande basin study area includes a population of over 1.5 million, the majority of which reside in New Mexico. Population in New Mexico and Texas is growing rapidly, whereas the basin population in Colorado is stable. It is characterized by high unemployment in the rural areas and rapid growth in the urban areas, with per capita income below the national average, especially in the urban areas. Municipal and industrial water demands have been growing steadily, as a result of increased urbanization. There are significant differences in agricultural production throughout the region, ranging from potatoes, barley, and wheat in Colorado; alfalfa and pasture in the middle Rio Grande; to cotton, alfalfa, pecans, and chile in the lower part of the basin. The Rio Grande provides water used for hydropower generation at Elephant Butte, El Vado, and Abiquiu.

Recreation

The upper Rio Grande basin is home to many public recreation facilities managed by several different federal, state, and tribal agencies, including the state parks El Vado, Heron, Rio Grande, Elephant Butte, Caballo Lake, Percha Dam and Leasburg Dam; Bureau of Land Management lands including Wild Rivers and Orilla Verde; US Fish and Wildlife Service National Wildlife Refuges; and Abiquiu Lake and Cochiti Lake reservoirs managed by the US Army Corps of Engineers. These facilities provide the majority of the water-based recreation for the entire state of New Mexico, including boating, fishing, swimming, skiing, windsurfing, and white water rafting. The Rio Grande and its adjacent lands are major resources for recreational opportunities including fishing, bird watching, bicycling, hiking, horseback riding, picnicking, playgrounds, hunting, camping and sightseeing.

RN WILL BE EXAMINED

Upper Rio Grande Basin and Reservoirs

Water Operations Under Review

Platoro Reservoir

- Provides flood control on the Conejos River.
- Water supply operations are under local control and will not be considered in this review.

Closed Basin-San Luis Valley Project

- Water is pumped from wells in the closed basin to supplement flow of the Rio Grande.
- Assists Colorado in meeting Compact delivery obligations.

Heron Reservoir

- Stores San Juan-Chama Project water diverted from San Juan River tributaries in Colorado.
- Water is delivered to users in the Rio Grande basin under contracts with the Bureau of Reclamation.

Abiquiu Reservoir

- Provides flood and sediment control on the Rio Chama and the Rio Grande.
- Stores water for agricultural, municipal, and industrial uses.

Cochiti Reservoir

- Provides flood and sediment control for the middle Rio Grande valley.
- No water is stored for downstream use.
- A recreational pool is maintained with San Juan-Chama Project water.

Jemez Canyon Reservoir

- Provides flood and sediment control for the middle Rio Grande valley.
- A pool of water is maintained in the reservoir to help trap sediment.

Low Flow Conveyance Channel

- Built to make conveyance of water to Elephant Butte Reservoir more efficient and to assist New Mexico in meeting Compact delivery obligations.
- Diversions at San Acacia have been suspended since 1985.
- Provides valley drainage.
- Provides water supply for Bosque del Apache.

Elephant Butte and Caballo Reservoirs

- Because of current litigation, only flood control operations, the responsibility of US Section, IBWC, will be part of the review.

Public Involvement Opportunities

Meetings will be held to gather input from the public on potential issues and concerns that should be considered during the development of this Water Operations Review and EIS. The public meetings will include a presentation on the project, a question and answer period, and an open house, enabling interested people to discuss issues with the project managers and technical specialists. All meetings will begin at 6:00 p.m. and end at 9:00 p.m.

Scoping Meeting Schedule

Alamosa, CO	Wednesday, June 28	Alamosa Elks Lodge, 406 Hunt
Taos	Thursday, June 29	Kachina Lodge, 413 Paseo del Pueblo Norte
Española	Wednesday, July 26	Northern New Mexico Community College, 921 Paseo de Oñate
Chama	Wednesday, August 9	El Meson Lodge, South Highway 84/64
Albuquerque	Thursday, August 17	Indian Pueblo Cultural Center, 2401 12th NW
Santa Fe	Wednesday, September 20	Radisson Hotel, 750 N. St. Francis
El Paso, TX	Wednesday, September 27	Hilton, 2027 Airway Blvd.
Las Cruces	Tuesday, October 17	New Mexico State University Corbett Center
Socorro	Wednesday, October 18	New Mexico Institute of Mining and Technology Macey Center, 801 Leroy Place

Additional information about the Upper Rio Grande Basin Water Operations Review is available online at **http://www.spa.usace.army.mil/urgwops/**. The project managers listed below are the points of contact.

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