Chapter

I

Background, Purpose and Need

1.1 Introduction

The upper Rio Grande basin includes the Rio Grande from its headwaters in Colorado through New Mexico to just above Fort Quitman, Texas. This portion of the river is subject to the Rio Grande Compact signed on March 18, 1938; ratified by the States of Colorado, New Mexico, and Texas in 1939; and signed by the President of the United States on May 31, 1939. Ten water operations facilities in this basin can be manipulated individually or in concert to address various situations. Five facilities are located on tributaries: Heron and El Vado Reservoirs operated by the U.S. Bureau of Reclamation (Reclamation), and Platoro, Abiquiu, and Jemez Canyon Reservoirs operated by the U.S. Army Corps of Engineers (Corps). The remaining facilities are on the mainstem of the Rio Grande, including the Closed Basin Project operated by Reclamation in Colorado, Cochiti Lake operated by the Corps, and the Low Flow Conveyance Channel (LFCC), operated by Reclamation. In addition, operations of two Reclamation facilities on the mainstem—Elephant Butte and Caballo Reservoirs—are limited to flood control under the scope of this Review and EIS. **Map 1-1** shows these facilities and **Figure 1-1** highlights key features of the upper Rio Grande system. The New Mexico Interstate Stream Commission (NMISC) is responsible for Compact deliveries to Elephant Butte Reservoir, including, but not limited to, oversight of federal reservoir operations and accounting of native Rio Grande and San Juan-Chama (SJC) Project contract water.

1.2 Purpose and Need

Water management in the upper Rio Grande basin has evolved over decades, the result of separate and distinct authorizing legislation involving various federal and state agencies with differing missions and methods. While agency coordination historically occurred when necessary, it became more critical Agency coordination became critical in the mid-1990s with the designation of two endangered species as endangered under the federal Endangered Species Act (ESA). To meet species and habitat needs, manage flows in the highly variable flow regime of the Rio Grande, and satisfy competing water demands exacerbated by a multiple-year drought, additional cooperative efforts were needed. A new surface water model under development at the same time offered the capability to evaluate the operations of multiple water management facilities as a system, enabling technically valid comparisons of different scenarios. The goal was to use the model to evaluate a full range of water operations in an integrated systems approach and to examine whether the full range of discretionary actions was being implemented for better ecosystem management.

Three joint lead agencies (JLA) have led the effort to develop an integrated plan for water operations at their existing facilities in the upper Rio Grande basin: Reclamation, the Corps, and NMISC. This project, the Water Operations Review (Review) and Environmental Impact Statement (EIS) for the upper Rio Grande basin, addresses the following proposed action: “The adoption of an integrated plan for water operations at existing Corps and Reclamation facilities in the Rio Grande basin above Fort Quitman, Texas.” The JLA adopted the following purpose and need statements for this Review and EIS.

Purpose—The Water Operations Review will be the basis of, and integral to, the preparation of the Water Operations EIS. The purposes of the Review and EIS are to:

1. Identify flexibilities in operation of federal reservoirs and facilities in the upper Rio Grande Basin that are within existing authorities of the Corps, Reclamation, and NMISC and that are in compliance with state and federal law.

2. Develop a better understanding of how these facilities could be operated more efficiently and effectively as an integrated system.
3. Formulate a plan for future water operations at these facilities that is within the existing authorities of the Corps, Reclamation, and NMISC, that complies with state, federal, and other applicable laws and regulations, and that assures continued safe dam operations.
4. Improve processes for making decisions about water operations through better interagency communications and coordination, and facilitation of public review and input.
5. Support compliance of the Corps, Reclamation, and NMISC with applicable laws and regulations, including, but not limited to, the National Environmental Policy Act (NEPA) and the ESA.

Need—Under various existing legal authorities, and subject to the allocation of supplies and priority of water rights under state law, the Corps and Reclamation operate dams, reservoirs, and other facilities in the upper Rio Grande basin to:

1. Store and deliver water for agricultural, domestic, municipal, industrial, and environmental uses.
2. Assist the NMISC in meeting downstream water delivery obligations mandated by the Rio Grande Compact of 1938.
3. Provide flood protection and sediment control.
4. Comply with existing law, contract obligations, and international treaty.

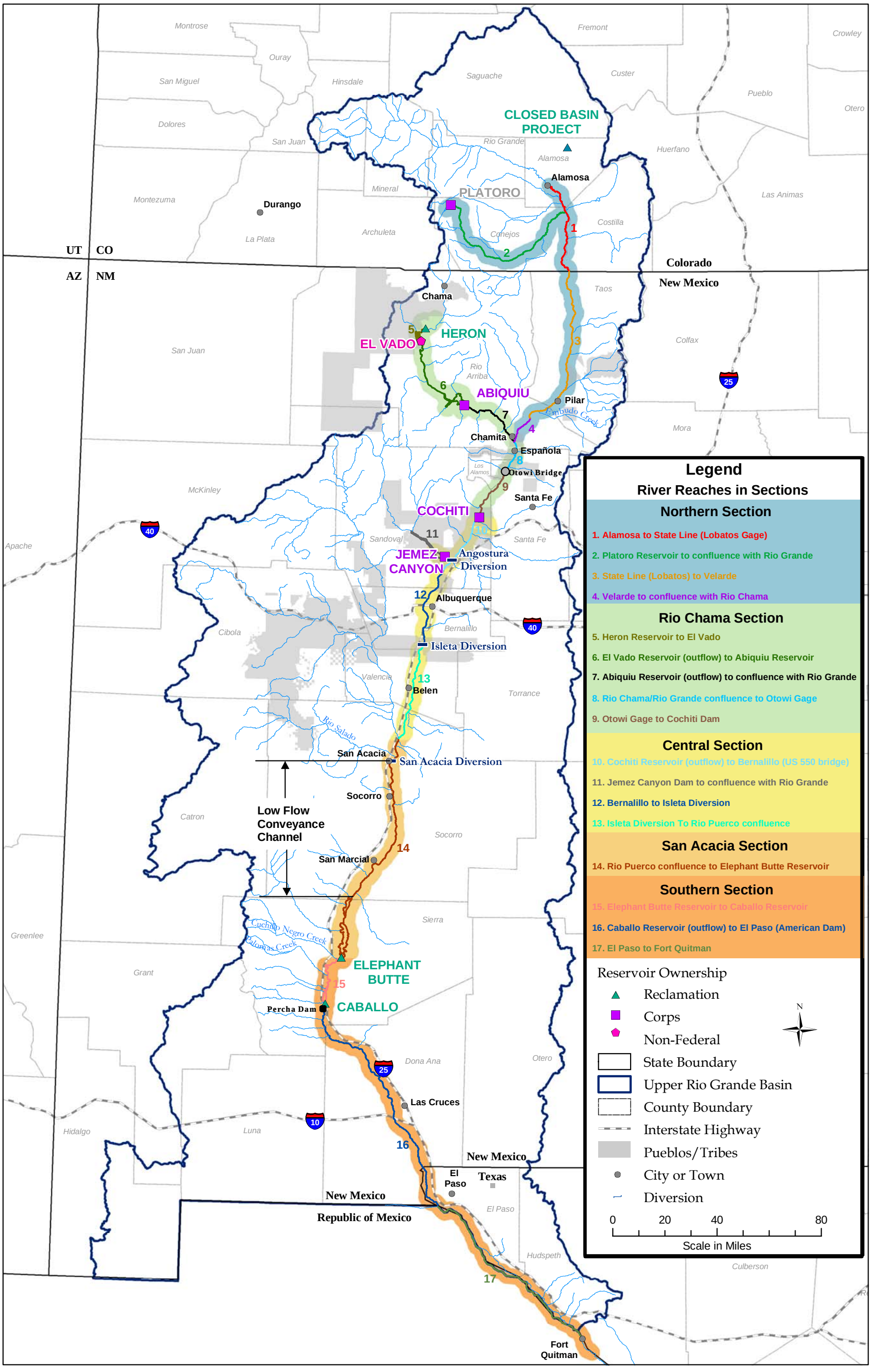
Because of the regulatory intricacies and multi-agency responsibilities, the Review and EIS is based on a Memorandum of Agreement signed in 2000 that defines the scope, purpose and need for the project, the roles and responsibilities of each of the JLA, and the organizational structure for participation and oversight. An organizational chart for this Review and EIS is shown in **Figure 1-2**. The Cooperating Agencies (described below under "Cooperating Agencies") signed formal agreements that commit resources to the effort, including participation in technical teams and an Interdisciplinary (ID) NEPA Team, along with technical experts from other participating agencies. Project oversight and responsibility is the function of the Executive Committee, composed of the local officials of the lead agencies. The Steering Committee facilitates coordination and information exchange with no decision-making role.

1.3 Cooperating Agencies

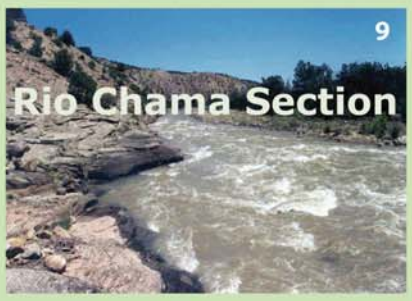
Five Cooperating Agencies (**Table 1-1**) signed formal agreements committing resources to the Review and EIS. Each of these Cooperating Agencies provided team members and/or leadership on technical teams, contributed to review of findings during monthly ID NEPA Team meetings, and participated on the Steering Committee.

Table 1-1. Cooperating Agencies for the Water Operations EIS

Agency Name	Agency Type	Primary Interest and Role
Bureau of Indian Affairs	Federal	Federal trust responsibility, Indian trust assets
U.S. Fish and Wildlife Service	Federal	Fish and Wildlife Coordination Act compliance
New Mexico Department of Agriculture	State	Irrigated agriculture economy, environmental justice
New Mexico Environment Department	State	Water quality protection and watershed management
Ohkay Owingeh Pueblo	Tribal	Water quality, Indian trust assets, cultural resources



Map 1-1. Watershed and Key Water Operations Structures in the Upper Rio Grande Basin

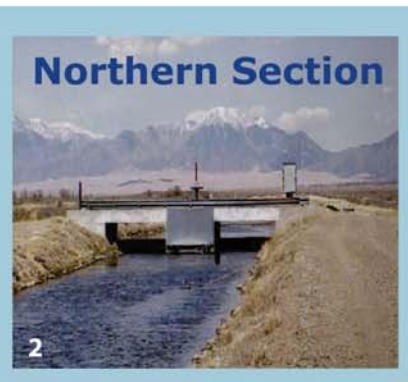


Heron Reservoir (8) is located upstream of Willow Creek's confluence with the Rio Chama. Imported water from the San Juan-Chama project is stored and released from Heron. To the south, the Rio Chama flows into El Vado Reservoir which stores spring runoff and irrigation water. The river then flows southeast where it is designated **Wild and Scenic (9)** between El Vado Dam and **Abiquiu Reservoir (10)**.

Abiquiu provides flood control, San Juan-Chama storage, and hydroelectric generation. There are numerous tributaries, small irrigation diversions, acreages, and communities in this **Chama section (11)**. major tributaries entering the river below Abiquiu include El Rito Creek and Rio Ojo Caliente.

The Rio Chama joins the Rio Grande 2.8 miles below **Chamita (12)**, in a delta area near the Pueblo of San Juan. In the 14 miles from the Rio Chama confluence to **Otowi Bridge (13)** and nearby gage, the Rio Grande flows through the Española Valley and is joined by three tributaries, Santa Cruz River, Santa Clara Creek and Rio Pojaque.

The Rio Grande then travels 27 miles downstream of Otowi Gage and forms a **delta area (14)** as it enters **Cochiti Reservoir (15)**. On Pueblo de Cochiti land, Cochiti Dam, the main flood control facility on the Rio Grande, prevents damages from floodwaters from the Rio Grande and the Santa Fe River.

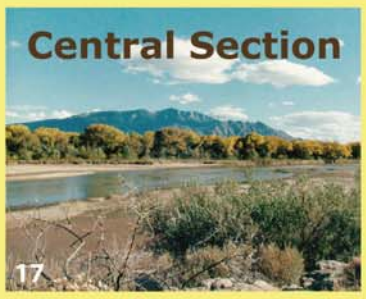


(1) From its source in the Rocky Mountains of south-central Colorado, the Rio Grande flows southeast to where the **Closed Basin Project (2)** outfall enters the river just north of **Alamosa (3)**.

To the south, the river is joined by the Conejos River, on which **Platoro Reservoir (4)** is located near its headwaters.

The Rio Grande continues southward across the New Mexico state line, where it is supplemented upstream of **Pilar (5)** from three tributaries—Red River, Rio Hondo, Rio Pueblo de Taos—draining from the Sangre de Cristo Mountains to the east.

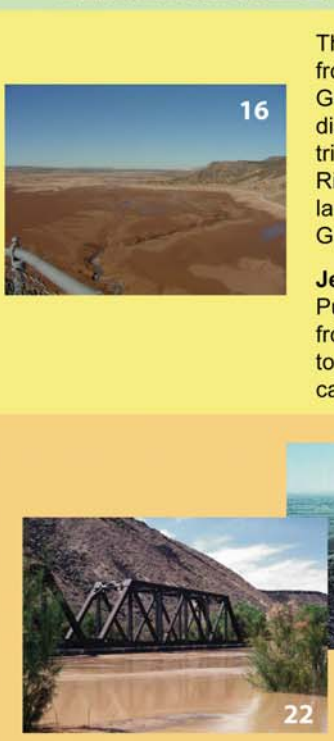
At the deepest portion of the **Rio Grande gorge (6)**, **Embudo Creek (7)** enters the river about 3 miles above the Embudo gage. The Rio Grande continues southward from Embudo to the confluence with the Rio Chama.

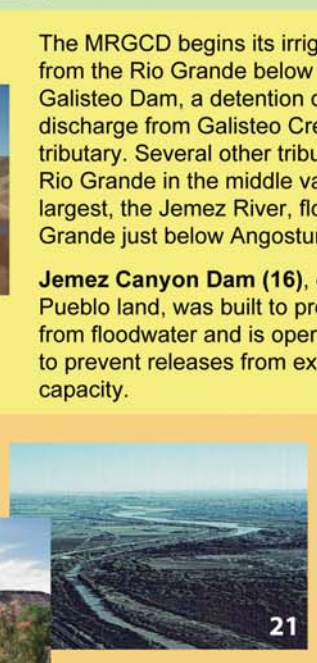


From above **Bernalillo (17)** through Albuquerque, the Rio Grande passes through river forest, urban and suburban areas, and irrigated fields.

On Isleta Pueblo land, the Rio Grande nourishes an adjacent wetland and provides irrigation water through the Isleta Diversion Dam, and continues southward past **Belen (18)**.

Below Bernardo, the Rio Puerco and the **Rio Salado (19)** enter the Rio Grande. These tributaries from the west contribute heavy sediment-laden flows to the Rio Grande.





The MRGCD begins its irrigation diversions from the Rio Grande below Cochiti, where Galisteo Dam, a detention dam, limits discharge from Galisteo Creek, an east side tributary. Several other tributaries join the Rio Grande in the middle valley. One of the largest, the Jemez River, flows into the Rio Grande just below Angostura Diversion Dam.

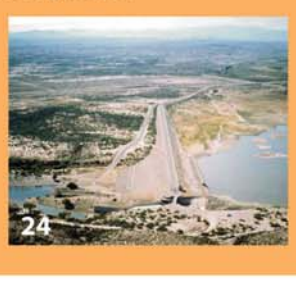
Jemez Canyon Dam (16), on Santa Ana Pueblo land, was built to prevent damages from floodwater and is operated with Cochiti to prevent releases from exceeding channel capacity.

About 55 miles downstream of the Isleta diversion, flow arrives at the **San Acacia Diversion Dam (20)**. Here, water is conveyed downstream through the Rio Grande (floodway) and the **Low Flow Conveyance Channel (21)**.

Historic population surveys of endangered Rio Grande silvery minnows indicated that the majority of its population are found in this reach from the diversion dam to Elephant Butte Reservoir.

Just upstream of the reservoir, the Rio Grande reaches a flow constriction point at the **San Marcial railroad bridge (22)**.

Elephant Butte Reservoir (23) is the principal storage facility for the Rio Grande Project, delivering water for downstream uses. Flowing from the reservoir, the river is joined by Cuchillo Negro and Palomas Creeks along the 18 miles to **Caballo Reservoir (24)**, a regulating reservoir that works in conjunction with Elephant Butte.



The USIBWC is responsible for flood control in the 106-mile reach of the **Rio Grande Canalization Project (25)** from Percha Dam to El Paso, and further south to **Ft. Quitman, Texas (26)**.

Figure 1-1. A Trip Down the Upper Rio Grande

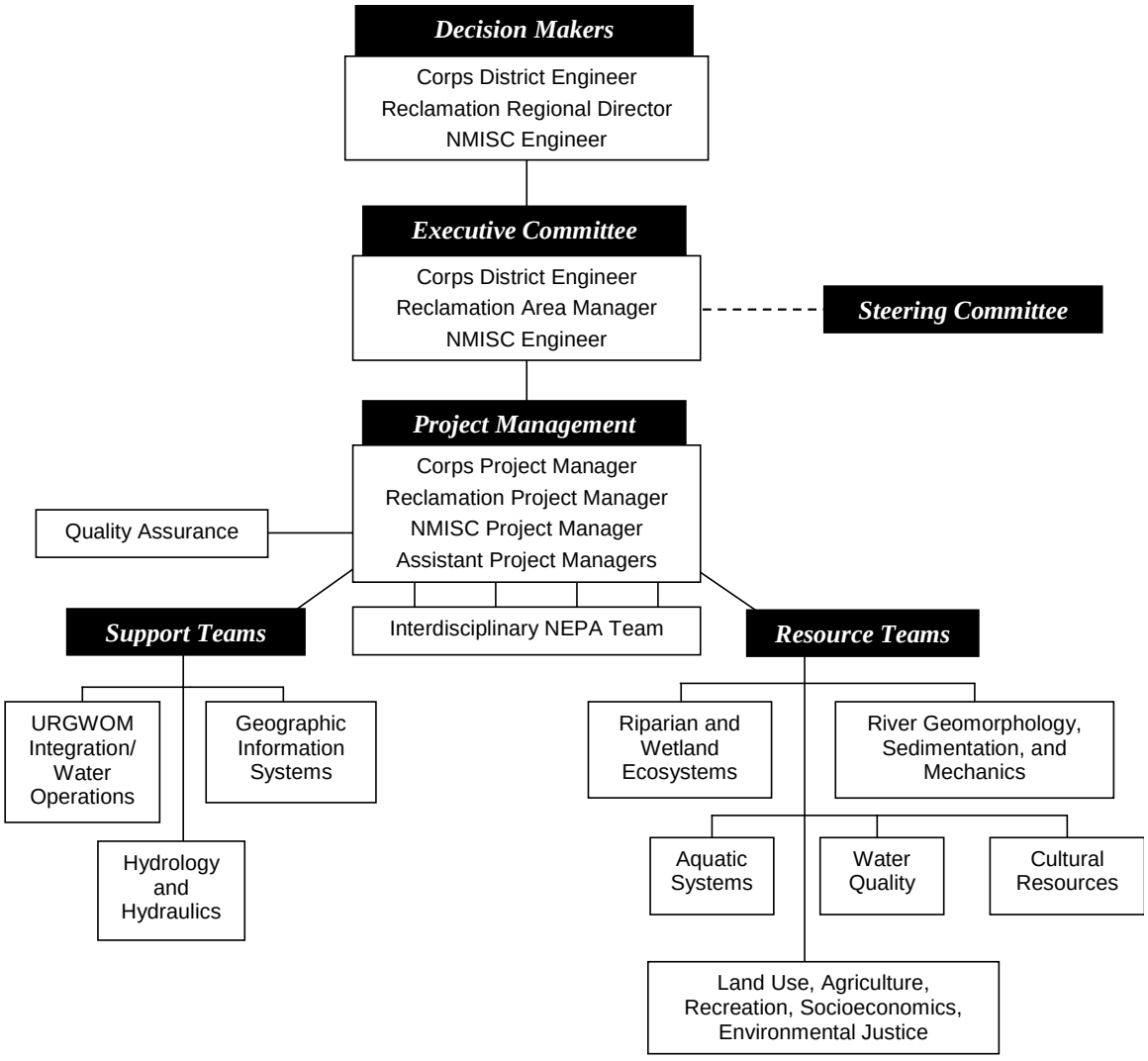


Figure 1-2. Organizational Chart for the Water Operations Review and EIS

Other entities contributed staff time in support of technical teams or the Steering Committee or assisted with public involvement activities (**Table 1-2**). Approximately 20 additional tribes, individuals and other groups that contributed to the NEPA process and Public Involvement were not assigned to a technical team.

Table 1-2. Other Entities that Supported Water Operations EIS

Name of Entity	Agency/Organization Type
International Boundary and Water Commission, U.S. Section	Federal
Bosque del Apache National Wildlife Refuge	Federal
U.S. Geological Survey	Federal
U.S. Bureau of Land Management	Federal
National Park Service	Federal
New Mexico Game & Fish Department	State
New Mexico Transportation Department	State

Name of Entity	Agency/Organization Type
New Mexico State Land Office	State
Middle Rio Grande Conservancy District	Water Provider
City of Albuquerque	Water Provider
Rio Grande Restoration	Conservation
Texas Commission on Environmental Quality	Rio Grande Compact Commission
Colorado State Engineer	Rio Grande Compact Commission
New Mexico State Engineer	Rio Grande Compact Commission
University of New Mexico	Research
New Mexico State University	Research
New Mexico Water Resources Research Institute	Research

1.4 Major Issues Affecting Water Operations

Major environmental and operational issues contributed to the need for the Review and EIS and required careful consideration during alternatives development and impacts analysis. These issues are listed below.

Low flows—Improving water operations management flexibility during low flows is an important goal of this Review and EIS. While many of the operations and much of the infrastructure along the Rio Grande were developed to manage flood flows, in reality, the river is prone to drought and historically subject to frequent low flows that periodically leave parts of the channel dry and increase sediment deposition. At the same time, the river is the major source of irrigation water supply in New Mexico, as well as El Paso County, Texas, U.S. and Ciudad Juarez, Chihuahua, Mexico.

Endangered species—The river and adjacent riparian habitats provide habitat to federally-listed endangered species, including the Rio Grande silvery minnow and the southwestern willow flycatcher. Provisions of the ESA require that operation of the river be consistent with the protection of listed species. The Review and EIS examines how changes to water operations may improve or maintain habitat for these species. As this is a 40-year planning study, the requirements of any current Biological Opinion were not considered in the analyses.

Water conveyance efficiency—The Review and EIS examine improved efficiency in water conveyance through increased operational flexibility and coordination. Efficient conveyance of water to Elephant Butte Reservoir helps the United States meet its water delivery obligation to Mexico and helps the State of New Mexico meet its obligations under the Rio Grande Compact.

Sediment management and flood capacity of the channel—The Review and EIS evaluates improved operations that have the ability to mobilize sediment and keep the floodway open for flood flows. Management of the Rio Grande's heavy sediment load is fundamental to successful management of the river and its effect on adjacent lands. Adequate channel and floodway capacity are required to allow the higher flows of the Rio Grande to pass safely.

Many of these issues are discussed in more detail in Chapter 3 under specific resource topics.

1.5 Special Considerations

1.5.1 Assumptions and Limitations of the Review and EIS

A preliminary review of upper Rio Grande basin water operations identified any constraints to federal flexibility that needed to be overcome. The following assumptions were made for this system-wide review of coordinated federal operations:

- Historic operations at El Vado Dam and Reservoir were modeled and evaluated within the alternatives. Changes in operations at El Vado were excluded in this EIS due to ongoing litigation and a lack of flexibility in operations.
- The San Marcial railroad bridge was assumed relocated to increase channel capacity between San Marcial and Elephant Butte Reservoir. There is a Corps' project in progress to relocate the bridge (Corps 2003).
- Existing levees were assumed adequate to contain higher channel capacity releases. Current Corps and Reclamation projects address levee construction, replacement, or maintenance (Reclamation 2003b).
- Reservoir storage of native Rio Grande water was assumed available within City of Albuquerque flowage easements in Abiquiu Reservoir as the city implements its drinking water project using SJC project water currently stored there (Reclamation and City of Albuquerque 2004).
- A functional LFCC was assumed operational for the different diversion flows specified in the Action Alternatives, with an outfall to Elephant Butte Reservoir. The exact location and redesign of this facility is considered as part of another federal action (Reclamation 2000a).

Of the ten key facilities identified along the upper Rio Grande basin, the El Vado Dam and Reservoir and their operations were excluded by this Review and EIS due to ongoing litigation and a lack of flexibility in operations. Because this reservoir is not part of the Review and EIS, changes to its operations were not considered. Historic operation of the facility was modeled when evaluating alternatives.

The current March 2003 Biological Opinion (FWS 2003a) presents the FWS opinion on the effects of actions on the endangered Rio Grande Silvery minnow, the endangered southwestern willow flycatcher, the threatened bald eagle, and the endangered interior least tern. The Biological Opinion presents effects associated with Reclamation's water and river maintenance operations, the Corps' flood control operation and related non-federal actions. This is a ten-year Biological Opinion and incorporates many aspects of water operations identified under the No Action Alternative, extending from the Colorado/New Mexico state line downstream to the headwaters of Elephant Butte Reservoir. The current Biological Opinion does not address active diversion to the LFCC or storage of native Rio Grande water in Abiquiu Reservoir. Since 2001, this is the third Biological Opinion in effect within the project area. Reinitiation of consultation is subject to many factors including exceeding incidental take; new actions or species listings; modified agency actions in a manner that causes negative effects on the listed species; changes in species population density; prolonged drought; and other factors. It is possible that other Biological Opinion requirements would be created during the 40-year planning period. Therefore, evaluation of ten-year Biological Opinion requirements was not explicitly performed in this forty-year evaluation of water operations alternatives.

1.5.2 Programmatic EISs, Tiering, and Site-Specific Impacts

This EIS is a comprehensive basin-wide planning document intended to support a broad range of operations conditions subject to highly variable hydrologic conditions. It is programmatic in nature, providing a preferred range of operations available at the federal reservoirs and facilities. Operating changes will change hydrology within the river system, including potentially beneficial and adverse impacts. This EIS provides the baseline data, models, and analysis that could be applied to future specific projects at the ten federal facilities considered or used in evaluating future coordinated management operations.

1.6 Related Projects and Activities

1.6.1 Authorized and Ongoing Actions

Related actions that are reasonable and foreseeable in the project area were considered in the evaluation of existing conditions and analysis of alternatives. Effects that were considered include those that may limit water operations flexibility, may affect alternatives, or provide additional baseline data.

U. S. Section of the International Boundary and Water Commission (USIBWC), River Management Alternatives for the Rio Grande Canalization Project, Final EIS (FEIS) (USIBWC 2004)—The USIBWC proposed actions are based on evaluating long-term river management alternatives for the Rio Grande Canalization Project. This project covers a 105.4-mile river corridor between Percha Dam, New Mexico and the American Dam in El Paso, Texas. The project component that applies to this Review and EIS is flood control at Elephant Butte and Caballo Dams. Measures considered to improve the riparian ecosystem while maintaining flood control and water delivery requirements include grazing lease modifications to improve erosion control, changes in floodway vegetation management, and aquatic habitat diversification.

U.S. Bureau of Reclamation, Relocation of Salvage Wells, Closed Basin Division, San Luis Basin Project, Colorado (Reclamation 2003b)—Reclamation proposed to redrill up to 170 new salvage wells over 10 years to assist Colorado in meeting its Compact delivery requirements. Each redrilled well will be located within 1 acre of an existing well. The Final Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) were issued on February 2003. The URGWOM planning version assumed no change to current production rates.

U.S. Bureau of Reclamation and City of Albuquerque, Drinking Water Project Final EIS (Reclamation and City of Albuquerque 2004)—Reclamation and the City of Albuquerque jointly prepared a DEIS in 2003 for the city's Drinking Water Project to efficiently use existing water resources to develop a safe and sustainable water supply by treating SJC Project water and native Rio Grande water. The Record of Decision (ROD) was signed June 2004. The city's projected diversions were included in URGWOM planning version data.

U.S. Bureau of Reclamation, Rio Grande and LFCC Modifications Draft EIS (Reclamation 2000a)—Reclamation's Draft EIS evaluates proposed modifications and realignment of the river channel and LFCC between San Acacia Diversion Dam and Elephant Butte Reservoir. The proposed actions are operating improvements and a realignment to convey water to Elephant Butte Reservoir in the LFCC channel, enhance valley drainage, and improve sediment management. The 2000 Draft EIS does not address LFCC operations. This EIS examines a range of LFCC operations in the alternatives.

U.S. Bureau of Reclamation and City of Albuquerque, Non-Potable Water Reclamation and Reuse, Northeast Heights and Southeast (Reclamation and City of Albuquerque 2001)—This EA and FONSI action includes the Non-Potable Surface Water Reclamation Project, the Southside Water Reclamation Plant Reuse Project, and an Arsenic Treatment demonstration component. The Nonpotable Water Reclamation project diverts SJC Project water near Alameda Boulevard to be combined with recycled industrial water to create a nonpotable water supply for turf irrigation. Construction is ongoing and partial deliveries are underway for turf irrigation.

U.S. Bureau of Reclamation, Middle Rio Grande River Maintenance and Flood Protection (Reclamation 2000b)—Reclamation maintains the river channel for the Middle Rio Grande Project from Velarde to Caballo Dam, involving the New Mexico portion of the project area. The goals of this project were: (1) providing effective transport of water and sediment to Elephant Butte Reservoir; (2) conserving surface water; (3) reducing the rate of aggradation; and (4) protecting riverside structures and facilities. Activities that complement operations covered by this Review and EIS include bank stabilization/

bioengineering / habitat enhancement techniques, river training works, sediment removal, vegetation control, levee maintenance, and access and construction requirements.

U.S. Army Corps of Engineers, Belen Levee Project (Corps 1999)—A draft supplemental DEIS/limited re-evaluation report was released for public review for this levee-rehabilitation project that extends from Isleta Pueblo to Belen, along both banks of the Rio Grande. The proposed action would rehabilitate the existing spoil-bank levee to withstand higher and longer-duration floods, and would allow for the safe release of higher flows from upstream flood-control reservoirs.

U.S. Army Corps of Engineers, Rio Grande Floodway, San Acacia to Bosque del Apache Unit, New Mexico (Corps 1997)—This levee rehabilitation action on the west bank of the Rio Grande extends from the San Acacia Diversion Dam to downstream of the San Marcial railroad bridge. It proposes to rehabilitate the existing spoil-bank levee, and replace and increase the capacity of the San Marcial railroad bridge. Alternatives evaluated in this Review and EIS assume that the San Marcial railroad bridge restriction on spring releases from upstream reservoirs will be removed. The project will result in better channel dynamics and a healthier riparian community given the ability to pass higher peak flows from upstream reservoirs.

U.S. Army Corps of Engineers, Abiquiu Dam Oxygenator Project EA (Corps 2001a)—This project covers construction improvements at the hydroelectric plant to improve water quality in the channel below the reservoir, in conjunction with power generation operations conducted by Los Alamos County using run of the river water flow quantities.

U.S. Army Corps of Engineers, Jemez Canyon Dam and Reservoir EA (Corps 2000)—This action was the release and drawdown of the reservoir pool prior to the expiration of the authorization. Court-ordered mediation resulted in the partial evacuation of the reservoir pool in the late summer and fall of 2000. Complete evacuation of storage occurred in the fall of 2001 with the project reverting to operation for the long term as a dry reservoir. This Review and EIS treats Jemez Canyon Reservoir as a dry reservoir.

Water Plans and Policy Initiatives—The Water Operations Review of the upper Rio Grande basin is also informed and guided by state and regional water plans and policy initiatives that have been developed for portions of the project area. These include the New Mexico State Water Plan, adopted in 2003 by the New Mexico Interstate Stream Commission, and the New Mexico Drought Plan, updated in 2003. The Middle Rio Grande Water Supply Study was a jointly funded study of the water budget for the portion of the river from Cochiti Dam to Elephant Butte Dam. The Office of the State Engineer and NMISC accepted the Jemez y Sangre Regional Water Plan in 2003. In 2004, the NMISC accepted the Middle Rio Grande and Socorro/Sierra County Regional Water Plans. The El Paso to Las Cruces Region Sustainable Water Project and the Far West Texas Regional Water Plan (Region E) both cover the portion of the Rio Grande from Elephant Butte Dam in New Mexico to Fort Quitman in Texas. These policies and plans will be taken into consideration as part of future adaptive management strategies (SSPA 2004; Texas Water Development Board 2006).

1.6.2 Foreseeable Future Projects

Other projects in early planning stages have not yet developed fully described actions. However, they may be considered in implementing future adaptive management strategies. These potential projects include the following:

Middle Rio Grande Endangered Species Collaborative Program Programmatic EIS. This project is jointly sponsored by Reclamation, Corps, NMISC, and several other signatories to a Memorandum of Understanding. It is a multiple-agency and public collaborative program that authorizes the planning, evaluation, and funding of projects to improve habitat, conduct research and obtain water in the Middle

Rio Grande area to benefit Rio Grande endangered species and comply with Rio Grande Compact deliveries and state and federal law, while allowing for continued and future human water uses.

Buckman Water Diversion Project. This project is sponsored by the United States Department of Agriculture Forest Service, the City of Santa Fe, the County of Santa Fe, and Las Campañas, a private entity. It is a project to divert, collect, and treat SJC Project and native Rio Grande water to meet peak municipal needs in the Santa Fe area.

1.7 Compliance with Applicable Laws and Regulations

This Review and EIS is subject to and consistent with applicable federal, state, and tribal laws, regulations, policies, and interstate compacts. A list of applicable laws, regulations, and treaties is provided in Appendix G, Comprehensive List of Laws and Regulations.

1.7.1 Federal Environmental Laws

1.7.1.1 National Environmental Policy Act

This document is prepared in accordance with NEPA 1969, as amended (Public Law [P.L.] 91-910, 42 United States Code (U.S.C.) 4321-4347). Written responses to comments will be published in the Final EIS (FEIS). A Notice of Availability will be published in the Federal Register announcing the availability of the FEIS. Release of a ROD usually concludes the NEPA process.

1.7.1.2 Endangered Species Act

The Endangered Species Act of 1973, as amended (P.L. 93-205, 87 Stat. 884, 7 U.S.C. § 136; 16 U.S.C. 460 et seq. [1973]) ("ESA") provides a comprehensive program for the conservation of threatened and endangered plant and animal species and the habitats in which they are found. ESA's blueprint for protection and recovery requires identification and listing of endangered species; designations of "critical habitat"—habitat that is essential to the continued existence of the species; preparation of recovery plans for the species; prohibitions against federal activities that are likely to jeopardize the continued existence of the species or that will adversely modify their critical habitat; and prohibitions against "taking" an endangered species that apply to government and private activities or actions.

1.7.1.3 Clean Water Act

The Clean Water Act (Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq.) provides for surface water quality protection in the United States. It employs a variety of regulatory and nonregulatory tools to reduce pollutant discharges into waterways and manage polluted runoff to restore and maintain the chemical, physical, and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water." Regulatory oversight is provided by the U.S. Environmental Protection Agency, which, in many cases, has delegated primacy for enforcement to states or tribal governments.

1.7.2 Laws Specific to the Rio Grande

1.7.2.1 Rio Grande Compact

The Rio Grande Compact (Compact) is an interstate agreement between New Mexico, Colorado and Texas to equitably apportion the water of the Rio Grande between the three states and the Republic of Mexico. The Compact was approved by Congress on May 31, 1939 and is administered pursuant to §72-15-23 NMSA 1978(1945). A Rio Grande Compact Commission was established consisting of one representative from each state and a United States-designated representative.

1.7.2.2 Other Laws and Regulations Affecting the Rio Grande

Specific laws and regulations that govern the operations and facilities that this project considers are listed here according to each responsible agency. In addition, a variety of general laws governs all federal actions and are, therefore, utilized in the technical sections.

U.S. Army Corps of Engineers

1. Flood Control Act of 1940 (P.L. 78-534, 58 Stat. 890, 33 U.S.C. 709), Section 7 states that Flood Control Regulation for Platoro Reservoir, Conejos River, Colorado is the responsibility of the Corps.
2. Flood Control Act of 1944 (58 Stat. 890, 33 U.S.C. 709), Section 7 states that Flood Control Regulation for Platoro Reservoir, Conejos River, Colorado is the responsibility of the Corps.
3. Flood Control Act of 1948 (P.L. 80-858) and the Flood Control Act of 1950 (P.L. 81-516) authorized construction of Abiquiu Dam (originally conceived as Chamita Dam).
4. P.L. 86-645 (1960) authorizes construction of Cochiti and Galisteo Dams and includes operation criteria for Jemez Canyon, Abiquiu, Cochiti, and Galisteo Dams.
5. P.L. 88-293 (1964) authorizes a permanent pool in Cochiti Lake for recreation and fish and wildlife. The pool was established and maintained with SJC Project water.
6. P.L. 97-140 (1981) authorizes up to 200,000 acre-feet (AF) of contract storage of SJC project water in Abiquiu Reservoir with certain conditions.
7. P.L. 100-522 (1988) authorizes storage of Rio Grande system water (up to 200,000 AF) in Abiquiu reservoir in the SJC storage space, if the SJC entities no longer require such storage. The storage of the Rio Grande system water is subject to provisions of the Rio Grande Compact.
8. Corps of Engineers regulations for implementing NEPA (33 CFR 230)

Bureau of Reclamation

1. The Reclamation Act of 1902 (32 Stat. 388, as amended).
2. The Flood Control Acts of 1948 (P.L. 80-858) and 1950 (64 Stat. 76) authorize construction, operation, and maintenance of channel rectification works of the Middle Rio Grande Project, which includes the LFCC.
3. P.L. 87-483 (1962) authorizes the initial stage of the SJC Project.
4. P.L. 92-514 (1972) authorizes the Closed Basin Project in Colorado to salvage groundwater that would otherwise be lost to evapotranspiration. The project helps the State of Colorado meet its required compact deliveries to New Mexico and facilitates delivery requirements to the Republic of Mexico.
5. P.L. 93-493 (1974) authorizes a recreation pool of 50,000 AF at Elephant Butte. The State of New Mexico has contracted with the City of Albuquerque for SJC Project water to maintain the recreation pool since 1985.
6. Reclamation's NEPA regulations (45 FR 47944 [7/17/80] as amended by 48 FR 17151 [4/21/83]).
7. Reclamation Reform Act of 1982 (P.L. 97-293, Title II, 96 Stat. 1263).

State of New Mexico

The Interstate Stream Commission, as JLA, is responsible for ensuring compliance with New Mexico State law. Specific laws and regulations that are applicable to this EIS include, but are not limited to the following:

1. Rio Grande Compact of 1939. § 72-15-23 NMSA 1978 (1945).
2. New Mexico Constitution. N.M. CONST. art. XVI.

3. New Mexico Water Code. Chapter 72 New Mexico Statutes Annotated 1978 (2004) (appropriation and use of surface water: §§ 72-5-1 et seq. NMSA 1978; appropriation and use of ground water: §§ 72-12-1 et seq. NMSA 1978,).
4. Interstate Stream Commission Act. §§ 72-14-1 et seq. NMSA 1978 (1935).
5. Joint Powers Agreements Act, §§ 11-1-1 to -7 NMSA 1978 (1961).
6. New Mexico Office of the State Engineer Rules and Regulations Governing the Appropriation and Use of Ground Water in New Mexico (2005).
7. New Mexico Office of the State Engineer Surface Water Administration Rules and Regulations (2005).
8. New Mexico Office of the State Engineer Middle Rio Grande Administrative Area (MRGAA) for Review of Water Rights Applications (2000).
9. New Mexico Office of the State Engineer Mesilla Valley Administrative Area Guidelines for Review of Water Right Applications (1999).
10. Active Water Resource Management, Part 19.25.13 New Mexico Administrative Code (NMAC) 2005.
11. Ground and Surface Water Protection, Part 20.6.2 NMAC 2005.
12. Standards for Interstate and Intrastate Surface Waters, Part 20.6.4 NMAC 2005.

1.7.3 Federal Trust Responsibilities to Pueblos and Tribes

Federal laws and treaties established reservations and protect the rights of Native Americans to express, believe, and exercise traditional religious practices. Federal agencies are responsible for consulting with Indian tribal governments and traditional religious leaders to determine appropriate actions necessary for protecting and preserving Native American religious cultural rights and practices. Some federal laws and guidance are listed in Appendix G.

1.8 Organization of Document

- Chapter I – Discusses the purpose of and need for the action and also provides some of the issues and considerations that shaped the planning process.
- Chapter II – Describes the No Action Alternative and the Action Alternatives and the process and constraints under which they were derived, and identifies those selected for or eliminated from further study.
- Chapter III – Characterizes the existing environment, particularly the resources most affected by the alternatives carried forward for further analysis.
- Chapter IV – Discusses the environmental impacts of the viable Action Alternatives and the No Action Alternative, and concludes with a description of the Preferred Alternative.
- Chapter V – Discusses agency coordination, tribal consultation, scoping and public involvement conducted to obtain stakeholder participation in this Review and EIS.
- Chapter VI – Identifies factors identified as possible actions that could be implemented but are currently outside the authority of the JLA and beyond the scope of this Review and EIS.
- Chapter VII – Lists the preparers and contributors to this Review and EIS.

Following the chapters are the index and the appendices. The first volume includes the references cited in the EIS, quality assurance plan, glossary, memorandum of agreement with the Joint Lead Agencies, public involvement information, the comments on the Draft EIS and responses, and a list of applicable laws and regulations. The second volume compiles the multidisciplinary technical reports of analyses performed for this Review and EIS.