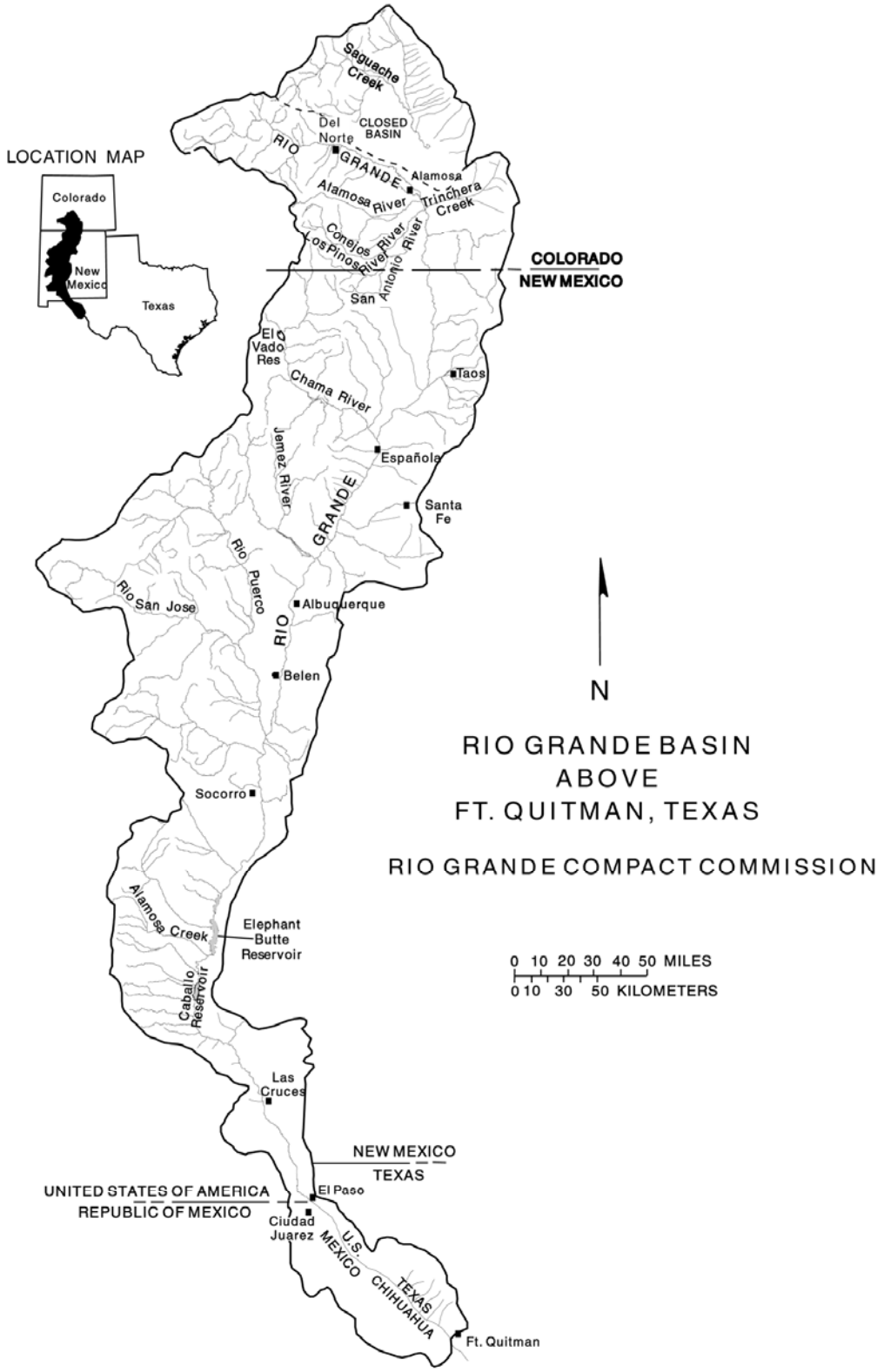
REPORT

of the

RIO GRANDE COMPACT COMMISSION

2012

TO THE GOVERNORS OF
Colorado, New Mexico and Texas


LOCATION MAP
Colorado
New Mexico
Texas
Saguache Creek
Del Norte
CLOSED BASIN
RIO GRANDE
Alamosa
Alamosa River
Trinchera Creek
Conejos River
Los Pinos River
San Antonio River
COLORADO
NEW MEXICO
El Vado Res
Chama River
Taos
Jemez River
Española
RIO GRANDE
Santa Fe
Rio Puerco
Rio San Jose
Albuquerque
RIO
Belen
N
RIO GRANDE BASIN
ABOVE
FT. QUITMAN, TEXAS
RIO GRANDE COMPACT COMMISSION
Socorro
Alamosa Creek
Elephant Butte Reservoir
Caballo Reservoir
0 10 20 30 40 50 MILES
0 10 30 50 KILOMETERS
Las Cruces
NEW MEXICO
TEXAS
UNITED STATES OF AMERICA
REPUBLIC OF MEXICO
El Paso
Ciudad Juarez
U.S.
MEXICO
TEXAS
CHIHUAHUA
Ft. Quitman

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RIO GRANDE COMPACT COMMISSION
COLORADO TEXAS NEW MEXICO

March 21, 2013

The Honorable Susana Martinez
Governor of the State of New Mexico
Santa Fe, New Mexico

The Honorable John W. Hickenlooper
Governor of the State of Colorado
Denver, Colorado

The Honorable Rick Perry
Governor of the State of Texas
Austin, Texas

Honorable Governors:

The 74th Annual Meeting of the Rio Grande Compact Commission was held in Alamosa, Colorado on March 21, 2013.

The Commission reviewed the cost of operation and found that the expenses for the administration of the Rio Grande Compact were $193,137 in the fiscal year ending June 30, 2012. The United States bore $56,241 of this total; the balance of $136,896 was borne equally by the three States party to the Compact.

Enclosed herewith is the 2012 Report of the Rio Grande Compact Commission.

Respectfully,

Scott Verhines, Commissioner for New Mexico

Dick Wolfe, Commissioner for Colorado

Patrick R. Gordon, Commissioner for Texas

REPORT OF THE ENGINEER ADVISERS TO THE RIO GRANDE COMPACT COMMISSION

March 21, 2013

The Engineer Advisers to the Rio Grande Compact Commission met in Albuquerque on January 22 and 23, 2013, and in Santa Fe and Albuquerque, New Mexico from February 25 through March 1, 2013, to prepare the 2012 Rio Grande Compact (Compact) water accounting, discuss continuing and new issues in preparation for the 2013 annual meeting of the Rio Grande Compact Commission (Commission) and prepare the Engineer Advisers' report. The Engineer Advisers requested and received the participation of the U.S. Geological Survey (USGS), the U.S. Bureau of Reclamation (Reclamation), the U.S. Army Corps of Engineers (Corps), the U.S. Bureau of Indian Affairs (BIA), the International Boundary and Water Commission (IBWC), and the U.S. Fish and Wildlife Service (Service) to discuss in detail their specific water-related activities in the basin.

COMPACT ACCOUNTING

The Engineer Advisers reviewed the streamflow and reservoir storage records and other pertinent data for the Upper Rio Grande Basin during calendar year 2012 and were unable to reach a consensus on the 2012 accounting. The lack of consensus arises from disagreement that began in 2011 amongst the Texas Engineer Adviser and New Mexico and Colorado Engineer Advisers on certain actions taken by Reclamation at Elephant Butte Reservoir starting in 2011. As a result, the Engineer Advisers were unable to reach consensus on how to finalize the 2012 Rio Grande Compact Delivery Tables for Colorado and New Mexico and the Release and Spill from Project Storage Table. For 2011, the New Mexico and Colorado Engineer Advisers developed two proposed accounting scenarios and the

Texas Engineer Adviser one scenario. Each scenario was presented to the Commission at its 2012 meeting. The Commission did not vote on any of the proposed scenarios. The Engineer Advisers used the accounting approaches presented last year to carry forward Compact accounting for the 2012 calendar year for each of the three scenarios.

RIO GRANDE BASIN CONDITIONS

Snowmelt runoff levels in 2012 were again below average in most of the basin in Colorado and New Mexico. Summer monsoon activity was also below average throughout most of the basin. Usable Water in Project Storage was below the Article VII trigger of 400,000 acre-feet on January 1, 2012 and stayed below that level throughout the year. Platoro Reservoir reached a high of 38 percent of capacity in June 2012. El Vado Reservoir was filled to approximately 75 percent of capacity near the end of April 2012 primarily due to New Mexico's use of relinquishment credit from previous relinquishment agreements with Texas. The San Juan-Chama Project (SJCP) delivered 47,222 acre-feet through the Azotea Tunnel into the Rio Grande basin in 2012.

In the ten years since the historic drought of 2002, there have only been two to three years in which the annual water supply at the index gages in Colorado and New Mexico was above the long-term average. This has led to declining water supplies and reservoir storage throughout the Rio Grande Basin.

By the end of the 2012 calendar year, due to the drought conditions, reservoir storage had declined to extremely low levels. As of the beginning of 2013, there was almost no native Rio Grande water in storage upstream of Elephant Butte Reservoir in New Mexico and, native water storage in Elephant Butte Reservoir was approximately 5 percent of capacity.

CONTINUING ISSUES

This section of the report summarizes issues previously addressed by the Engineer Advisers. It reflects information obtained by the Engineer Advisers subsequent to the 2012 Commission meeting, including information obtained in the reports of the federal agencies at meetings with the Engineer Advisers or otherwise reported to the Engineer Advisers at the 2013 Engineer Adviser meetings. The term "reported" herein reflects information provided by various entities without analysis by the Engineer Advisers.

Gaging Station Review

The Engineer Advisers have expressed concern since 2003 with issues at the gaging stations below Elephant Butte and Caballo dams, operated by the USGS and Reclamation respectively. The Engineer Advisers have documented numerous specific concerns and requests of the agencies regarding these issues in their annual reports to the Commission since 2003.

The USGS and Reclamation have improved coordination. In 2012 they developed a draft proposal for investigating the stream gages and unresolved mass balance issues between the two reservoirs. Based on the draft proposal, the Engineer Advisers recommended to the Commission that the first priority be to improve gage records (infrastructure, measurement, analysis, review, transparency, and reporting) for the gages below Elephant Butte and Caballo dams so the two records are accurate and can be evaluated in a consistent manner.

During 2012, the two agencies worked collaboratively to address the Commission priorities. For the 2012 Rio Grande below Caballo Dam gage (Caballo gage) record, Reclamation and the USGS implemented a three-touch (work-check-review) record process in which the USGS performed a final review of the record for the gage. Implementation of this process has made strides toward

the Engineer Advisers' ultimate goal of a record that is transparent, technically sound, and accurate.

Reclamation reported they updated gage infrastructure at the Caballo gage and the two agencies collaborated to establish an acceptable data transfer and review process. Reclamation reported that they installed a float system and electric tape gage; installed a new staff gage; installed solar panels; and calibrated all metering equipment at the Caballo gage. They also acquired AQUARIUS software and will start training on that software during 2013. Reclamation indicated that they will complete their own review for the gage below Elephant Butte Dam (Elephant Butte gage) in March 2013.

During 2012, the USGS reported that they have been cooperating with Reclamation to upgrade the Caballo gage. The USGS completed the following tasks: installed a bank operated cableway; approved the rating curve for the range of flows that occurred; trained Reclamation personnel on use of ADCP; undertook a velocity study below Elephant Butte Dam; reviewed the Caballo gage stream flow records, the final record for the Caballo gage during 2012, and provided Reclamation with stream flow records for the Elephant Butte gage.

During 2012, Reclamation conducted 37 measurements for the Caballo gage. They rated 36 measurements good and one fair.

The USGS reported on the Elephant Butte gage and the cooperation with Reclamation on updating and reviewing the Caballo gage. During 2012, the USGS conducted measurements below Elephant Butte Dam at a temporary cableway located upstream of the current cableway for comparison. The results indicated that the measurements are consistent between the two cableways and confirm that the current shift method for correcting the gage is appropriate. The USGS reported that they are currently using Acoustic Doppler Current Profilers (ADCPs) for all measurements at the Elephant Butte gage. The USGS conducted 36

measurements at the gage in 2012. They rated 18 of these measurements good, 11 fair and 6 poor. The USGS indicated that they considered the 2012 records below Elephant Butte and Caballo dams as “good”.

The Engineer Advisers are encouraged by the work Reclamation and the USGS conducted during 2012 and recommend they continue to collaborate to finalize their records for both gages approximately every two months.

The Engineer Advisers request that Reclamation and the USGS develop and document a data transfer and review process prior to the 2014 Engineer Adviser meeting. The Engineer Advisers are hopeful that such a collaborative process and consistent record keeping will provide for the ability to isolate and answer questions about the mass balance issue. Finally, the Engineer Advisers are hopeful that Reclamation will be able to remedy the power problem with the ADVM at the below Caballo Dam gage during 2013 so that it can be used as originally intended.

Last year the New Mexico and Colorado Engineer Advisers declined to sign the compact accounting sheets, in part due to concerns about the accuracy of the 2011flow record for the Rio Grande below Caballo gaging station. Reclamation had not provided the proper documentation to verify record accuracy, as had been requested by the Engineer Advisers. Since that time Reclamation has provided some documentation on the gaging station record for 2011. A review of this documentation shows that the 2011 record of flows for the Rio Grande below Caballo Dam gaging station is adequate for compact purposes.

The NMISC conducted a mass balance for the Rio Grande between the Elephant Butte gage and Caballo gage using the available records. The mass balance analysis indicated that during 2012 there was a calculated gain of about 15,200 acre-feet in this reach, even though 2012 had a well below normal monsoon season.

During 2012, the NMISC continued its survey of water level elevations in

Elephant Butte and Caballo reservoirs. The NMISC survey results were within the threshold criteria (< 0.05 ft) at Elephant Butte Reservoir and slightly above the threshold criteria at Caballo Reservoir. Reclamation indicated they will re-survey Caballo Reservoir and make appropriate adjustments.

Rio Grande Water Accounting Issue under Articles IV and VI

At the February 2012 Engineer Adviser's meeting, New Mexico reported that it had identified a possible issue with the Compact accounting methodology used for the 1948 resolution that changed New Mexico's Article IV delivery location. New Mexico used the 2010 and 2011 accounting data to present the issue. For 2010, New Mexico reported it was charged for approximately 95,000 acre-feet of evaporation from Elephant Butte Reservoir while the calculated evaporation from the reservoir was approximately 74,000 acre-feet. That's because New Mexico is charged in the accounting with both the calculated evaporation loss from the reservoir under Article IV, as amended in 1948, and the loss on New Mexico's Credit Water in accordance with Article VI. New Mexico indicated that for 2011 it was charged for approximately 110,000 acre-feet of evaporation loss from Elephant Butte Reservoir when approximately 70,000 acre-feet of water was calculated to have evaporated. .

New Mexico is preparing a draft memo regarding this issue and requests that Colorado and Texas review their files concerning development of the 1948 resolution and coordinate with New Mexico to better understand the issue.

Zebra Mussels/Quagga Mussels

The Engineer Advisers continue to be concerned about the recent infestation of Zebra and Quagga mussels in the Upper Rio Grande basin and their possible spread throughout the entire basin. Three reservoirs in New Mexico; Sumner, El

Vado and Navajo had been suspect in the past due to positive microscopic veliger tests. However, subsequent testing has been negative. Since 2009, Reclamation has been sampling seven of its New Mexico reservoir bodies (Navajo, Heron, El Vado, Elephant Butte, Caballo, Sumner, and Brantley reservoirs) for mussels and processing these water samples through Reclamation's research lab in Denver.

Three mobile decontamination units previously purchased by Reclamation continue to be used to reduce the spread of the mussels and other units are proposed. Reclamation also continues education, outreach and training efforts aimed at protecting New Mexico's water bodies.

Federal Agencies' Efforts towards a New Middle Rio Grande Water Operations Biological Opinion

Formal Section 7 consultation under the Endangered Species Act (ESA) towards a new Biological Opinion (BiOp) was not initiated in 2012 as originally planned by the federal agencies. The main issue was a disagreement between the Service and Corps regarding the consultation process and outcome. The issue was resolved in early 2013 when the Service agreed to accept a separate biological assessment from the Corps on its discretionary proposed actions and to issue a separate BiOP to the Corps.

At the 2013 Engineer Adviser meeting, the federal agencies each reported that formal consultation had been initiated on February 25, 2013. Reclamation, the Corps, and the Bosque del Apache Fish and Wildlife Refuge have each submitted separate biological assessments to the Service. Reclamation's biological assessment includes proposed actions and effects analyses for the Middle Rio Grande Conservancy District and the State of New Mexico as well as some conservation commitments from the Albuquerque-Bernalillo County Water Utility Authority.

The Service reported it will conduct a single programmatic analysis of effects to endangered species and to designated critical habitat. . However, the conclusion of the analysis will be issued in three separate BiOp documents instead of one. The Service expects to provide a draft of the Biological Opinion(s) in June 2013. They reported that since formal consultation began before March 1, 2013, the 2003 BiOp remains in place until the new BiOp is approved.

Actions by State and Federal Agencies to Plan for 2013 Spring Runoff during Extreme Drought Conditions in the Middle Rio Grande-

Because of the ongoing drought on the Rio Grande and seeking to initiate adaptive management for Middle Rio Grande water operations, the Middle Rio Grande Endangered Species Collaborative Program (Collaborative Program) formed a workgroup, the Minnow Action Team, to evaluate and report on options to utilize the available water supplies this spring to create spawning conditions for the silvery minnow while continuing to meet existing human demands.

The Service reported it is critical that the silvery minnow have a successful spawn in 2013. However, based on the February 1, 2013 snowmelt runoff, natural flow conditions for such a spawn are not anticipated in 2013. The workgroup's minimum goal is to achieve a hydrograph near Albuquerque this May that has at least a 500-1000 cfs increase in its rising limb with a descending limb that extends for more than 7 days. Additionally, the team is discussing non-water activities that could be conducted, such as additional aquatic habitat restoration, silvery minnow egg collection, and monitoring. New Mexico reported that it is currently working to complete two habitat restoration projects, in part to aid with silvery minnow spawning success in 2013.

The workgroup will make recommendations to the consulting agencies and Collaborative Program starting in March, will track the actions the Collaborative

Program chooses to implement, and will provide a report on the effects of these actions.

Compliance by Federal and State Agencies with State Water Law

The Commission has previously adopted resolutions that requested the Corps, Reclamation, and the Service comply with state water laws when it comes to agency projects that create or increase depletions within the Rio Grande Basin. Federal agency representatives have acknowledged the need to comply with applicable state laws regarding such projects. New Mexico reported the federal agencies have satisfied necessary offset requirements, including accounting and reporting, for projects implemented in 2012.

Rio Grande Salinity Management Coalition

The Engineer Advisers continued to work with the Rio Grande Salinity Management Coalition (Coalition) evaluating the feasibility of salinity capture and treatment in the Rio Grande from San Acacia, New Mexico to Fort Quitman, Texas, with emphasis on the Rio Grande Project region. The primary objective of the Coalition is to identify and implement salinity reduction strategies that will reduce impacts, improve Rio Grande water quality, and extend existing water supplies in the fast-growing Rio Grande Project area.

The Coalition seeks to meet these goals through four phases of work:

- Phase 1 – Rio Grande Project Salinity Assessment;
- Phase 2 - Develop Salinity Management Alternatives and Feasibility;
- Phase 3 - Implement Pilot-Scale Salinity Control Project Testing;
- Phase 4 - Full Scale Control Project Implementation, Monitoring and Evaluation

The NMISC committed $250,000 for the initial portion of the project. Those funds were used to match $750,000 from the Corps' Section 729 authority

in the Water Resources Development Act of 2007. The first phase of work, completed in early 2010, resulted in three deliverables: a geospatial salinity database; a USGS Rio Grande Salinity Assessment and Plan of Study; and a Rio Grande Economic Impact Assessment study.

Phase 2 of the project commenced in 2010 with feasible pilot project sites and alternative control strategies being identified. Texas began funding a portion of Phase 2 in 2012 to match additional Corps funds. The salinity management alternatives and strategies have been identified and evaluation continues to refine the recommendations. Once the recommendations are finalized, a report will be compiled to meet the Corps' criteria for Water Management Strategies. This report will contain recommendations for projects. Texas committed $100,000 to continue Phase 2 of the project and is committed to provide the funds to complete the WRDA Section 729 portion of the project, which will culminate with the report described.

The Corps reported that a contract amendment is being executed to complete this work and to include a salinity study on the Pecos River. The initial cost share portion of the Pecos River project will be provided by Texas.

Elephant Butte Pilot Channel Project

The pilot channel was successful in conveying the low flows from the 2012 snowmelt runoff into the active reservoir pool at Elephant Butte Reservoir. Reclamation and NMISC worked from the Low Flow Conveyance Channel outfall downstream to the top of the Narrows. Since 2003, New Mexico has spent more than $15.8 million to construct and maintain the pilot channel.

In partial fulfillment of the Service's BiOP for the pilot channel, NMISC continues to coordinate with Reclamation, New Mexico State Parks, and other stakeholders on a Southwestern willow flycatcher habitat restoration project below

the reservoir to ensure compliance with the BiOP.

The existing BiOp for the pilot channel expires in July 2013. Reclamation reported that they will be re-initiating consultation with the Service on the pilot channel and expect to submit a Biologic Assessment (BA) to the Service in April of 2013. NMISC will work closely with Reclamation on the new pilot channel BA.

Relinquishment Update

Effective March 31, 2012, Colorado proposed and Texas accepted a relinquishment of 400 acre-feet of Colorado's Accrued Credit in Elephant Butte Reservoir in exchange for 400 acre-feet of native water inadvertently stored in Platoro Reservoir.

In 2012, the MRGCD stored New Mexico relinquishment water in El Vado Reservoir. The MRGCD stored a total of 30,513 acre-feet in May. Neither Reclamation nor the City of Santa Fe stored any relinquishment water in 2012.

The total amount of accrued credit relinquished by New Mexico and accepted by Texas since 2003 is 380,500 acre-feet. Relinquishment water storage has occurred during 2003, 2004, 2006, 2010, 2011, and 2012 totaling 222,757 acre-feet. All of that relinquishment water has been stored and released. At the end of 2012, there was a balance of 157,743 acre-feet of relinquishment credit yet to be stored in future years when Article VII storage restrictions are in effect.

YEAR 2012 OPERATIONS

Closed Basin Project

The total production of the Closed Basin Project in 2012 was 13,283 acre-feet, with 9,409 acre-feet of that amount delivered to the Rio Grande. The

remainder of the water produced was delivered to various federal lands along the project to be used as mitigation for the project footprint. All of the water delivered to the Rio Grande in 2012 was of sufficient quality to qualify for credit under the Compact. Reclamation continues to address problems of biofouling in the production wells of the Closed Basin Project. Reclamation replaced five wells in 2012 that were most affected by iron bacteria, and rehabilitated numerous other wells. To date, 70 of the 150 original wells have been replaced. Wells will continue to be replaced as budgetary constraints allow in an effort to help maintain production of the project. The Closed Basin Operating Committee continues to monitor groundwater levels and groundwater production and adjust project operations pursuant to the enabling legislation.

Platoro Reservoir Operations for 2012

Platoro Reservoir is a post-Compact Reservoir on the Conejos River. In the winter, Platoro Reservoir is nearly inaccessible. For this reason, there were at times in the past inadvertent storage of water during the wintertime, even during periods of Article 7 restrictions. With the recent installation of new valves and the low inflow that Platoro Reservoir has experienced lately, this inadvertent storage did not occur in 2012.

Colorado reported that, during May and early June 2012, the Conejos Water Conservancy District stored pre-compact direct flow water by exchange in Platoro Reservoir. This pre-Compact water was re-regulated and released later in the summer to better meet the crop irrigation requirements. This operation is done routinely pursuant to a Colorado Water Court decree which allows pre-compact irrigation water, which otherwise would have been diverted to irrigate crops, to be stored for a short time in Platoro Reservoir and then released later in the same season to meet irrigation demands. All of the re-regulated water was accounted for

and released during the summer of 2012, thereby not affecting the Conejos index supply.

The Engineer Adviser for Texas points out that while this action has occurred and been reported historically, Article VII of the Compact says "Neither Colorado nor New Mexico shall increase the amount of water in storage in reservoirs constructed after 1929 whenever there is less than 400,000 acre-feet of usable water in project storage…"

Colorado Groundwater Regulations

The State Engineer of Colorado is in the continuing process of developing rules and regulations concerning the use of groundwater in the Upper Rio Grande Basin in Colorado. These rules will require the owners of most large capacity wells in the Rio Grande Basin in Colorado to develop a plan to augment any injurious depletions which their wells may cause to other water rights. In the alternative, the owners may enter into an agreement with a subdistrict to replace those depletions through a groundwater management plan. As an integral part of these rules, the State Engineer is finishing up the Rio Grande Decision Support System Model. This multi-million dollar model captures the interaction between surface and groundwater and shows the effect that wells have on senior surface water rights. The model is scheduled to be completed in the spring of 2013.

The area's first groundwater subdistrict (Subdistrict #1) was approved by the Colorado Supreme Court in December 2011, and the replacement of injurious stream depletions began on May 1, 2012. Well owners in Subdistrict 1 are required to replace their injurious depletions to the Rio Grande on a daily basis during the irrigation season, and they must also bring the groundwater aquifers back to a sustainable level. In order to accomplish these goals, the subdistrict has leased replacement water to be delivered to the river, and they have also fallowed

over 9,000 acres of groundwater irrigated land. Along with other programs, there were nearly 30,000 acres of land removed from production within Subdistrict #1 last year, or approximately 15% of the total groundwater irrigated acreage. It is estimated that the subdistrict will fallow more acreage in the coming years.

The subdistrict concept is designed to allow groups of farmers the ability to solve their groundwater problems themselves. The subdistricts are operated by a board of directors elected by the farmers, and government agencies do not dictate the actions of the subdistricts except to ensure that the court decreed objectives are being met. The subdistricts have the power to levy fees associated with the groundwater pumping in their area. The money collected from these pumping fees is then used to purchase replacement water and to pay farmers to fallow their lands. In addition to Subdistrict #1, six other subdistricts are in various stages of formation throughout the San Luis Valley.

Reclamation's Middle Rio Grande Supplemental Water Program

Reclamation's supplemental water program is intended to provide additional water, primarily obtained through the voluntary leasing of SJCP water, for endangered species needs and compliance with the 2003 BiOp. In 2012, Reclamation reported it released a total of 56,144 acre-feet of leased SJCP water to assure compliance with the dry year flow targets of the 2003 BiOp. Supplemental water releases were made from the middle of May through October.

Reclamation indicated it continued to maintain portable pumping stations at four locations in the San Acacia reach. The pumps were operated from late May through the first of November to pump 12,278 acre-feet from the Low Flow Conveyance Channel (LFCC) to the Rio Grande under a permit issued by the New Mexico Office of the State Engineer.

REPORTS OF THE FEDERAL AGENCIES

Representatives of Reclamation, Corps, Service, IBWC, USGS, and BIA presented reports to the Engineer Advisers.

2012 Rio Grande Project Operations and Storage

Reclamation reported a total 2012 release from Caballo Reservoir of 372,647 acre-feet (approximately 50% of a full release). During 2012, Mexico's diversion allocation was 23,187 acre-feet. Using the 2008 Operating Agreement methodology, Reclamation's end of year allocation to Elephant Butte Irrigation District (EBID) at the diversion headings was 128,547 acre-feet (which included 17,333 in its carryover account), and the allocation to El Paso County Water Improvement District No. 1 (EP No.1) at the diversion headings was 141,157 acre-feet (which included 9,042 acre-feet in its carryover account).

Reclamation reported that inflow to Elephant Butte Reservoir was 283,598 acre-feet (34% of the 97-year average) during the calendar year. The Engineer Advisers note that the URGWOM Accounting model shows the inflow to Elephant Butte Reservoir was 300,583 acre-feet.

Reclamation reported releases from Elephant Butte Reservoir started on March 26, 2012 and continued through September 4, 2012 with total release during this period of 361,919 acre-feet and total annual releases of 365,464 acre-feet as reported by the USGS gage below the dam. Elephant Butte Reservoir peaked at about 390,000 acre-feet (elevation 4,331.63 feet) on March 25, 2012, and storage at Caballo Reservoir peaked at about 40,600 acre-feet (4,143.87 feet) on July 17, 2012. End-of-year storage at Elephant Butte Reservoir was about 161,100 acre-feet, which included 40,973 acre-feet of SJCP water. The end of year storage at Caballo Reservoir was 7,461 acre-feet. Reclamation further reported that Usable Water in Project Storage remained below the Article VII limit for the entire year.

At the 2013 Engineer Adviser meeting, New Mexico asked Reclamation for the final 2012 Rio Grande Project allocations, diversions and charges spreadsheets. Reclamation provided records through the end of August 2012, and indicated the final records will be sent when available. The Engineer Advisers are unclear why final records are still not available in light of the commitment made by Reclamation at the 2012 Commission meeting to provide them to the Engineer Advisers.

Reclamation's Rio Grande Project Operations Plan for 2013

Reclamation reported that no Rio Grande Project diversion allocations for 2013 had been made to date. However, Reclamation indicated that both districts and Mexico anticipate beginning to take water on June 1, 2013. Reclamation estimates, based on the February 1, 2013 most probable snowmelt runoff forecast, that inflow to Elephant Butte Reservoir during the March through July time period will be approximately 39% of the 30-year average. Reclamation also reported that they anticipate Article VII restrictions will remain in effect for the entire year.

El Vado Dam Facility Review

Reclamation reported it performed safety inspections and repaired a number of cracks in the metal faceplate of El Vado dam. In addition, Reclamation has begun a comprehensive Corrective Action Study to evaluate spillway failure modes as well as all hydrologic failure modes of El Vado dam in order to determine the best course of future action related to safety and operation of the facility.

Vegetation Management at Elephant Butte and Caballo Reservoirs

Reclamation continued vegetation management efforts at Elephant Butte and

Caballo reservoirs in 2012 through a cooperative agreement funded by the NMISC. Reclamation reported that during the 2012 fiscal year, a total of 8,395 acres were treated at Elephant Butte and Caballo reservoirs under the program by mowing, mulching, grubbing, and extracting. There were no herbicide applications in 2012.

Middle Rio Grande Project Channel Maintenance

Reclamation is actively pursuing work on multiple priority sites. They have identified where bank erosion or reduced channel capacity could cause levee failure, resulting in flooding and reduction in water delivery, as well as damage to irrigation infrastructure. In 2012, Reclamation completed work at one priority site.

Cochiti Reservoir Deviation

Previously, the Commission passed a motion approving, with certain conditions, the Corps proposal to implement a five-year water operations strategy at Cochiti Lake and Jemez Canyon Reservoir. 2013 is the last year of the authorized deviation period. The strategy includes deviations from normal operations at Cochiti Lake and/or Jemez Canyon Reservoir to provide downstream recruitment and overbank flows for the benefit of the Rio Grande silvery minnow and the Southwestern willow flycatcher. For the Corps to implement a deviation under the strategy:

- New Mexico must be in an accrued credit status at the beginning of the year,
- The Corps must coordinate with Reclamation, the Service, NMISC, Pueblo de Cochiti, Santa Ana Pueblo, and the Engineer Advisers on the implementation of a deviation, including determining if a deviation is possible and whether a recruitment or overbanking flow is determined to be beneficial,

- The Corps must secure water or water rights and assure their availability for offset of additional depletions projected to result from a deviation before those operations are conducted in a given year, and
- The Corps must secure the specific advice and consent of the Commission at its annual meeting during each year of the term of the proposed deviation to determine if the conditions of the Resolution are met before a deviation may occur.

The Corps did request a deviation from normal operations in 2012 and secured the advice and consent of the Commission at its March 21, 2012 meeting. The Corps began the deviation storage operation in April 2012 but cancelled it when it became clear there was insufficient runoff volume to accommodate demand, deviation storage, and downstream BiOp flow targets. The small amount of water stored by the Corps was released shortly after the operation was cancelled.

The Corps indicated it will request approval for a spring 2013 deviation from the Commission at its March 21, 2013 meeting.

URGWOM Accounting Model

During 2012, representatives of Reclamation, the Corps, and NMISC met quarterly and conducted quality assurance on model input river flow and reservoir data for the middle and upper Rio Grande in New Mexico and reviewed San Juan Chama contractor releases and water exchanges. The issues discussed were: importing final USGS data for below the reservoirs, accuracy of Heron Reservoir releases, SJ-C water at Otowi and pan evaporation data for Elephant Butte and Caballo reservoirs. Data indicated that pan evaporation readings at Elephant Butte Reservoir are noticeably higher than pan evaporation readings at Caballo Reservoir. The NMISC reported it plans to check the pan sites at both reservoirs during 2013.

The Corps reported on model updates and developments which include: updating the PowerSim monthly model; extending URGWOM to include the Rio Grande in Colorado; developing the Lower Rio Grande portion of URGWOM; developing methods for water quality modeling in RiverWare; continue working on the middle valley calibration to include the time period from 1999 to 2010 and developing watershed models with the National Weather Service (NWS). The Corps added that the NMISC completed a crop survey of the Middle Valley and the model will be updated accordingly. In addition, the Corps reported that during 2012 the accounting, operation, and planning models were combined into one master model for convenience. It is expected that model development for the Colorado and the below Elephant Butte portions of the model will be completed during 2013. The Corps reported the purpose for extending URGWOM to Colorado and the lower Rio Grande is to have a consistent model for the whole Upper Rio Grande basin that can be used for planning, operations, and assist in basin-wide water supply studies. The Texas and Colorado Engineer Advisers reported they are not clear as to the need to expand the model into Colorado and below Elephant Butte Dam.

2012 Six Middle Rio Grande Pueblos Prior and Paramount Operations

Reclamation and BIA individually reported that 33,110 acre-feet was stored in El Vado Reservoir for delivery of irrigation water (including estimated evaporation losses) to the Prior and Paramount lands of the six Middle Rio Grande Pueblos in 2012 in the event that natural flows were insufficient. The 33,110 acre-feet were stored in April and May when the Article VII storage restriction was in effect. During the 2012 irrigation season, 4,253 acre-feet were released for irrigation on Prior and Paramount lands. The stored water suffered 2,486 acre-feet of evaporative loss and the remaining 26,371 acre-feet were released for delivery

to Elephant Butte Reservoir after the end of the irrigation season but before the end of the calendar year. Based on the February 1, 2013 most probable snowmelt runoff forecast, the BIA reported that Reclamation will likely store about 33,093 acre-feet in 2013.

The Engineer Advisers remain concerned about the procedures for quantifying storage, release and delivery of water for the Prior and Paramount lands of the six Middle Rio Grande Pueblos. The Texas Engineer Adviser remains concerned about the storage of native Rio Grande water in El Vado Reservoir by Reclamation when the storage restrictions of Article VII are in effect.

San Acacia Levee Project

The Corps' Rio Grande Floodway San Acacia to Bosque del Apache Unit, Socorro County, New Mexico Flood Risk Management project consists of replacing approximately 43 miles of existing, non-engineered, spoil bank, within its current alignment, with an engineered levee. The project extends 43 miles south from San Acacia to approximately 3 miles north of the San Marcial railroad bridge. Due to the magnitude and cost of the project, estimated at over $290 million, the Corps plans to construct the Project in 20 phases over about 20 years. The first phase is proposed to be the construction of the Socorro portion of the levee, located near the City of Socorro, New Mexico.

The Corps anticipates awarding the construction contract for Phase 1 of the project in the fall of 2013. The Corps FY13 budget includes $10 million for this project and the Middle Rio Grande Conservancy District and New Mexico Interstate Stream Commission are local and cost share sponsors, respectively. The sponsors' non-federal cost share requirement will be approximately 14 percent of the total project cost.

Southwestern Willow Flycatcher

On January 9, 2013 the Service issued a new critical habitat designation for the Southwestern willow flycatcher. The rule became effective on February 4, 2013. The rule designates new critical habitat in the Rio Grande Basin from Colorado south to the upper reaches of Elephant Butte Reservoir in New Mexico. The new critical habitat designation affects the Service's Upper and Middle Rio Grande management units.

The new Upper Rio Grande management unit designation included segments in New Mexico along the Rio Grande, Rio Grande del Rancho, Coyote Creek and the Rio Fernando as well as segments along the Rio Grande and Conejos rivers in Colorado. The Service stated that actions and operations by acequias and irrigation ditches in these areas would not be effected by nearby critical habitat designations, although projects utilizing federal funds may require additional ESA related compliance.

The new Middle Rio Grande Management Unit designation includes nine miles of the uppermost portion of Elephant Butte Reservoir. This designation may impact approximately 1 million acre-feet of reservoir storage. Information presented by the Service and Reclamation relating to the impacts of the designation upon reservoir operations was inconclusive. The Engineer Advisers are concerned about impacts from the designation on certain elements of the Rio Grande Compact, and to water operations, including supplies at Elephant Butte Reservoir.

Reclamation indicated they are planning to begin consultation with the Service over Rio Grande Project operations and preparing a Water Management Plan to assist with the consultation. The Plan will address the designation of critical habitat within the reservoir pool at Elephant Butte Reservoir.

The Engineer Advisers request that Reclamation complete their plan and the consultation with the Service by October 1, 2013. Further, the Engineer Advisers

request that Reclamation provide status reports on their progress by June 1 and September 1, 2013.

Middle Rio Grande Endangered Species Act Collaborative Program -

The Collaborative Program continues to work on endangered species projects within the middle Rio Grande and to aid the federal agencies in complying with the now extended 2003 BiOp. Collaborative Program activities include, but are not limited to: water acquisition, Low Flow Conveyance Channel (LFCC) pumping, program management, habitat restoration, silvery minnow augmentation, and numerous other projects. Cost share from non-federal signatories has been accounted, and the 25 percent match is being met.

Several successes are notable for the Collaborative Program during 2012. The flow targets of the 2003 BiOp were met. The Los Lunas Silvery Minnow Refugium conducted its second year of a spawning preference study and reported that the silvery minnow had successfully spawned in off-channel areas of the outdoor refugium. In addition, the Population Viability Models for the silvery minnow were submitted for the Collaborative Program's review and the Collaborative Program's database is now operational.

In 2012 the Collaborative Program continued work to transition to a Recovery Implementation Program (RIP) within its program area. The goal of a RIP is to implement actions designed to conserve and contribute to the recovery of the endangered species and to protect water uses in the MRG by serving as the Endangered Species Act (ESA) compliance vehicle. The RIP is planned, once endorsed by the Collaborative Program, to be the major conservation measure for the new Middle Rio Grande Water Operations BiOp.

2003 Middle Rio Grande Programmatic BiOp

The Service reported that the 2003 BiOp continued to provide ESA compliance for the federal water management agencies in the Middle Rio Grande in 2012. The Service reported that the management actions that comprise the reasonable and prudent measures have been implemented to address the needs of the silvery minnow and flycatcher. They further reported that most elements have been or continue to be achieved but for relocation of the San Marcial railroad bridge, providing fish passage at diversion dams, and avoiding river intermittency prior to the spawn.

Dry year flow targets were in effect in 2012, and as a result, a continuous flow was required in the middle valley through June 15, 2010 and 100 cubic feet per second at the Central Albuquerque gage for the remainder of the irrigation season.

Rio Grande Silvery Minnow

In 2012, the Service reported that silvery minnow spawning was documented in May and egg collections yielded 12,000 eggs and larval fish, which was sufficient to provide the propagation facilities with broodstock needs.

The Service reported that 51.0 miles of the main channel of the river in the Middle Rio Grande dried resulting in the need for salvage of silvery minnow. Drying occurred in the Isleta reach (19.2 miles) and San Acacia reach (31.8 miles). Rescue operations were conducted on 68 days during 2012 between June 16 and October 22. A total of 4,251 silvery minnow were salvaged, transported and released alive in the river. A total of 463 silvery minnow were counted towards the USFWS permitted take limit.

The Service reported that in November 2012 they released 274,557 -tagged fish in the Isleta and San Acacia reaches from the three augmentation and propagation facilities. Almost 1.8 million silvery minnows have been released in the Middle Rio Grande since 2002.

The Service reported that during the October 2012 sampling effort, Rio Grande silvery minnow were not found at any of the 20 sites monitored, compared to being found at 8 of 20 sites in October 2011, and 15 of 20 sites in 2010. Subsequent monthly monitoring has detected silvery minnow, but the catch rates were low. There was evidence of some spawning in spring of 2012 but monthly catch rates did not increase as they typically do after the spawning period. The Service believes that the low densities of silvery minnow in the autumn sampling periods are indicative of the lack of successful spawning and recruitment. The Service reported that the augmentation and propagation facilities have been very helpful in maintaining fish in the river during the drought.

The Service reported they continue to evaluate possible new experimental non-essential reintroduction sites including the reach between Amistad and Falcon reservoirs and one on the Pecos River.

Silvery Minnow 10(j) Reintroduction in Big Bend-Texas

The Service initiated reintroduction of silvery minnow in 2008. They reported releasing approximately 1.87 million silvery minnow into the Big Bend reach of the Rio Grande since 2008 with 120,000 released in 2012. The Service does not plan to release silvery minnow in 2013, the final year of the current program. Silvery minnow reintroduced in this reach are designated as experimental nonessential under Section 10(j) of the Endangered Species Act. The Service's continued limited monitoring documented silvery minnow, including eggs, larval fish, and juvenile fish. Silvery minnow have been found 15 miles upstream and 70

miles downstream of release locations.

International Boundary and Water Commission Activities

The IBWC provided a report of its activities along the Rio Grande in New Mexico and Texas during 2012. IBWC briefing topics included 1) Recovery Act activities, 2) design and construction projects, 3) advancements in water accounting, 4) Convention of 1906 activities and water deliveries, 5) environmental restoration activities, and 6) water quality activities.

IBWC discussed Rio Grande levee rehabilitation projects for improvements to meet FEMA accreditation standards. There were approximately 122 miles of levee construction projects in the upper Rio Grande including Mesilla Valley and Hatch in New Mexico, and Fabens, Canutillo, Sunland Park, and Tornillo areas in Texas.

Numerous ongoing environmental restoration activities for the reach of the Rio Grande from Percha Diversion Dam to American Diversion Dam were discussed. The IBWC indicated that the Service's proposed critical habitat designation for the Southwestern willow flycatcher in southern New Mexico did not include their project areas.

The implementation of the AQUARIUS software into the daily accounting processes was discussed, as well as the use of ADCPs. They also discussed the use of Riverware as their new flood modeling tool and the hopes that Mexico would also use the same tool.

In early 2012, due to the continuing drought, EBID and EP No. 1 originally planned to delay their releases from Caballo Reservoir until May 2012. Mexico objected, wanting to begin releases in March, which was agreed to by the IBWC. The two districts and others opposed the March release because it would result in reduced water supplies for the districts if they did not take water at the same time.

The Texas Engineer Adviser indicated that an early release of water for Mexico would significantly increase the losses of water for the Rio Grande Project and would not comply with the 1906 Convention. The New Mexico Engineer Adviser reported that he has requested data, on numerous occasions, from Reclamation and others on downstream losses associated with the 2012 Caballo release but has not received any of the requested information. Consequently, he can neither agree nor disagree with the Texas Engineer Adviser's assertion. Ultimately, EP#1 agreed to take water earlier than anticipated to minimize the conveyance losses. Releases for Mexico and EP#1 started in late March 2012. At the 2013 Engineer Adviser meeting both IBWC and Reclamation reported they are coordinating better and the two districts and Mexico plan to begin releases and diversions together in early June.

As a result of last year's release issue, the IBWC is conducting a Water Budget Study to provide information for making future operational decisions on water releases and delivery scenarios. The study is in draft stage and has been provided to stakeholders for review. The Engineer Advisers have not completed review of the study and will not be completing review in the time requested. Preliminary review by the Texas Engineer Adviser indicates there are significant issues and concerns that will need to be addressed. NMISC has requested additional time be provided for review and the Engineer Advisers support this request.

Mexico was provided 23,187 acre-feet of water at the International Diversion Dam heading in 2012. For 2013, no allotments have been made to the Districts or Mexico as of the date of this report. Mexico has agreed to begin taking water in June 2013 when the two districts will begin taking water.

IBWC and Reclamation plan to conduct a bi-national tour of the Rio Grande in New Mexico and Colorado in 2013. The tour will cover dams and local water

infrastructure projects. Invited participants may include congressional offices, Mexican Section of the IBWC, Mexican and United States water managers, TCEQ and the NMISC.

BUDGET

The Engineer Advisers reviewed the cost of operation for the year ending June 30, 2012 and the budget for the fiscal year ending June 30, 2014. The Engineer Advisers found that the expenses for gaging stations and administration of the Compact for the year ending June 30, 2012 were $193,137. The United States federal government bore $56,241 of this total, with the balance of $136,896 borne equally by the three states.

The proposed budget for the fiscal year ending June 30, 2014 indicates a total of $189,179 will be spent for gaging and administration, with a proposed contribution by the United States federal government of $51,992.

Craig W. Cotten
Engineer Adviser for Colorado

Rolf Schmidt-Petersen
Engineer Adviser for New Mexico

Herman R. Settemeyer
Engineer Adviser for Texas

The Colorado Engineer Adviser's Addendum to the 2013 Engineer Advisers' Report to the Rio Grande Compact Commission

March 2013

At the 2013 Rio Grande Compact Commission (RGCC) Engineer Advisers' meeting held in Santa Fe, New Mexico on February 25-27, 2013 and in Albuquerque, New Mexico on February 28 and March 1, 2013, the Engineer Advisers did not reach consensus on a method by which to conduct the 2011 or 2012 Rio Grande Compact (Compact) Accounting. The lack of consensus stems from the continuing disagreement regarding Colorado and New Mexico Credit Water that Reclamation released in 2011, the appropriate accounting of 2011 Colorado and New Mexico deliveries that were affected by Reclamation's release beyond the available Usable Water, and the directly relevant 2006 direction of the RGCC to Reclamation.

The Colorado Engineer Adviser presents for the Commission's consideration two methods of accounting for the 2012 calendar year Compact Accounting:

1. Method 2a: Colorado and New Mexico Credit Water released during 2011 and accounted as being reduced in the month it was released, as in a relinquishment.

2. Method 2b: Colorado and New Mexico Credit Water released during 2011 and 2012, accounted as being reduced in the month it was released; but then exchanged back into storage in Elephant Butte Reservoir before the end of the year as new inflow arrived.

In both instances, the Credit Water will have been reduced for evaporation at the end of the calendar year – in accordance with Article VI of the Compact and the 2006 direction of the RGCC to Reclamation. The Colorado Engineer Adviser carried forward the end of 2011 accounting results for the particular Method used through the 2012 calendar year. Both methods comply with the last paragraph of Article VI of the Compact, wherein Credit Water in Elephant Butte Reservoir is "reduced annually to compensate for evaporation losses in the proportion that such credits (or debits) bore to the total amount of water…during the year." The results for 2012 for both methods are summarized below.

Method 2a (Attachment 1):

Under this method, Reclamation released accrued Credit Water from Elephant Butte Reservoir during the summer of 2011 unilaterally and without the permission of Colorado or New Mexico. This unauthorized release coupled with normal compact accounting resulted in 2012 Accrued Credits for Colorado that are less than those calculated in the Texas accounting method. Method 2a results in Accrued Credits for 2012 of 2,300 acre-feet for Colorado. Using those values for the 2013 calendar

year Compact accounting, the Compact compliance status for Colorado in 2013 would be 6,100 acre-feet.

The difference in Compact compliance status between the Texas method and Method 2a (minus 200 acre-feet for Colorado) illustrates the effect of Reclamation's 2011 release of Credit Water on Colorado Compact compliance carried forward through 2012. Unlike an authorized relinquishment, however, Colorado did not receive the Article VII benefit of being able to store a like amount of water to that released by Reclamation in 2011 in post-compact reservoirs in the future when Article VII of the Compact is in effect.

Method 2b. (Attachment 2). The accounting in this method reflects a "loan of credit water." This accounting option closely resembles the method approved for use in 1951 by the RGCC when Colorado loaned a portion of its credit water at the request of the Texas Commissioner.

In this Method of accounting, Reclamation released accrued Credit Water from Elephant Butte Reservoir during the summer of 2011 (approximately 33,000 acre-feet total) and summer of 2012 (approximately 12,000 acre-feet total). The release is accounted (in Attachment 2, Sheet 3, Columns 3, 4, and 5) as being negative Usable Water. Then, as additional water flowed into Elephant Butte Reservoir and releases from the reservoir ceased, the Credit Water would be accounted as being replenished by the inflowing water. Based on this method, the Accrued Credits of Colorado for the 2013 calendar year would be 6,400 acre-feet.

Summary

The Colorado Engineer Adviser believes that the Texas method of accounting as put forth in the Texas addendum contravenes the last unnumbered paragraph of Article VI of the Compact and the unanimous direction of the Commission to Reclamation in 2006. Therefore, the Texas method is not acceptable to the Colorado Engineer Adviser.

No after-the-fact accounting can address the primary issues that occurred in 2011 and possibly 2012 when Reclamation made its unauthorized releases of accrued Credit Water, which are:

1) Colorado and New Mexico have sole authority to decide the disposition of any of their respective accrued Credit Water; and
2) Reclamation's actions denied Colorado and New Mexico the benefits associated with relinquishments or other negotiated solutions under the Compact and eliminated Texas' incentive to negotiate the terms of a relinquishment or other negotiated solution during drought times.

The two methods proposed above are suggestions for the Commission's consideration. The Colorado Engineer Adviser recognizes that no accounting method may be approved without the unanimous approval of the Commission, and that any accounting method must not violate the express terms of the Compact.

Method 2a: Reduce Credit Water for Evaporation at the End of the 2012 Calendar Year - Developed by Colorado and New Mexico

RIO GRANDE COMPACT - DELIVERIES BY COLORADO AT STATE LINE

YEAR 2012 - Method 2a

Quantities in thousands of acre feet to nearest hundred

MONTH	CONEJOS INDEX SUPPLY										RIO GRANDE INDEX SUPPLY								DELIVERIES			
	MEASURED FLOW				ADJUSTMENTS				SUPPLY			ADJUSTMENTS					SUPPLY					
	CONEJOS AT MOGOTE	LOS PINOS NEAR ORTIZ	SAN ANTONIO AT ORTIZ	TOTAL	STORAGE AT END OF MONTH	CHANGE IN STORAGE [c]	OTHER ADJUSTMENTS	NET ADJUSTMENTS	SUPPLY IN MONTH	ACCUMULATED TOTAL	RECORDED FLOW NEAR DEL NORTE	STORAGE AT END OF MONTH	CHANGE IN STORAGE	TRANSMOUNTIAN DIVERSIONS [b]	OTHER ADJUSTMENTS [a]	NET ADJUSTMENTS	SUPPLY IN MONTH	ACCUMULATED TOTAL	CONEJOS RIVER AT MOUTH NEAR LASAUCES	RIO GRANDE LESS CONEJOS RIVER	RIO GRANDE AT LOBATOS	ACCUMULATED TOTAL AT LOBATOS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	--------	--------	--------	--------	12.1	--------	--------	--------	--------	0.0	--------	0.2	--------	--------	--------	--------	--------	0.0	--------	--------	--------	0.0
JAN	2.4	--------	--------	2.4	12.3	0.2		0.2	2.6	2.6	9.5	0.2	0.0			0.0	9.5	9.5	3.5	11.7	15.2	15.2
FEB	2.4	--------	--------	2.4	12.5	0.2		0.2	2.6	5.2	9.5	0.2	0.0			0.0	9.5	19.0	4.0	11.6	15.6	30.8
MAR	9.0	--------	--------	9.0	12.6	0.1		0.1	9.1	14.3	26.1	0.2	0.0			0.0	26.1	45.1	14.0	21.9	35.9	66.7
APR	30.5	21.2	4.5	56.2	11.8	-0.8		-0.8	55.4	69.7	85.8	0.2	0.0			0.0	85.8	130.9	7.3	9.4	16.7	83.4
MAY	42.7	13.6	0.9	57.2	17.3	5.5	0.2	5.7	62.9	132.6	140.4	0.2	0.0			0.0	140.4	271.3	1.3	9.1	10.4	93.8
JUN	19.3	2.0	0.0	21.3	14.5	-2.8	0.2	-2.6	18.7	151.3	45.9	0.2	0.0			0.0	45.9	317.2	0.1	4.4	4.5	98.3
JUL	9.8	1.0	0.0	10.8	10.6	-3.9	0.0	-3.9	6.9	158.2	23.5	0.2	0.0	-3.2	0.4	-2.8	20.7	337.9	0.0	2.8	2.8	101.1
AUG	7.1	0.8	0.1	8.0	7.0	-3.6	0.0	-3.6	4.4	162.6	17.8	0.2	0.0			0.0	17.8	355.7	0.0	1.9	1.9	103.0
SEPT	4.2	0.8	0.0	5.0	6.2	-0.8	0.1	-0.7	4.3	166.9	15.0	0.2	0.0			0.0	15.0	370.7	0.0	2.2	2.2	105.2
OCT	3.1	0.8	0.1	4.0	5.8	-0.4	0.1	-0.3	3.7	170.6	13.6	0.2	0.0			0.0	13.6	384.3	0.0	2.7	2.7	107.9
NOV	2.4		--------	2.4	5.7	-0.1	0.0	-0.1	2.3	172.9	10.7	0.2	0.0			0.0	10.7	395.0	0.0	7.4	7.4	115.3
DEC	2.2	--------	--------	2.2	5.8	0.1		0.1	2.3	175.2	9.1	0.2	0.0			0.0	9.1	404.1	1.0	10.2	11.2	126.5
YEAR	135.1	40.2	5.6	180.9	--------	-6.3	0.6	-5.7	175.2	--------	406.9	--------	0.0	-3.2	0.4	-2.8	404.1	--------	31.2	95.3	126.5	--------

Remarks: Cols. 6 and 13 do not include transmountain water.

[a] Evaporation loss post-compact reservoirs; report of the Engineer Adviser for Colorado.

[b] 3412 ac-ft minus 243 ac-ft pre-compact; report of the Engineer Adviser for Colorado.

[c] See Engineer Adviser report in regards to change of storage.

[d] Evaporation of credit water accounted as described in Article VI of the Rio Grande Compact.

[e] Reflects Reclamation's unauthorized release of 316 ac-ft of Credit Water in 2011.

SUMMARY OF DEBITS AND CREDITS

	ITEM	DEBIT	CREDIT	BALANCE
C1	Balance at Beginning of Year[e]	---------	---------	Cr. 2.3
C2	Scheduled Delivery from Conejos River	32.6	---------	Dr. 30.3
C3	Scheduled Delivery from Rio Grande	99.1	---------	Dr. 129.4
C4	Actual Delivery at Lobatos plus 10,000 Acre Feet	---------	136.5	Cr. 7.1
C5	Reduction of Debits o/c Evaporation	---------		
C6	Reduction of Credits o/c Evaporation[d]	0.6	---------	Cr. 6.5
C7	Accrued credit relinquished to project storage on Mar. 31, 2012.	0.4		
C8	Balance at End of Year	---------	---------	Cr. 6.1

APPROVED:

Engineer Adviser for Colorado_____ Date: _____ Engineer Adviser for New Mexico _____ Date: _____ Engineer Adviser for Texas _____ Date: _____

Method 2a: Reduce Credit Water for Evaporation at the End of the 2012 Calendar Year - Developed by Colorado and New Mexico

RIO GRANDE COMPACT - DELIVERIES BY NEW MEXICO AT ELEPHANT BUTTE

YEAR 2012 - Method 2a

Quantities in thousands of acre feet to nearest hundred

MONTH	OTOWI INDEX SUPPLY									Total Water Stored in New Mexico Above San Marcial at End of Month [a, b]	ELEPHANT BUTTE EFFECTIVE SUPPLY				
		ADJUSTMENTS						INDEX SUPPLY			STORAGE IN ELEPHANT BUTTE RESERVOIR			Effective Supply	
		RESERVOIRS: LOBATOS TO OTOWI													
	Recorded Flow at Otowi Bridge	Storage End of Month [a, b]	Change in Storage	Reservoir Evaporation	Other Adjustments	Trans-mountain Diversions	Net Adjustments	During Month	Accumulated Total		End of Month [a]	Change Gain (+) Loss (-)	Recorded Flow Below Elephant Butte Dam	During Month	Accumulated Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	--------	20.3	--------	--------	--------	--------	--------	--------	--------	20.0	245.9	--------	--------	--------	--------
JAN	39.1	20.4	0.1	0.0		-2.6	-2.5	36.6	36.6	20.6	283.5	37.6	0.3	37.9	37.9
FEB	40.0	19.5	-0.9	0.1		-1.9	-2.7	37.3	73.9	19.6	318.9	35.4	1.0	36.4	74.3
MAR	67.9	31.6	12.1	0.1		-2.4	9.8	77.7	151.6	32.2	338.1	19.2	12.5	31.7	106.0
APR	87.8	76.2	44.6	0.4		-1.9	43.1	130.9	282.5	77.6	325.2	-12.9	62.1	49.2	155.2
MAY	74.6	66.7	-9.5	0.5		-2.8	-11.8	62.8	345.3	66.9	319.8	-5.4	22.6	17.2	172.4
JUN	82.2	32.0	-34.7	0.3		-28.7	-63.1	19.1	364.4	32.2	221.2	-98.6	99.8	1.2	173.6
JUL	62.9	29.2	-2.8	0.1		-46.2	-48.9	14.0	378.4	29.0	133.1	-88.1	92.1	4.0	177.6
AUG	51.1	28.5	-0.7	0.0		-34.7	-35.4	15.7	394.1	28.4	68.3	-64.8	70.1	5.3	182.9
SEPT	28.9	26.2	-2.3	0.1		-16.4	-18.6	10.3	404.4	26.5	70.4	2.1	4.8	6.9	189.8
OCT	26.3	26.5	0.3	0.1		-9.9	-9.5	16.8	421.2	26.7	72.5	2.1	0.0	2.1	191.9
NOV	32.0	15.9	-10.6	0.1		-2.2	-12.7	19.3	440.5	16.2	81.8	9.3	0.1	9.4	201.3
DEC	50.3	0.0	-15.9	0.2		-5.5	-21.2	29.1	469.6	-1.4	120.2	38.4	0.1	38.5	239.8
YEAR	643.1	--------	-20.3	2.0		-155.2	-173.5	469.6	--------	--------	--------	-125.7	365.5	239.8	--------

Remarks:

[a] Cols. 3, 11, and 12 do not include transmountain water.

[b] Note: Storage in El Vado Reservoir of relinquishment credit under previous relinquishment agreements totaled 30,513 acre-feet in 2012. Storage of relinquished credit to date has totaled 222,757 acre-feet; balance remaining is 157,743 acre-feet.

[c] Reflects Reclamation's unauthorized release of 32,509 ac-ft of Credit Water in 2011.

[d] Evaporation of credit water accounted as described in Article VI of the Rio Grande Compact.

SUMMARY OF DEBITS AND CREDITS

	ITEM	DEBIT	CREDIT	BALANCE
NM1	Balance at Beginning of Year [c]	---------	---------	Cr. 44.6
NM2	Scheduled Delivery at Elephant Butte	268.4	---------	Dr. 223.8
NM3	Actual Elephant Butte Effective Supply	---------	239.8	Cr 16.0
NM4	Reduction of Debits o/c Evaporation	---------		
NM5	Reduction of Credits o/c Evaporation and Spill [d]	13.0	---------	Cr 3.0
NM6	Unauthorized release of Credit Water		---------	
NM7				
NM8	Balance at End of Year	---------	---------	Cr. 3.0

APPROVED:

Engineer Adviser for Colorado_____ Date: _____ Engineer Adviser for New Mexico _____ Date: _____ Engineer Adviser for Texas _____ Date: _____

Method 2b: Reduce Credit Water for Evaporation at the End of the Calendar Year with Unauthorized Release of Credit Water Replaced by Late Season Inflow - Developed by Colorado and New Mexico

RIO GRANDE COMPACT - DELIVERIES BY COLORADO AT STATE LINE

YEAR 2012 - Method 2b

Quantities in thousands of acre feet to nearest hundred

MONTH	CONEJOS INDEX SUPPLY										RIO GRANDE INDEX SUPPLY								DELIVERIES			
	MEASURED FLOW				ADJUSTMENTS				SUPPLY			ADJUSTMENTS					SUPPLY					
	CONEJOS AT MOGOTE	LOS PINOS NEAR ORTIZ	SAN ANTONIO AT ORTIZ	TOTAL	STORAGE AT END OF MONTH	CHANGE IN STORAGE [c]	OTHER ADJUSTMENTS	NET ADJUSTMENTS	SUPPLY IN MONTH	ACCUMULATED TOTAL	RECORDED FLOW NEAR DEL NORTE	STORAGE AT END OF MONTH	CHANGE IN STORAGE	TRANSMOUNTIAN DIVERSIONS [b]	OTHER ADJUSTMENTS [a]	NET ADJUSTMENTS	SUPPLY IN MONTH	ACCUMULATED TOTAL	CONEJOS RIVER AT MOUTH NEAR LASAUCES	RIO GRANDE LESS CONEJOS RIVER	RIO GRANDE AT LOBATOS	ACCUMULATED TOTAL AT LOBATOS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	--------	--------	--------	--------	12.1	--------	--------	--------	--------	0.0	--------	0.2	--------	--------	--------	--------	--------	0.0	--------	--------	--------	0.0
JAN	2.4	--------	--------	2.4	12.3	0.2		0.2	2.6	2.6	9.5	0.2	0.0			0.0	9.5	9.5	3.5	11.7	15.2	15.2
FEB	2.4	--------	--------	2.4	12.5	0.2		0.2	2.6	5.2	9.5	0.2	0.0			0.0	9.5	19.0	4.0	11.6	15.6	30.8
MAR	9.0	--------	--------	9.0	12.6	0.1		0.1	9.1	14.3	26.1	0.2	0.0			0.0	26.1	45.1	14.0	21.9	35.9	66.7
APR	30.5	21.2	4.5	56.2	11.8	-0.8		-0.8	55.4	69.7	85.8	0.2	0.0			0.0	85.8	130.9	7.3	9.4	16.7	83.4
MAY	42.7	13.6	0.9	57.2	17.3	5.5	0.2	5.7	62.9	132.6	140.4	0.2	0.0			0.0	140.4	271.3	1.3	9.1	10.4	93.8
JUN	19.3	2.0	0.0	21.3	14.5	-2.8	0.2	-2.6	18.7	151.3	45.9	0.2	0.0			0.0	45.9	317.2	0.1	4.4	4.5	98.3
JUL	9.8	1.0	0.0	10.8	10.6	-3.9	0.0	-3.9	6.9	158.2	23.5	0.2	0.0	-3.2	0.4	-2.8	20.7	337.9	0.0	2.8	2.8	101.1
AUG	7.1	0.8	0.1	8.0	7.0	-3.6	0.0	-3.6	4.4	162.6	17.8	0.2	0.0			0.0	17.8	355.7	0.0	1.9	1.9	103.0
SEPT	4.2	0.8	0.0	5.0	6.2	-0.8	0.1	-0.7	4.3	166.9	15.0	0.2	0.0			0.0	15.0	370.7	0.0	2.2	2.2	105.2
OCT	3.1	0.8	0.1	4.0	5.8	-0.4	0.1	-0.3	3.7	170.6	13.6	0.2	0.0			0.0	13.6	384.3	0.0	2.7	2.7	107.9
NOV	2.4		--------	2.4	5.7	-0.1	0.0	-0.1	2.3	172.9	10.7	0.2	0.0			0.0	10.7	395.0	0.0	7.4	7.4	115.3
DEC	2.2	--------	--------	2.2	5.8	0.1		0.1	2.3	175.2	9.1	0.2	0.0			0.0	9.1	404.1	1.0	10.2	11.2	126.5
YEAR	135.1	40.2	5.6	180.9	--------	-6.3	0.6	-5.7	175.2	--------	406.9	--------	0.0	-3.2	0.4	-2.8	404.1	--------	31.2	95.3	126.5	--------

Remarks: Cols. 6 and 13 do not include transmountain water.

[a] Evaporation loss post-compact reservoirs; report of the Engineer Adviser for Colorado.

[b] 3,412 ac-ft minus 243 ac-ft pre-compact; report of the Engineer Adviser for Colorado.

[c] See Engineer Adviser report in regards to change of storage.

[d] Evaporation of Credit Water computed according to Article VI of the Rio Grande Compact using the Annual Method applied by the Rio Grande Compact Commission for the 1951 Loan of Credit. Reclamation released 371 ac-ft of Credit Water in 2012.

SUMMARY OF DEBITS AND CREDITS

	ITEM	DEBIT	CREDIT	BALANCE
C1	Balance at Beginning of Year	---------	---------	Cr. 2.6
C2	Scheduled Delivery from Conejos River	32.6	---------	Dr. 30.0
C3	Scheduled Delivery from Rio Grande	99.1	---------	Dr. 129.1
C4	Actual Delivery at Lobatos plus 10,000 Acre Feet	---------	136.5	Cr. 7.4
C5	Reduction of Debits o/c Evaporation	---------		
C6	Reduction of Credits o/c Evaporation[d]	0.6	---------	Cr. 6.8
C7	Accrued credit relinquished to project storage on Mar. 31, 2012.	0.4		
C8	Balance at End of Year	---------	---------	Cr. 6.4

APPROVED:

Engineer Adviser for Colorado_____ Date: _____ Engineer Adviser for New Mexico _____ Date: _____ Engineer Adviser for Texas _____ Date: _____

Method 2b: Reduce Credit Water for Evaporation at the End of the Calendar Year with Unauthorized Release of Credit Water Replaced by Late Season Inflow - Developed by Colorado and New Mexico

RIO GRANDE COMPACT - DELIVERIES BY NEW MEXICO AT ELEPHANT BUTTE

YEAR 2012 - Method 2b

Quantities in thousands of acre feet to nearest hundred

MONTH	OTOWI INDEX SUPPLY									Total Water Stored in New Mexico Above San Marcial at End of Month [a, b]	ELEPHANT BUTTE EFFECTIVE SUPPLY				
		ADJUSTMENTS						INDEX SUPPLY			STORAGE IN ELEPHANT BUTTE RESERVOIR			Effective Supply	
		RESERVOIRS: LOBATOS TO OTOWI													
	Recorded Flow at Otowi Bridge	Storage End of Month [a, b]	Change in Storage	Reservoir Evaporation	Other Adjustments	Trans-mountain Diversions	Net Adjustments	During Month	Accumulated Total		End of Month [a]	Change Gain (+) Loss (-)	Recorded Flow Below Elephant Butte Dam	During Month	Accumulated Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	--------	20.3	--------	--------	--------	--------	--------	--------	--------	20.0	245.9	--------	--------	--------	--------
JAN	39.1	20.4	0.1	0.0		-2.6	-2.5	36.6	36.6	20.6	283.5	37.6	0.3	37.9	37.9
FEB	40.0	19.5	-0.9	0.1		-1.9	-2.7	37.3	73.9	19.6	318.9	35.4	1.0	36.4	74.3
MAR	67.9	31.6	12.1	0.1		-2.4	9.8	77.7	151.6	32.2	338.1	19.2	12.5	31.7	106.0
APR	87.8	76.2	44.6	0.4		-1.9	43.1	130.9	282.5	77.6	325.2	-12.9	62.1	49.2	155.2
MAY	74.6	66.7	-9.5	0.5		-2.8	-11.8	62.8	345.3	66.9	319.8	-5.4	22.6	17.2	172.4
JUN	82.2	32.0	-34.7	0.3		-28.7	-63.1	19.1	364.4	32.2	221.2	-98.6	99.8	1.2	173.6
JUL	62.9	29.2	-2.8	0.1		-46.2	-48.9	14.0	378.4	29.0	133.1	-88.1	92.1	4.0	177.6
AUG	51.1	28.5	-0.7	0.0		-34.7	-35.4	15.7	394.1	28.4	[c]68.3	-64.8	70.1	5.3	182.9
SEPT	28.9	26.2	-2.3	0.1		-16.4	-18.6	10.3	404.4	26.5	[c]70.4	2.1	4.8	6.9	189.8
OCT	26.3	26.5	0.3	0.1		-9.9	-9.5	16.8	421.2	26.7	[c]72.5	2.1	0.0	2.1	191.9
NOV	32.0	15.9	-10.6	0.1		-2.2	-12.7	19.3	440.5	16.2	81.8	9.3	0.1	9.4	201.3
DEC	50.3	0.0	-15.9	0.2		-5.5	-21.2	29.1	469.6	-1.4	120.2	38.4	0.1	38.5	239.8
YEAR	643.1	--------	-20.3	2.0		-155.2	-173.5	469.6	--------	--------	--------	-125.7	365.5	239.8	--------

Remarks:

[a] Cols. 3, 11, and 12 do not include transmountain water.

[b] Note: Storage in El Vado Reservoir of relinquishment credit under previous relinquishment agreements totaled 30,513 acre-feet in 2012. Storage of relinquished credit to date has totaled 222,757 acre-feet; balance remaining is 157,743 acre-feet.

[c] Elephant Butte reservoir storage was below Credit Water pool of 78,900 ac-ft. during August, September, and October.

[d] Evaporation of Credit Water computed according to Article VI of the Rio Grande Compact using the Annual Method applied by the Rio Grande Compact Commission for the 1951 Loan of Credit. Reclamation released 11,997 ac-ft of

SUMMARY OF DEBITS AND CREDITS

	ITEM	DEBIT	CREDIT	BALANCE
NM1	Balance at Beginning of Year	---------	---------	Cr. 76.3
NM2	Scheduled Delivery at Elephant Butte	268.4	---------	Dr. 192.1
NM3	Actual Elephant Butte Effective Supply	---------	239.8	Cr 47.7
NM4	Reduction of Debits o/c Evaporation	---------		
NM5	Reduction of Credits o/c Evaporation and Spill [d]	21.6	---------	Cr 26.1
NM6			---------	
NM7				
NM8	Balance at End of Year	---------	---------	Cr. 26.1

APPROVED:

Engineer Adviser for Colorado_____ Date: _____ Engineer Adviser for New Mexico _____ Date: _____ Engineer Adviser for Texas _____ Date: _____

Method 2b: Reduce Credit Water for Evaporation at the End of the Calendar Year with Unauthorized Release of Credit Water Replaced by Late Season Inflow - Developed by Colorado and New Mexico

RIO GRANDE COMPACT - RELEASE AND SPILL FROM PROJECT STORAGE

YEAR 2012 - Method 2b

Quantities in thousands of acre feet to nearest hundred

MONTH	[a]Total Project Storage Capacity Available at End of Month	USABLE WATER IN STORAGE			Unfilled Capacity of Project Storage at End of Month	CREDIT WATER IN STORAGE			Flood Water in Storage in Caballo Reservoir at End of Month	Total Water in Project Storage at End of Month	RIO GRANDE BELOW CABALLO DAM							
		Elephant Butte Reservoir	Caballo Reservoir	Total at End of Month		[c]Colorado Credit Water	[c]New Mexico Credit Water	Total at End of Month			Measured Flow at Caballo Gaging Station	Intervening Diversions to Canals	Total Release and Spill	SPILL FROM STORAGE			USABLE RELEASE	
														Caballo Flood Water	Credit Water	Usable Water	Net During Month	Accumulated Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	1,999.6	[b]167.0	13.6	[b]180.6	1,819.0	[b]2.6	[b]76.3	[b]78.9		259.5	--------	--------	--------	--------	--------	--------	--------	0.0
JAN	1,999.6	204.6	14.8	219.4	1780.2	2.6	76.3	78.9		298.3	0.0	-	0				-	0
FEB	1,999.6	240.0	16.3	256.3	1743.3	2.6	76.3	78.9		335.2	0.0	0.1	0.1				0.1	0.1
MAR	1,999.6	259.2	26.1	285.3	1714.3	2.6	76.3	78.9		364.2	0.1	0.1	0.2				0.2	0.3
APR	1,974.6	246.7	23.1	269.8	1704.8	2.2	76.3	78.5		348.3	62.1	0.1	62.2				62.2	62.5
MAY	1,974.6	241.3	24.0	265.3	1709.3	2.2	76.3	78.5		343.8	18.7	0.1	18.8				18.8	81.3
JUN	1,974.6	142.7	20.7	163.4	1811.2	2.2	76.3	78.5		241.9	102.7	0.2	102.9				102.9	184.2
JUL	1,974.6	54.6	20.7	75.3	1899.3	2.2	76.3	78.5		153.8	94.6	0.1	94.7				94.7	278.9
AUG	1,974.6	-10.2	12.7	2.5	1972.1	2.2	76.3	78.5		81.0	79.0	0.2	79.2				79.2	358.1
SEPT	1,974.6	-8.1	5.2	-2.9	1977.5	2.2	76.3	78.5		75.6	14.3	0.1	14.4				14.4	372.5
OCT	1,999.6	-6.0	5.8	-0.2	1999.8	2.2	76.3	78.5		78.3	0.0	0.1	0.1				0.1	372.6
NOV	1,999.6	3.3	6.5	9.8	1989.8	2.2	76.3	78.5		88.3	0.0	-	0				-	372.6
DEC	1,999.6	41.7	7.5	49.2	1950.4	2.2	76.3	78.5		127.7	0.0	-	0				-	372.6
YEAR	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	371.5	1.1	372.6	0.0	0.0	0.0	372.6	--------

Remarks: Cols. 2, 6 and 11 reflect implementation of revised area-capacity tables from Elephant Butte and Caballo Reservoirs, effective Jan 1, 2009.

[a] Project Storage Capacity is 1,974,600 acre-feet (April to September) and 1,999,600 acre-feet (October to March) as adopted by the Rio Grande Compact Commission on March 31, 2009 with flood control storage reservation at Elephant Butte Reservoir of 50,000 acre-feet from April through September and 25,000 acre-feet from October through March.

[b] Based on Balance at Beginning of Year (C1 and NM1).

[c] Credit water held constant during the year in accordance with Article VI and per direction of Compact Commission in March 2006. Evaporation for credit water is accounted at end of calendar year in the proportion that the Credit Water bore to the total amount of water in Elephant Butte Reservoir during the year. If loan had been approved Credit Water would have been decreased by the amount of the negative usable water.

[d] Cols. 3 and 5 - negative usable water in Elephant Butte due to Bureau of Reclamation unauthorized release of credit water.

[e] Due to Caballo release discrepancies during 2011, data was not approved for 2011; consequently, the accrued departure at the beginning of 2012 could not be computed.

ACCRUED DEPARTURE FROM NORMAL RELEASE

	ITEM	DEBIT	CREDIT	BALANCE
P1	Accrued Departure at Beginning of Year[e]	---------	---------	
P2	Actual Release during Year	372.6	---------	
P3	Normal Release for Year	---------	790.0	
P4	Under Release in Excess of 150.0		---------	
P5		---------		
P6				
P7	Accrued Departure at End of Year	---------	---------	

TIME OF HYPOTHETICAL SPILL Did not occur

APPROVED:

Engineer Adviser for Colorado_____ Date: _____ Engineer Adviser for New Mexico _____ Date: _____ Engineer Adviser for Texas _____ Date: _____

New Mexico Addendum to the 2013 Engineer Advisers' Report to the Rio Grande Compact Commission

March 2013

At the 2013 Rio Grande Compact Commission (RGCC) Engineer Advisers' meeting held in Santa Fe, New Mexico on February 25-27, 2013 and in Albuquerque, New Mexico on February 28 and March 1, 2013, the Engineer Advisers did not reach consensus on a method by which to conduct the 2011 or 2012 Rio Grande Compact (Compact) Accounting. The lack of consensus stems from the continuing disagreement, being addressed in litigation brought by New Mexico against the U.S. Bureau of Reclamation (Reclamation), regarding New Mexico and Colorado Credit Water that Reclamation released in 2011. The disagreements include: (1) the appropriate accounting of 2011 New Mexico and Colorado deliveries that were affected by Reclamation's unilateral and unauthorized release beyond the available Usable Water; and (2) Reclamation's disregard of the 2006 direction of the RGCC to Reclamation that is directly relevant to Credit Water releases.

The Texas Engineer Adviser conducted Compact accounting for the 2012 calendar year using an independent method (referred to as Method 1, below) that reduces Credit Water for evaporation monthly during the calendar year. The method was offered for consideration by Texas to the Commission in 2012, but is contrary to Article VI of the Compact and the 2006 direction of the RGCC to Reclamation.

The New Mexico Engineer Adviser conducted Compact accounting for the 2012 Calendar year using a method (referred to as Method 2, below) that reduces Credit Water for evaporation at the end of the calendar year in accordance with Article VI of the compact and the 2006 direction of the RGCC to Reclamation. The New Mexico Engineer Adviser carried forward the end of 2011 accounting results for Method 2 through the 2012 calendar year.

Method 1--Reduce Credit Water For Evaporation Monthly During the 2012 Calendar Year –

Method 1 (Attachment 1) was used by the Texas Engineer Adviser. The New Mexico Engineer Adviser believes that the approval of Method 1 would require the RGCC to disregard both the explicit language of the Compact and the unanimous RGCC 2006 direction to Reclamation. Therefore, Method 1 is not acceptable to the New Mexico Engineer Adviser.

Method 2--Reduce Credit Water for Evaporation at the end of the 2012 Calendar Year -

Method 2 (Attachment 2) was used by the New Mexico Engineer Adviser. Method 2 complies with the last paragraph of Article VI of the Compact, wherein Credit Water in Elephant Butte Reservoir is "**reduced annually** to compensate for evaporation losses in the proportion that

such credits (or debits) bore to the total amount of water…during the year" (emphasis added). Accrued Credit Water is held constant during the calendar year and Usable Water is then accounted during the year as defined in Article I(I).

This method attempts to account for Reclamation's unilateral release of accrued Credit Water from Elephant Butte Reservoir during the summer of 2011 without the permission of New Mexico or Colorado. Method 2 resulted in Accrued Credits at the end of 2011 of 2,300 acre-feet for Colorado and 44,600 acre-feet for New Mexico. The New Mexico Engineer Adviser applied those values as input for the 2012 Compact accounting. Consequently, the Compact compliance status for Colorado and New Mexico at the end of 2012 would be 6,100 acre-feet and 3,000 acre-feet, respectively.

If this release had been an authorized relinquishment, New Mexico and Colorado would have received Article VII benefits. However, neither New Mexico nor Colorado received the Article VII benefit of being able to store a like amount of water to the Credit Water released by Reclamation in 2011 (33,825 acre-feet) in the future when the Article VII of the compact storage restriction is in effect.

Conclusion

The New Mexico Engineer Adviser finds:

1) New Mexico has the exclusive authority under Article VII to offer to relinquish any of its accrued Credit Water; and

2) New Mexico has been denied its benefits associated with relinquishments under the Compact (i.e., the right to store water in certain reservoirs upstream of Elephant Butte when otherwise prohibited to do so under Article VII), and

3) By virtue of the unauthorized releases of accrued Credit Water, Texas' incentive to meet and negotiate with either Colorado or New Mexico and accept a relinquishment during drought times is minimized or eliminated. That is, if Texas can get either New Mexico or Colorado Credit Water from Reclamation, it has no incentive to negotiate.

Absent an explicit agreement by Reclamation to abide by the last unnumbered paragraph of Article VI of the Compact and the RGCC's 2006 directives regarding the accounting and release of accrued Credit Water, the New Mexico Engineer Adviser recommends that RGCC not approve any Compact accounting for 2011 and 2012 until the underlying issues are resolved.

Attachment 1 – Method 1: Reduce Credit Water for Evaporation Monthly during the 2012 Calendar Year - Developed by Texas and Reclamation

Attachment 2 – Method 2: Reduce Credit Water for Evaporation at the End of the 2012 Calendar Year – Developed by Colorado and New Mexico in 2012

Attachment 1

Method 1: Reduce Credit Water for Evaporation Monthly during the 2012 Calendar Year - Developed by Texas and Reclamation

RIO GRANDE COMPACT - DELIVERIES BY COLORADO AT STATE LINE

YEAR 2012 - Method 1

Quantities in thousands of acre feet to nearest hundred

MONTH	CONEJOS INDEX SUPPLY										RIO GRANDE INDEX SUPPLY								DELIVERIES			
	MEASURED FLOW				ADJUSTMENTS				SUPPLY			ADJUSTMENTS					SUPPLY					
	CONEJOS AT MOGOTE	LOS PINOS NEAR ORTIZ	SAN ANTONIO AT ORTIZ	TOTAL	STORAGE AT END OF MONTH	CHANGE IN STORAGE [c]	OTHER ADJUSTMENTS	NET ADJUSTMENTS	SUPPLY IN MONTH	ACCUMULATED TOTAL	RECORDED FLOW NEAR DEL NORTE	STORAGE AT END OF MONTH	CHANGE IN STORAGE	TRANSMOUNTIAN DIVERSIONS [b]	OTHER ADJUSTMENTS [a]	NET ADJUSTMENTS	SUPPLY IN MONTH	ACCUMULATED TOTAL	CONEJOS RIVER AT MOUTH NEAR LASAUCES	RIO GRANDE LESS CONEJOS RIVER	RIO GRANDE AT LOBATOS	ACCUMULATED TOTAL AT LOBATOS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	--------	--------	--------	--------	12.1	--------	--------	--------	--------	0.0	--------	0.2	--------	--------	--------	--------	--------	0.0	--------	--------	--------	0.0
JAN	2.4	--------	--------	2.4	12.3	0.2		0.2	2.6	2.6	9.5	0.2	0.0			0.0	9.5	9.5	3.5	11.7	15.2	15.2
FEB	2.4	--------	--------	2.4	12.5	0.2		0.2	2.6	5.2	9.5	0.2	0.0			0.0	9.5	19.0	4.0	11.6	15.6	30.8
MAR	9.0	--------	--------	9.0	12.6	0.1		0.1	9.1	14.3	26.1	0.2	0.0			0.0	26.1	45.1	14.0	21.9	35.9	66.7
APR	30.5	21.2	4.5	56.2	11.8	-0.8		-0.8	55.4	69.7	85.8	0.2	0.0			0.0	85.8	130.9	7.3	9.4	16.7	83.4
MAY	42.7	13.6	0.9	57.2	17.3	5.5	0.2	5.7	62.9	132.6	140.4	0.2	0.0			0.0	140.4	271.3	1.3	9.1	10.4	93.8
JUN	19.3	2.0	0.0	21.3	14.5	-2.8	0.2	-2.6	18.7	151.3	45.9	0.2	0.0			0.0	45.9	317.2	0.1	4.4	4.5	98.3
JUL	9.8	1.0	0.0	10.8	10.6	-3.9	0.0	-3.9	6.9	158.2	23.5	0.2	0.0	-3.2	0.4	-2.8	20.7	337.9	0.0	2.8	2.8	101.1
AUG	7.1	0.8	0.1	8.0	7.0	-3.6	0.0	-3.6	4.4	162.6	17.8	0.2	0.0			0.0	17.8	355.7	0.0	1.9	1.9	103.0
SEPT	4.2	0.8	0.0	5.0	6.2	-0.8	0.1	-0.7	4.3	166.9	15.0	0.2	0.0			0.0	15.0	370.7	0.0	2.2	2.2	105.2
OCT	3.1	0.8	0.1	4.0	5.8	-0.4	0.1	-0.3	3.7	170.6	13.6	0.2	0.0			0.0	13.6	384.3	0.0	2.7	2.7	107.9
NOV	2.4		--------	2.4	5.7	-0.1	0.0	-0.1	2.3	172.9	10.7	0.2	0.0			0.0	10.7	395.0	0.0	7.4	7.4	115.3
DEC	2.2	--------	--------	2.2	5.8	0.1		0.1	2.3	175.2	9.1	0.2	0.0			0.0	9.1	404.1	1.0	10.2	11.2	126.5
YEAR	135.1	40.2	5.6	180.9	--------	-6.3	0.6	-5.7	175.2	--------	406.9	--------	0.0	-3.2	0.4	-2.8	404.1	--------	31.2	95.3	126.5	--------

Remarks: Cols. 6 and 13 do not include transmountain water.

[a] Evaporation loss post-compact reservoirs; report of the Engineer Adviser for Colorado.

[b] 3,412 ac-ft minus 243 ac-ft pre-compact; report of the Engineer Adviser for Colorado.

[c] See Engineer Adviser report in regards to change of storage.

[d] Reduction of Credit for Evaporation calculated on a monthly basis.

SUMMARY OF DEBITS AND CREDITS

	ITEM	DEBIT	CREDIT	BALANCE
C1	Balance at Beginning of Year	---------	---------	Cr. 2.6
C2	Scheduled Delivery from Conejos River	32.6	---------	Dr. 30.0
C3	Scheduled Delivery from Rio Grande	99.1	---------	Dr. 129.1
C4	Actual Delivery at Lobatos plus 10,000 Acre Feet	---------	136.5	Cr. 7.4
C5	Reduction of Debits o/c Evaporation	---------		
C6	Reduction of Credits o/c Evaporation [d]	0.7	---------	Cr. 6.7
C7	Accrued credit relinquished to project storage on Mar. 31, 2012.	0.4		
C8	Balance at End of Year	---------	---------	Cr. 6.3

APPROVED:

Engineer Adviser for Colorado_____ Date: _____ Engineer Adviser for New Mexico _____ Date: _____ Engineer Adviser for Texas _____ Date: _____

Method 1: Reduce Credit Water for Evaporation Monthly during the 2012 Calendar Year - Developed by Texas and Reclamation

RIO GRANDE COMPACT - DELIVERIES BY NEW MEXICO AT ELEPHANT BUTTE

YEAR 2012 - Method 1

Quantities in thousands of acre feet to nearest hundred

MONTH	OTOWI INDEX SUPPLY									Total Water Stored in New Mexico Above San Marcial at End of Month [a, b]	ELEPHANT BUTTE EFFECTIVE SUPPLY				
		ADJUSTMENTS						INDEX SUPPLY			STORAGE IN ELEPHANT BUTTE RESERVOIR			Effective Supply	
		RESERVOIRS: LOBATOS TO OTOWI													
	Recorded Flow at Otowi Bridge	Storage End of Month [a, b]	Change in Storage	Reservoir Evaporation	Other Adjustments	Trans-mountain Diversions	Net Adjustments	During Month	Accumulated Total		End of Month [a]	Change Gain (+) Loss (-)	Recorded Flow Below Elephant Butte Dam	During Month	Accumulated Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	--------	20.3	--------	--------	--------	--------	--------	--------	--------	20.0	245.9	--------	--------	--------	--------
JAN	39.1	20.4	0.1	0.0		-2.6	-2.5	36.6	36.6	20.6	283.5	37.6	0.3	37.9	37.9
FEB	40.0	19.5	-0.9	0.1		-1.9	-2.7	37.3	73.9	19.6	318.9	35.4	1.0	36.4	74.3
MAR	67.9	31.6	12.1	0.1		-2.4	9.8	77.7	151.6	32.2	338.1	19.2	12.5	31.7	106.0
APR	87.8	76.2	44.6	0.4		-1.9	43.1	130.9	282.5	77.6	325.2	-12.9	62.1	49.2	155.2
MAY	74.6	66.7	-9.5	0.5		-2.8	-11.8	62.8	345.3	66.9	319.8	-5.4	22.6	17.2	172.4
JUN	82.2	32.0	-34.7	0.3		-28.7	-63.1	19.1	364.4	32.2	221.2	-98.6	99.8	1.2	173.6
JUL	62.9	29.2	-2.8	0.1		-46.2	-48.9	14.0	378.4	29.0	133.1	-88.1	92.1	4.0	177.6
AUG	51.1	28.5	-0.7	0.0		-34.7	-35.4	15.7	394.1	28.4	68.3	-64.8	70.1	5.3	182.9
SEPT	28.9	26.2	-2.3	0.1		-16.4	-18.6	10.3	404.4	26.5	70.4	2.1	4.8	6.9	189.8
OCT	26.3	26.5	0.3	0.1		-9.9	-9.5	16.8	421.2	26.7	72.5	2.1	0.0	2.1	191.9
NOV	32.0	15.9	-10.6	0.1		-2.2	-12.7	19.3	440.5	16.2	81.8	9.3	0.1	9.4	201.3
DEC	50.3	0.0	-15.9	0.2		-5.5	-21.2	29.1	469.6	-1.4	120.2	38.4	0.1	38.5	239.8
YEAR	643.1	--------	-20.3	2.0		-155.2	-173.5	469.6	--------	--------	--------	-125.7	365.5	239.8	--------

Remarks:

[a] Cols. 3, 11, and 12 do not include transmountain water.

[b] Note: Storage in El Vado Reservoir of relinquishment credit under previous relinquishment agreements totaled 30,513 acre-feet in 2012. Storage of relinquished credit to date has totaled 222,757 acre-feet; balance remaining is 157,743 acre-feet.

[c] Reduction of Credit for Evaporation calculated on a monthly basis.

SUMMARY OF DEBITS AND CREDITS

	ITEM	DEBIT	CREDIT	BALANCE
NM1	Balance at Beginning of Year	---------	---------	Cr. 75.3
NM2	Scheduled Delivery at Elephant Butte	268.4	---------	Dr. 193.1
NM3	Actual Elephant Butte Effective Supply	---------	239.8	Cr 46.7
NM4	Reduction of Debits o/c Evaporation	---------		
NM5	Reduction of Credits o/c Evaporation and Spill [c]	22.0	---------	Cr. 24.7
NM6			---------	
NM7				
NM8	Balance at End of Year	---------	---------	Cr. 24.7

APPROVED:

Engineer Adviser for Colorado_____ Date: _____ Engineer Adviser for New Mexico _____ Date: _____ Engineer Adviser for Texas _____ Date: _____

Method 1: Reduce Credit Water for Evaporation Monthly during the 2012 Calendar Year - Developed by Texas and Reclamation

RIO GRANDE COMPACT - RELEASE AND SPILL FROM PROJECT STORAGE
YEAR 2012 - Method 1

Quantities in thousands of acre feet to nearest hundred

MONTH	[a]Total Project Storage Capacity Available at End of Month	USABLE WATER IN STORAGE			Unfilled Capacity of Project Storage at End of Month	CREDIT WATER IN STORAGE			Flood Water in Storage in Caballo Reservoir at End of Month	Total Water in Project Storage at End of Month	RIO GRANDE BELOW CABALLO DAM							
														SPILL FROM STORAGE			USABLE RELEASE	
		Elephant Butte Reservoir	Caballo Reservoir	Total at End of Month		[c]Colorado Credit Water	[c]New Mexico Credit Water	Total at End of Month			Measured Flow at Caballo Gaging Station	Intervening Diversions to Canals	Total Release and Spill	Caballo Flood Water	Credit Water	Usable Water	Net During Month	Accumulated Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	1,999.6	[b]168.0	13.6	[b]181.6	1,818.0	[b]2.6	[b]75.3	[b]77.9		259.5	--------	--------	--------	--------	--------	--------	--------	0.0
JAN	1,999.6	206.2	14.8	221.0	1,778.6	2.6	74.7	77.3		298.3	0.1	0.0	-				0.0	-
FEB	1,999.6	242.4	16.3	258.7	1,740.9	2.6	73.9	76.5		335.2	0.1	0.1	0.2				0.2	0.2
MAR	1,999.6	263.2	26.1	289.3	1,710.3	2.5	72.4	74.9		364.2	0.1	0.1	0.2				0.2	0.4
APR	1,974.6	252.6	23.1	275.7	1,698.9	2.0	70.6	72.6		348.3	62.1	0.1	62.2				62.2	62.6
MAY	1,974.6	249.5	24.0	273.5	1,701.1	2.0	68.3	70.3		343.8	18.6	0.1	18.7				18.7	81.3
JUN	1,974.6	154.7	20.8	175.5	1,799.1	1.9	64.6	66.5		242.0	102.7	0.2	102.9				102.9	184.2
JUL	1,974.6	69.5	20.7	90.2	1,884.4	1.8	61.8	63.6		153.8	94.7	0.1	94.8				94.8	279.0
AUG	1,974.6	8.0	12.7	20.7	1,953.9	1.7	58.6	60.3		81.0	79.0	0.2	79.2				79.2	358.2
SEPT	1,974.6	11.8	5.2	17.0	1,957.6	1.6	57.0	58.6		75.6	14.3	0.1	14.4				14.4	372.6
OCT	1,999.6	16.1	5.8	21.9	1,977.7	1.6	54.8	56.4		78.3	0.0	0.1	0.1				0.1	372.7
NOV	1,999.6	26.4	6.5	32.9	1,966.7	1.6	53.8	55.4		88.3	0.0	0.0	-				0.0	372.7
DEC	1,999.6	65.4	7.5	72.9	1,926.7	1.5	53.3	54.8		127.7	0.0	0.0	-				0.0	372.7
YEAR	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	371.7	1.1	372.7	0.0	0.0	0.0	372.7	--------

Remarks: Cols. 2, 6 and 11 reflect implementation of revised area-capacity tables from Elephant Butte and Caballo Reservoirs, effective Jan 1, 2009

[a] Project Storage Capacity is 1,974,600 acre-feet (April to September) and 1,999,600 acre-feet (October to March) as adopted by the Rio Grande Compact Commission on March 31, 2009 with flood control storage reservation at Elephant Butte Reservoir of 50,000 acre-feet from April through September and 25,000 acre-feet from October through March.

[b] Based on Balance at Beginning of Year (C1 and NM1).

c Calculated on a monthly basis.

ACCRUED DEPARTURE FROM NORMAL RELEASE

	ITEM	DEBIT	CREDIT	BALANCE
P1	Accrued Departure at Beginning of Year	---------	---------	Cr.1265.8
P2	Actual Release during Year	372.7	---------	Cr. 893.1
P3	Normal Release for Year	---------	790.0	Cr. 1683.1
P4	Under Release in Excess of 150.0	267.3	---------	Cr.1415.8
P5		---------		
P6				
P7	Accrued Departure at End of Year	---------	---------	Cr. 1415.8

TIME OF HYPOTHETICAL SPILL Did not occur

APPROVED:
Engineer Adviser for Colorado_____ Date: _____ Engineer Adviser for New Mexico _____ Date: _____ Engineer Adviser for Texas _____ Date: _____

Attachment 2

Method 2: Reduce Credit Water for Evaporation at the End of the 2012 Calendar Year - Developed by Colorado

RIO GRANDE COMPACT - DELIVERIES BY COLORADO AT STATE LINE

YEAR 2012 - Method 2

Quantities in thousands of acre feet to nearest hundred

MONTH	CONEJOS INDEX SUPPLY										RIO GRANDE INDEX SUPPLY								DELIVERIES			
	MEASURED FLOW				ADJUSTMENTS				SUPPLY			ADJUSTMENTS					SUPPLY					
	CONEJOS AT MOGOTE	LOS PINOS NEAR ORTIZ	SAN ANTONIO AT ORTIZ	TOTAL	STORAGE AT END OF MONTH	CHANGE IN STORAGE [c]	OTHER ADJUSTMENTS	NET ADJUSTMENTS	SUPPLY IN MONTH	ACCUMULATED TOTAL	RECORDED FLOW NEAR DEL NORTE	STORAGE AT END OF MONTH	CHANGE IN STORAGE	TRANSMOUNTIAN DIVERSIONS [b]	OTHER ADJUSTMENTS [a]	NET ADJUSTMENTS	SUPPLY IN MONTH	ACCUMULATED TOTAL	CONEJOS RIVER AT MOUTH NEAR LASAUCES	RIO GRANDE LESS CONEJOS RIVER	RIO GRANDE AT LOBATOS	ACCUMULATED TOTAL AT LOBATOS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	--------	--------	--------	--------	12.1	--------	--------	--------	--------	0.0	--------	0.2	--------	--------	--------	--------	--------	0.0	--------	--------	--------	0.0
JAN	2.4	--------	--------	2.4	12.3	0.2		0.2	2.6	2.6	9.5	0.2	0.0			0.0	9.5	9.5	3.5	11.7	15.2	15.2
FEB	2.4	--------	--------	2.4	12.5	0.2		0.2	2.6	5.2	9.5	0.2	0.0			0.0	9.5	19.0	4.0	11.6	15.6	30.8
MAR	9.0	--------	--------	9.0	12.6	0.1		0.1	9.1	14.3	26.1	0.2	0.0			0.0	26.1	45.1	14.0	21.9	35.9	66.7
APR	30.5	21.2	4.5	56.2	11.8	-0.8		-0.8	55.4	69.7	85.8	0.2	0.0			0.0	85.8	130.9	7.3	9.4	16.7	83.4
MAY	42.7	13.6	0.9	57.2	17.3	5.5	0.2	5.7	62.9	132.6	140.4	0.2	0.0			0.0	140.4	271.3	1.3	9.1	10.4	93.8
JUN	19.3	2.0	0.0	21.3	14.5	-2.8	0.2	-2.6	18.7	151.3	45.9	0.2	0.0			0.0	45.9	317.2	0.1	4.4	4.5	98.3
JUL	9.8	1.0	0.0	10.8	10.6	-3.9	0.0	-3.9	6.9	158.2	23.5	0.2	0.0	-3.2	0.4	-2.8	20.7	337.9	0.0	2.8	2.8	101.1
AUG	7.1	0.8	0.1	8.0	7.0	-3.6	0.0	-3.6	4.4	162.6	17.8	0.2	0.0			0.0	17.8	355.7	0.0	1.9	1.9	103.0
SEPT	4.2	0.8	0.0	5.0	6.2	-0.8	0.1	-0.7	4.3	166.9	15.0	0.2	0.0			0.0	15.0	370.7	0.0	2.2	2.2	105.2
OCT	3.1	0.8	0.1	4.0	5.8	-0.4	0.1	-0.3	3.7	170.6	13.6	0.2	0.0			0.0	13.6	384.3	0.0	2.7	2.7	107.9
NOV	2.4		--------	2.4	5.7	-0.1	0.0	-0.1	2.3	172.9	10.7	0.2	0.0			0.0	10.7	395.0	0.0	7.4	7.4	115.3
DEC	2.2	--------	--------	2.2	5.8	0.1		0.1	2.3	175.2	9.1	0.2	0.0			0.0	9.1	404.1	1.0	10.2	11.2	126.5
YEAR	135.1	40.2	5.6	180.9	--------	-6.3	0.6	-5.7	175.2	--------	406.9	--------	0.0	-3.2	0.4	-2.8	404.1	--------	31.2	95.3	126.5	--------

Remarks: Cols. 6 and 13 do not include transmountain water.

[a] Evaporation loss post-compact reservoirs; report of the Engineer Adviser for Colorado.

[b] 3412 ac-ft minus 243 ac-ft pre-compact; report of the Engineer Adviser for Colorado.

[c] See Engineer Adviser report in regards to change of storage.

[d] Evaporation of credit water accounted as described in Article VI of the Rio Grande Compact.

[e] Reflects Reclamation's unauthorized release of 316 ac-ft of Credit Water in 2011.

SUMMARY OF DEBITS AND CREDITS

	ITEM	DEBIT	CREDIT	BALANCE
C1	Balance at Beginning of Year[e]	---------	---------	Cr. 2.3
C2	Scheduled Delivery from Conejos River	32.6	---------	Dr. 30.3
C3	Scheduled Delivery from Rio Grande	99.1	---------	Dr. 129.4
C4	Actual Delivery at Lobatos plus 10,000 Acre Feet	---------	136.5	Cr. 7.1
C5	Reduction of Debits o/c Evaporation	---------		
C6	Reduction of Credits o/c Evaporation[d]	0.6	---------	Cr. 6.5
C7	Accrued credit relinquished to project storage on Mar. 31, 2012.	0.4		
C8	Balance at End of Year	---------	---------	Cr. 6.1

APPROVED:

Engineer Adviser for Colorado_____ Date: _____ Engineer Adviser for New Mexico _____ Date: _____ Engineer Adviser for Texas _____ Date: _____

Method 2: Reduce Credit Water for Evaporation at the End of the 2012 Calendar Year - Developed by Colorado and New Mexico

RIO GRANDE COMPACT - DELIVERIES BY NEW MEXICO AT ELEPHANT BUTTE

YEAR 2012 - Method 2

Quantities in thousands of acre feet to nearest hundred

MONTH	OTOWI INDEX SUPPLY									Total Water Stored in New Mexico Above San Marcial at End of Month [a, b]	ELEPHANT BUTTE EFFECTIVE SUPPLY				
		ADJUSTMENTS						INDEX SUPPLY			STORAGE IN ELEPHANT BUTTE RESERVOIR			Effective Supply	
		RESERVOIRS: LOBATOS TO OTOWI													
	Recorded Flow at Otowi Bridge	Storage End of Month [a, b]	Change in Storage	Reservoir Evaporation	Other Adjustments	Trans-mountain Diversions	Net Adjustments	During Month	Accumulated Total		End of Month [a]	Change Gain (+) Loss (-)	Recorded Flow Below Elephant Butte Dam	During Month	Accumulated Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	--------	20.3	--------	--------	--------	--------	--------	--------	--------	20.0	245.9	--------	--------	--------	--------
JAN	39.1	20.4	0.1	0.0		-2.6	-2.5	36.6	36.6	20.6	283.5	37.6	0.3	37.9	37.9
FEB	40.0	19.5	-0.9	0.1		-1.9	-2.7	37.3	73.9	19.6	318.9	35.4	1.0	36.4	74.3
MAR	67.9	31.6	12.1	0.1		-2.4	9.8	77.7	151.6	32.2	338.1	19.2	12.5	31.7	106.0
APR	87.8	76.2	44.6	0.4		-1.9	43.1	130.9	282.5	77.6	325.2	-12.9	62.1	49.2	155.2
MAY	74.6	66.7	-9.5	0.5		-2.8	-11.8	62.8	345.3	66.9	319.8	-5.4	22.6	17.2	172.4
JUN	82.2	32.0	-34.7	0.3		-28.7	-63.1	19.1	364.4	32.2	221.2	-98.6	99.8	1.2	173.6
JUL	62.9	29.2	-2.8	0.1		-46.2	-48.9	14.0	378.4	29.0	133.1	-88.1	92.1	4.0	177.6
AUG	51.1	28.5	-0.7	0.0		-34.7	-35.4	15.7	394.1	28.4	68.3	-64.8	70.1	5.3	182.9
SEPT	28.9	26.2	-2.3	0.1		-16.4	-18.6	10.3	404.4	26.5	70.4	2.1	4.8	6.9	189.8
OCT	26.3	26.5	0.3	0.1		-9.9	-9.5	16.8	421.2	26.7	72.5	2.1	0.0	2.1	191.9
NOV	32.0	15.9	-10.6	0.1		-2.2	-12.7	19.3	440.5	16.2	81.8	9.3	0.1	9.4	201.3
DEC	50.3	0.0	-15.9	0.2		-5.5	-21.2	29.1	469.6	-1.4	120.2	38.4	0.1	38.5	239.8
YEAR	643.1	--------	-20.3	2.0		-155.2	-173.5	469.6	--------	--------	--------	-125.7	365.5	239.8	--------

Remarks:

[a] Cols. 3, 11, and 12 do not include transmountain water.

[b] Note: Storage in El Vado Reservoir of relinquishment credit under previous relinquishment agreements totaled 30,513 acre-feet in 2012. Storage of relinquished credit to date has totaled 222,757 acre-feet; balance remaining is 157,743 acre-feet.

[c] Reflects Reclamation's unauthorized release of 32,509 ac-ft of Credit Water in 2011.

[d] Evaporation of credit water accounted as described in Article VI of the Rio Grande Compact.

SUMMARY OF DEBITS AND CREDITS

	ITEM	DEBIT	CREDIT	BALANCE
NM1	Balance at Beginning of Year [c]	---------	---------	Cr. 44.6
NM2	Scheduled Delivery at Elephant Butte	268.4	---------	Dr. 223.8
NM3	Actual Elephant Butte Effective Supply	---------	239.8	Cr 16.0
NM4	Reduction of Debits o/c Evaporation	---------		
NM5	Reduction of Credits o/c Evaporation and Spill [d]	13.0	---------	Cr 3.0
NM6	Unauthorized release of Credit Water		---------	
NM7				
NM8	Balance at End of Year	---------	---------	Cr. 3.0

APPROVED:

Engineer Adviser for Colorado_____ Date: _____ Engineer Adviser for New Mexico _____ Date: _____ Engineer Adviser for Texas _____ Date: _____

Method 2: Reduce Credit Water for Evaporation at the End of the 2012 Calendar Year - Developed by Colorado and New Mexico

RIO GRANDE COMPACT - RELEASE AND SPILL FROM PROJECT STORAGE

YEAR 2012 - Method 2

Quantities in thousands of acre feet to nearest hundred

MONTH	[a]Total Project Storage Capacity Available at End of Month	USABLE WATER IN STORAGE			Unfilled Capacity of Project Storage at End of Month	CREDIT WATER IN STORAGE			Flood Water in Storage in Caballo Reservoir at End of Month	Total Water in Project Storage at End of Month	RIO GRANDE BELOW CABALLO DAM [e]							
		Elephant Butte Reservoir	Caballo Reservoir	Total at End of Month		[c]Colorado Credit Water	[c]New Mexico Credit Water	Total at End of Month			Measured Flow at Caballo Gaging Station	Intervening Diversions to Canals	Total Release and Spill	SPILL FROM STORAGE			USABLE RELEASE	
														Caballo Flood Water	Credit Water	Usable Water	Net During Month	Accumulated Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	1,999.6	[b]199.0	13.6	[b]212.6	1,787.0	[b]2.3	[b]44.6	[b]46.9		259.5	--------	--------	--------	--------	--------	--------	--------	0.0
JAN	1,999.6	236.6	14.8	251.4	1748.2	2.3	44.6	46.9		298.3	0.1	-	0				-	0
FEB	1,999.6	272.0	16.3	288.3	1711.3	2.3	44.6	46.9		335.2	0.1	0.1	0.2				0.2	0.2
MAR	1,999.6	291.2	26.1	317.3	1682.3	2.3	44.6	46.9		364.2	0.1	0.1	0.2				0.2	0.4
APR	1,974.6	278.7	23.1	301.8	1672.8	1.9	44.6	46.5		348.3	62.1	0.1	62.2				62.2	62.6
MAY	1,974.6	273.3	24.0	297.3	1677.3	1.9	44.6	46.5		343.8	18.6	0.1	18.7				18.7	81.3
JUN	1,974.6	174.7	20.8	195.5	1779.1	1.9	44.6	46.5		242.0	102.7	0.2	102.9				102.9	184.2
JUL	1,974.6	86.6	20.7	107.3	1867.3	1.9	44.6	46.5		153.8	94.7	0.1	94.8				94.8	279
AUG	1,974.6	21.8	12.7	34.5	1940.1	1.9	44.6	46.5		81.0	79.0	0.2	79.2				79.2	358.2
SEPT	1,974.6	23.9	5.2	29.1	1945.5	1.9	44.6	46.5		75.6	14.3	0.1	14.4				14.4	372.6
OCT	1,999.6	26.0	5.8	31.8	1967.8	1.9	44.6	46.5		78.3	0.0	0.1	0.1				0.1	372.7
NOV	1,999.6	35.3	6.5	41.8	1957.8	1.9	44.6	46.5		88.3	0.0	-	0				-	372.7
DEC	1,999.6	73.7	7.5	81.2	1918.4	1.9	44.6	46.5		127.7	0.0	-	0				-	372.7
YEAR	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	371.7	1.1	372.7	0.0	0.0	0.0	372.7	--------

Remarks: Cols. 2, 6 and 11 reflect implementation of revised area-capacity tables from Elephant Butte and Caballo Reservoirs, effective Jan 1, 2009.

[a] Project Storage Capacity is 1,974,600 acre-feet (April to September) and 1,999,600 acre-feet (October to March) as adopted by the Rio Grande Compact Commission on March 31, 2009 with flood control storage reservation at Elephant Butte Reservoir of 50,000 acre-feet from April through September and 25,000 acre-feet from October through March.

[b] Based on Balance at Beginning of Year (C1 and NM1).

[c] Credit water held constant during the year in accordance with Article VI and per direction of Compact Commission in March 2006. Evaporation for credit water is accounted at end of calendar year in the proportion that the Credit Water bore to the total amount of water in Elephant Butte Reservoir during the year.

[e] Due to Reclamation's unauthorized release of credit water during 2011, the accrued departure at the beginning of 2012 could not be computed.

ACCRUED DEPARTURE FROM NORMAL RELEASE

	ITEM	DEBIT	CREDIT	BALANCE
P1	Accrued Departure at Beginning of Year [e]	---------	---------	----
P2	Actual Release during Year	372.7	---------	----
P3	Normal Release for Year	---------	790.0	----
P4	Under Release in Excess of 150.0d		---------	
P5		---------		
P6				
P7	Accrued Departure at End of Year	---------	---------	-----

TIME OF HYPOTHETICAL SPILL Did not occur

APPROVED:

Engineer Adviser for Colorado_____ Date: _____ Engineer Adviser for New Mexico _____ Date: _____ Engineer Adviser for Texas _____ Date: _____

Addendum Engineer Advisers Report
Texas Engineer Adviser
March 21, 2013

The Engineer Advisers to the Rio Grande Compact Commission (Commission) were unable to reach agreement on the Accounting of water deliveries for 2012. The issue centered on how the evaporation losses on credit water are calculated and tabulated and is carried forward from the 2011 Water Accounting.

The history of this issue is addressed in a memorandum from the Engineer Advisers to the Commission dated March 23, 2006. As described in the memorandum, the Commission has been inconsistent in the way it has tabulated credit water in storage based on evaporation losses during the year. There are times when credit water is held constant each month and the credit water only reduced at the end of the year, even though the calculation of credit water evaporation is a summation of monthly evaporation amounts. Also, there are times when the Commission approved the evaporation of credit water monthly. The Engineer Advisers presented recommendations to the Commission on this issue in 2006. The Commission approved three recommendations. The recommendations were:

The Commission direct that accrued Credit Water be held constant during the year.

The Commission direct the Engineer Advisers to meet if the total combined accrued Credit Water exceeds 150,000 acre-feet and Usable Water is less than a full allocation or if the combined accrued Credit Water exceeds 50% of Project Storage and make a recommendation to the Commission regarding optimum use of water in Project Storage for Commission approval.

The Commission direct Reclamation to allocate or release Credit Water only as directed by the Commission.

The water supply conditions for 2011 and 2012 met the criteria described in the second recommendation. The Engineer Advisers did not agree on a recommendation and the Commission did not approve a proposal to optimize the use of water in Project Storage. As the irrigation season progressed, it was evident that there would again, in 2012, not be enough Usable Water in storage to meet the irrigation allocation to the Rio Grande Project if the evaporation of credit water had to be absorbed by the Usable Water until the end of the year. Therefore, since one of the methods historically used by the Commission was to tabulate evaporation of credit water on a monthly basis, Reclamation proceeded with this historical practice and allocated the monthly tabulated evaporation of Credit Water to Usable Water. This is the only accounting method that protects the Rio Grande Project from negative impacts of Credit Water storage. The protection of the Rio Grande Project was contemplated and incorporated into the Rio Grande Compact.

The results of this accounting are below. This resulted in no Credit Water being released from Elephant Butte Reservoir. The Texas Engineer Adviser recommends this accounting method as the approach to optimize the use of water in Project Storage for 2011 and 2012 as contemplated in the recommendation above.

COMPACT ACCOUNTING 2012

The Texas Engineer Adviser has reviewed the streamflow and reservoir storage records and other pertinent data for calendar year 2012. This method, recommended by the Texas Engineer Adviser, reduces the credit water for evaporation monthly. The scheduled and actual deliveries, release of Usable Water for the year 2012, and balances as of January 1, 2012, are as follows:

(a) Deliveries by Colorado at the State line:

Balance as of January 1, 2012	2,600 acre-feet
Scheduled delivery	131,700 acre-feet
Actual delivery at Lobatos plus 10,000 acre-feet	135,600 acre-feet
Reduction of credit on account of evaporation	700 acre-feet
Accrued credit relinquishment to project storage on March 31, 2012	400 acre-feet
Accrued credit January 1, 2013	6,300 acre-feet

(b) Deliveries by New Mexico at Elephant Butte Dam:

Balance as of January 1, 2012	75,300 acre-feet
Scheduled delivery	268,400 acre-feet
Actual delivery	239,800 acre-feet
Reduction of credit on account of evaporation	22,000 acre-feet
Accrued credit January 1, 2013	24,700 acre-feet

(c) Project Storage and Releases:

Accrued departure (credit) as of January 1, 2012	1,265,800 acre-feet
Actual release of Usable Water	372,700 acre-feet
Normal release for year	790,000 acre-feet
Accrued departure (credit) as of January 1, 2013	1,415,800 acre-feet

Under release capped at 150,000

The Texas Engineer Adviser also reviewed a tabulation of the accounting showing the results of holding the Credit Water constant until the end of the calendar year. The accounting showed that total Usable Water went negative during the months of September and October. Usable Water became positive in November. Thus, any “Credit Water” that may have been released under this scenario was re-stored prior to the end of year accounting. The difference in the two accounting scenarios amounts to 1,400 acre-feet of additional credit water for New Mexico under this tabulation. Colorado had an additional 100 are-feet of credit water.

Method 1: Reduce Credit Water for Evaporation Monthly during the 2012 Calendar Year - Developed by Texas and Reclamation

RIO GRANDE COMPACT - DELIVERIES BY COLORADO AT STATE LINE

YEAR 2012 - Method 1

Quantities in thousands of acre feet to nearest hundred

MONTH	CONEJOS INDEX SUPPLY										RIO GRANDE INDEX SUPPLY								DELIVERIES			
	MEASURED FLOW				ADJUSTMENTS				SUPPLY			ADJUSTMENTS					SUPPLY					
	CONEJOS AT MOGOTE	LOS PINOS NEAR ORTIZ	SAN ANTONIO AT ORTIZ	TOTAL	STORAGE AT END OF MONTH	CHANGE IN STORAGE [c]	OTHER ADJUSTMENTS	NET ADJUSTMENTS	SUPPLY IN MONTH	ACCUMULATED TOTAL	RECORDED FLOW NEAR DEL NORTE	STORAGE AT END OF MONTH	CHANGE IN STORAGE	TRANSMOUNTIAN DIVERSIONS [b]	OTHER ADJUSTMENTS [a]	NET ADJUSTMENTS	SUPPLY IN MONTH	ACCUMULATED TOTAL	CONEJOS RIVER AT MOUTH NEAR LASAUCES	RIO GRANDE LESS CONEJOS RIVER	RIO GRANDE AT LOBATOS	ACCUMULATED TOTAL AT LOBATOS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	--------	--------	--------	--------	12.1	--------	--------	--------	--------	0.0	--------	0.2	--------	--------	--------	--------	--------	0.0	--------	--------	--------	0.0
JAN	2.4	--------	--------	2.4	12.3	0.2		0.2	2.6	2.6	9.5	0.2	0.0			0.0	9.5	9.5	3.5	11.7	15.2	15.2
FEB	2.4	--------	--------	2.4	12.5	0.2		0.2	2.6	5.2	9.5	0.2	0.0			0.0	9.5	19.0	4.0	11.6	15.6	30.8
MAR	9.0	--------	--------	9.0	12.6	0.1		0.1	9.1	14.3	26.1	0.2	0.0			0.0	26.1	45.1	14.0	21.9	35.9	66.7
APR	30.5	21.2	4.5	56.2	11.8	-0.8		-0.8	55.4	69.7	85.8	0.2	0.0			0.0	85.8	130.9	7.3	9.4	16.7	83.4
MAY	42.7	13.6	0.9	57.2	17.3	5.5	0.2	5.7	62.9	132.6	140.4	0.2	0.0			0.0	140.4	271.3	1.3	9.1	10.4	93.8
JUN	19.3	2.0	0.0	21.3	14.5	-2.8	0.2	-2.6	18.7	151.3	45.9	0.2	0.0			0.0	45.9	317.2	0.1	4.4	4.5	98.3
JUL	9.8	1.0	0.0	10.8	10.6	-3.9	0.0	-3.9	6.9	158.2	23.5	0.2	0.0	-3.2	0.4	-2.8	20.7	337.9	0.0	2.8	2.8	101.1
AUG	7.1	0.8	0.1	8.0	7.0	-3.6	0.0	-3.6	4.4	162.6	17.8	0.2	0.0			0.0	17.8	355.7	0.0	1.9	1.9	103.0
SEPT	4.2	0.8	0.0	5.0	6.2	-0.8	0.1	-0.7	4.3	166.9	15.0	0.2	0.0			0.0	15.0	370.7	0.0	2.2	2.2	105.2
OCT	3.1	0.8	0.1	4.0	5.8	-0.4	0.1	-0.3	3.7	170.6	13.6	0.2	0.0			0.0	13.6	384.3	0.0	2.7	2.7	107.9
NOV	2.4		--------	2.4	5.7	-0.1	0.0	-0.1	2.3	172.9	10.7	0.2	0.0			0.0	10.7	395.0	0.0	7.4	7.4	115.3
DEC	2.2	--------	--------	2.2	5.8	0.1		0.1	2.3	175.2	9.1	0.2	0.0			0.0	9.1	404.1	1.0	10.2	11.2	126.5
YEAR	135.1	40.2	5.6	180.9	--------	-6.3	0.6	-5.7	175.2	--------	406.9	--------	0.0	-3.2	0.4	-2.8	404.1	--------	31.2	95.3	126.5	--------

Remarks: Cols. 6 and 13 do not include transmountain water.

[a] Evaporation loss post-compact reservoirs; report of the Engineer Adviser for Colorado.

[b] 3,412 ac-ft minus 243 ac-ft pre-compact; report of the Engineer Adviser for Colorado.

[c] See Engineer Adviser report in regards to change of storage.

[d] Reduction of Credit for Evaporation calculated on a monthly basis.

SUMMARY OF DEBITS AND CREDITS

	ITEM	DEBIT	CREDIT	BALANCE
C1	Balance at Beginning of Year	---------	---------	Cr. 2.6
C2	Scheduled Delivery from Conejos River	32.6	---------	Dr. 30.0
C3	Scheduled Delivery from Rio Grande	99.1	---------	Dr. 129.1
C4	Actual Delivery at Lobatos plus 10,000 Acre Feet	---------	136.5	Cr. 7.4
C5	Reduction of Debits o/c Evaporation	---------		
C6	Reduction of Credits o/c Evaporation [d]	0.7	---------	Cr. 6.7
C7	Accrued credit relinquished to project storage on Mar. 31, 2012.	0.4		
C8	Balance at End of Year	---------	---------	Cr. 6.3

APPROVED:

Engineer Adviser for Colorado_____ Date: _____ Engineer Adviser for New Mexico _____ Date: _____ Engineer Adviser for Texas _____ Date: _____

Method 1: Reduce Credit Water for Evaporation Monthly during the 2012 Calendar Year - Developed by Texas and Reclamation

RIO GRANDE COMPACT - DELIVERIES BY NEW MEXICO AT ELEPHANT BUTTE

YEAR 2012 - Method 1

Quantities in thousands of acre feet to nearest hundred

MONTH	OTOWI INDEX SUPPLY									Total Water Stored in New Mexico Above San Marcial at End of Month [a, b]	ELEPHANT BUTTE EFFECTIVE SUPPLY				
	Recorded Flow at Otowi Bridge	ADJUSTMENTS						INDEX SUPPLY			STORAGE IN ELEPHANT BUTTE RESERVOIR		Recorded Flow Below Elephant Butte Dam	Effective Supply	
		RESERVOIRS: LOBATOS TO OTOWI			Other Adjustments	Trans-mountain Diversions	Net Adjustments	During Month	Accumulated Total		End of Month [a]	Change Gain (+) Loss (-)		During Month	Accumulated Total
		Storage End of Month [a, b]	Change in Storage	Reservoir Evaporation											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	--------	20.3	--------	--------	--------	--------	--------	--------	--------	20.0	245.9	--------	--------	--------	--------
JAN	39.1	20.4	0.1	0.0		-2.6	-2.5	36.6	36.6	20.6	283.5	37.6	0.3	37.9	37.9
FEB	40.0	19.5	-0.9	0.1		-1.9	-2.7	37.3	73.9	19.6	318.9	35.4	1.0	36.4	74.3
MAR	67.9	31.6	12.1	0.1		-2.4	9.8	77.7	151.6	32.2	338.1	19.2	12.5	31.7	106.0
APR	87.8	76.2	44.6	0.4		-1.9	43.1	130.9	282.5	77.6	325.2	-12.9	62.1	49.2	155.2
MAY	74.6	66.7	-9.5	0.5		-2.8	-11.8	62.8	345.3	66.9	319.8	-5.4	22.6	17.2	172.4
JUN	82.2	32.0	-34.7	0.3		-28.7	-63.1	19.1	364.4	32.2	221.2	-98.6	99.8	1.2	173.6
JUL	62.9	29.2	-2.8	0.1		-46.2	-48.9	14.0	378.4	29.0	133.1	-88.1	92.1	4.0	177.6
AUG	51.1	28.5	-0.7	0.0		-34.7	-35.4	15.7	394.1	28.4	68.3	-64.8	70.1	5.3	182.9
SEPT	28.9	26.2	-2.3	0.1		-16.4	-18.6	10.3	404.4	26.5	70.4	2.1	4.8	6.9	189.8
OCT	26.3	26.5	0.3	0.1		-9.9	-9.5	16.8	421.2	26.7	72.5	2.1	0.0	2.1	191.9
NOV	32.0	15.9	-10.6	0.1		-2.2	-12.7	19.3	440.5	16.2	81.8	9.3	0.1	9.4	201.3
DEC	50.3	0.0	-15.9	0.2		-5.5	-21.2	29.1	469.6	-1.4	120.2	38.4	0.1	38.5	239.8
YEAR	643.1	--------	-20.3	2.0		-155.2	-173.5	469.6	--------	--------	--------	-125.7	365.5	239.8	--------

Remarks:

[a] Cols. 3, 11, and 12 do not include transmountain water.

[b] Note: Storage in El Vado Reservoir of relinquishment credit under previous relinquishment agreements totaled 30,513 acre-feet in 2012. Storage of relinquished credit to date has totaled 222,757 acre-feet; balance remaining is 157,743 acre-feet.

[c] Reduction of Credit for Evaporation calculated on a monthly basis.

SUMMARY OF DEBITS AND CREDITS

	ITEM	DEBIT	CREDIT	BALANCE
NM1	Balance at Beginning of Year	---------	---------	Cr. 75.3
NM2	Scheduled Delivery at Elephant Butte	268.4	---------	Dr. 193.1
NM3	Actual Elephant Butte Effective Supply	---------	239.8	Cr 46.7
NM4	Reduction of Debits o/c Evaporation	---------		
NM5	Reduction of Credits o/c Evaporation and Spill [c]	22.0	---------	Cr. 24.7
NM6			---------	
NM7				
NM8	Balance at End of Year	---------	---------	Cr. 24.7

APPROVED:

Engineer Adviser for Colorado_____ Date: _____ Engineer Adviser for New Mexico _____ Date: _____ Engineer Adviser for Texas _____ Date: _____

Method 1: Reduce Credit Water for Evaporation Monthly during the 2012 Calendar Year - Developed by Texas and Reclamation

RIO GRANDE COMPACT - RELEASE AND SPILL FROM PROJECT STORAGE

YEAR 2012 - Method 1

Quantities in thousands of acre feet to nearest hundred

MONTH	[a]Total Project Storage Capacity Available at End of Month	USABLE WATER IN STORAGE			Unfilled Capacity of Project Storage at End of Month	CREDIT WATER IN STORAGE			Flood Water in Storage in Caballo Reservoir at End of Month	Total Water in Project Storage at End of Month	RIO GRANDE BELOW CABALLO DAM							
														SPILL FROM STORAGE			USABLE RELEASE	
		Elephant Butte Reservoir	Caballo Reservoir	Total at End of Month		[c]Colorado Credit Water	[c]New Mexico Credit Water	Total at End of Month			Measured Flow at Caballo Gaging Station	Intervening Diversions to Canals	Total Release and Spill	Caballo Flood Water	Credit Water	Usable Water	Net During Month	Accumulated Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	1,999.6	[b]168.0	13.6	[b]181.6	1,818.0	[b]2.6	[b]75.3	[b]77.9		259.5	--------	--------	--------	--------	--------	--------	--------	0.0
JAN	1,999.6	206.2	14.8	221.0	1,778.6	2.6	74.7	77.3		298.3	0.1	0.0	-				0.0	-
FEB	1,999.6	242.4	16.3	258.7	1,740.9	2.6	73.9	76.5		335.2	0.1	0.1	0.2				0.2	0.2
MAR	1,999.6	263.2	26.1	289.3	1,710.3	2.5	72.4	74.9		364.2	0.1	0.1	0.2				0.2	0.4
APR	1,974.6	252.6	23.1	275.7	1,698.9	2.0	70.6	72.6		348.3	62.1	0.1	62.2				62.2	62.6
MAY	1,974.6	249.5	24.0	273.5	1,701.1	2.0	68.3	70.3		343.8	18.6	0.1	18.7				18.7	81.3
JUN	1,974.6	154.7	20.8	175.5	1,799.1	1.9	64.6	66.5		242.0	102.7	0.2	102.9				102.9	184.2
JUL	1,974.6	69.5	20.7	90.2	1,884.4	1.8	61.8	63.6		153.8	94.7	0.1	94.8				94.8	279.0
AUG	1,974.6	8.0	12.7	20.7	1,953.9	1.7	58.6	60.3		81.0	79.0	0.2	79.2				79.2	358.2
SEPT	1,974.6	11.8	5.2	17.0	1,957.6	1.6	57.0	58.6		75.6	14.3	0.1	14.4				14.4	372.6
OCT	1,999.6	16.1	5.8	21.9	1,977.7	1.6	54.8	56.4		78.3	0.0	0.1	0.1				0.1	372.7
NOV	1,999.6	26.4	6.5	32.9	1,966.7	1.6	53.8	55.4		88.3	0.0	0.0	-				0.0	372.7
DEC	1,999.6	65.4	7.5	72.9	1,926.7	1.5	53.3	54.8		127.7	0.0	0.0	-				0.0	372.7
YEAR	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	371.7	1.1	372.7	0.0	0.0	0.0	372.7	--------

Remarks: Cols. 2, 6 and 11 reflect implementation of revised area-capacity tables from Elephant Butte and Caballo Reservoirs, effective Jan 1, 2009

[a] Project Storage Capacity is 1,974,600 acre-feet (April to September) and 1,999,600 acre-feet (October to March) as adopted by the Rio Grande Compact Commission on March 31, 2009 with flood control storage reservation at Elephant Butte Reservoir of 50,000 acre-feet from April through September and 25,000 acre-feet from October through March.

[b] Based on Balance at Beginning of Year (C1 and NM1).

c Calculated on a monthly basis.

ACCRUED DEPARTURE FROM NORMAL RELEASE

	ITEM	DEBIT	CREDIT	BALANCE
P1	Accrued Departure at Beginning of Year	---------	---------	Cr.1265.8
P2	Actual Release during Year	372.7	---------	Cr. 893.1
P3	Normal Release for Year	---------	790.0	Cr. 1683.1
P4	Under Release in Excess of 150.0	267.3	---------	Cr.1415.8
P5		---------		
P6				
P7	Accrued Departure at End of Year	---------	---------	Cr. 1415.8

TIME OF HYPOTHETICAL SPILL Did not occur

APPROVED:

Engineer Adviser for Colorado_____ Date: _____ Engineer Adviser for New Mexico _____ Date: _____ Engineer Adviser for Texas _____ Date: _____

BUDGET FOR FISCAL YEAR ENDING JUNE 30, 2012

Item	Total Cost	Borne by United States	Borne by Colorado	Borne by New Mexico	Borne by Texas
GAGING STATIONS					
In Colorado1	$65,442		$65,442		
In New Mexico, above Caballo Reservoir	$75,060	$41,141		$33,919	
In New Mexico, Caballo Reservoir and below2	$32,345	$7,950		$3,256	$21,139
Subtotal	$172,847	$49,091	$65,442	$37,175	$21,139
ADMINISTRATION					
U.S.G.S. Technical Services	$17,290	$7,150	$3,380	$3,380	$3,380
Other expenses3	$3,000		$1,000	$1,000	$1,000
Subtotal	$20,290	$7,150	$4,380	$4,380	$4,380
GRAND TOTAL	$193,137	$56,241	$69,822	$41,555	$25,519
EQUAL SHARES			$45,632	$45,632	$45,632

[1]Includes $4,305 to Colorado USGS for review and publication of Colorado Rio Grande Compact gage records.

[2]BOR contribution includes $3,327 of development of Acoustic Doppler Velocity Meter data gathering and monitoring per RGCC recommendation dated March 22, 2007.

[3]Includes cost of court reporter and publication of Annual Report.

BUDGET FOR FISCAL YEAR ENDING JUNE 30, 2014

Item	Total Cost	Borne by United States	Borne by Colorado	Borne by New Mexico	Borne by Texas
GAGING STATIONS					
In Colorado	$70,938		$70,938		
In New Mexico, above Caballo Reservoir	$75,061	$41,141		$33,920	
In New Mexico, Caballo Reservoir and below	$20,766	$5,408		$3,255	$12,103
Subtotal	$166,765	$46,549	$70,938	$ 37,175	$ 12,103
ADMINISTRATION					
U.S.G.S. Technical Services	$19,414	$5,443	$4,657	$4,657	$4,657
Other expenses[1]	$3,000		$1,000	$1,000	$1,000
Subtotal	$22,414	$5,443	$5,657	$5,657	$5,657
GRAND TOTAL	$189,179	$51,992	$76,595	$42,832	$17,760
EQUAL SHARES			$45,729	$45,729	$45,729

[1]Includes cost of court reporter and publication of Annual Report.

United States Department of the Interior

U.S. GEOLOGICAL SURVEY
New Mexico Water Science Center
DUNS 02 528 7520
5338 Montgomery Blvd NE, Suite 400
Albuquerque, NM 87109-1311

March 18, 2013

Mr. Dick Wolfe
Rio Grande Compact Commissioner for Colorado
1313 Sherman Street, Room 818
Denver, CO 80203
303-866-3581

Mr. Patrick Gordon
Rio Grande Compact Commissioner for Texas
P.O. Box 1917
El Paso, TX 79950-1917
915-834-7075

Mr. Scott A. Verhines
Rio Grande Compact Commissioner for New Mexico
Bataan Building
P.O. Box 25102
Santa Fe, NM 87504-5102
505-827-6091

Dear Compact Commission:

Enclosed are five copies of the Joint Funding Agreement (JFA), 13CRNM000000012, for the period July 1, 2013 to June 30, 2014, for assistance from the U.S. Geological Survey as described on the Statement of Work for the Rio Grande Compact Commission. The agreement provides for a total expenditure of $19,414 of which the U.S. Geological Survey portion will be $5,443 and the State of Colorado, the State of New Mexico, and the State of Texas will each provide $4,657.

If you concur, please sign and return a copy of the JFA to this office. Work performed with funds from this agreement will be conducted on a fixed-price basis. The States of Colorado, New Mexico, and Texas will be billed for work completed as part of the agreement via a DI-1040 on a semi-annual basis.

On behalf of the USGS, I sincerely appreciate your participation in our Cooperative Program. If you have any questions concerning the work on this project, please call Ms. Anne Marie Matherne at (505) 830-7971. Administrative questions should be addressed to Ms. Susan Kell at (505) 830-7904.

Sincerely,

Linda S. Weiss

Linda S. Weiss
Director

Enclosure

cc: BFS
Project File: RG209L7
Project Chief: Gunn, Matherne
Customer File: 6000001029/6000001775/6000000631
Read File

Agreement No: 13CRNM000000012
Customer No:
6000001029/6000001775/6000000631
Project No: RG209L7
Tax ID: 84-0644739 (CO)
85-6000565 (NM)
74-2677375 (TX)
Fixed-price agreement

COOPERATIVE AGREEMENT
FOR
INVESTIGATION OF WATER RESOURCES

THIS AGREEMENT, entered into this 1st day of July, 2013 by and between the United States Geological Survey, party of the first part, and each of the Commissioners representing the three signatory states and the Representative of the United States, constituting the Rio Grande Compact Commission, party of the second part.

In consideration of the mutual promises and agreements herein contained, it is agreed by and between the parties hereto as follows:

1. The parties agree that, subject to the availability of appropriations and in accordance with their respective authorities, there shall be maintained a cooperative program for duties as stated in the attached Statement of Work, for the Rio Grande Compact Commission within and among the three states in accordance with the terms of the Rio Grande Compact, incorporated herein by reference.

The parties further agree that this agreement shall in no manner affect any other agreement between the United States Geological Survey and any of the three states of the basin concerning the collection of hydrologic data, but in each case where there is or may be another agreement covering the collection of such data, the duty of the United States Geological Survey as provided here, shall be to compile, correlate, and present hydrographic data that has been collected under such agreements.

2. The parties agree to contribute to this program in the amounts specified or as are from time to time agreed upon in writing, funds needed and available to cover all the cost of the necessary field and office work directly related to the program, excluding any general administrative or accounting work in the office of any of the parties, and excluding the costs of publication by any of the parties of the results of the program.

3. The United States Geological Survey and state members of the Rio Grande Compact agree to contribute to the program during the period from July 1, 2013 to June 30, 2014, the following amounts:

(a)	U.S. Geological Survey	$5,443
(b)	State of Colorado	$4,657
(c)	State of New Mexico	$4,657
(d)	State of Texas	$4,657

4. So far as may be mutually agreed, all expenses shall be paid in the first instance by the United States Geological Survey with appropriate reimbursement thereafter by the other parties hereto. Each of the parties shall furnish to each of the other parties such statements or reports of expenditures as may be needed to satisfy fiscal requirements.

5. Unless previously terminated by the parties hereto, this agreement shall terminate on June 30, 2014, provided it may be renewed by the mutual agreement of the United States Geological Survey and each of the Commissioners representing the three signatory states to the Rio Grande Compact, as the voting members of the Rio Grande Compact Commission, on or before June 30, 2014, for a period of 1 year, and may be renewed in a like manner on or before June 30th of any year thereafter for a similar period. Any party may terminate this agreement by providing 60 day's written notice to the other party. When an accepted agreement is terminated by the State members of the Rio Grande Compact Commission, the USGS is authorized to collect costs incurred prior to the effective date of termination of the agreement plus any termination cost.

6. The original records resulting from this program will be deposited in the office of origin of those records. Upon request, copies of the original records will be provided to the office of the other parties.

7. In the event this Agreement is renewed as herein provided, the amounts to be contributed by the parties for each renewal period may be determined by mutual agreement and set forth by exchange of letters between the parties at or near the beginning of each such period.

8. Billing for this agreement will be rendered semi-annually in January 2014 and July 2014. Payments of bills are due within 60 days after the billing date. If not paid by the due date, interest will be charged at the current Treasury rate for each 30-day period, or portion thereof, that the payment is delayed beyond the due date. (31 USC 3717, Comptroller General File-B212222, August 23, 1983.)

9. The Legal authorities for the U.S. Geological Survey to enter into this Agreement are 43 USC 36C; 43 USC 50; and 43 USC50b.

UNITED STATES GEOLOGICAL SURVEY

Linda S. Weiss 3/18/13

Linda S. Weiss Date
Director, New Mexico Water Science Center

RIO GRANDE COMPACT COMMISSION

3/21/13

Commissioner for Colorado Date

3-21-13

Commissioner for New Mexico Date

3/21/13

Commissioner for Texas Date

3/21/13

Representative of the United States Date

Statement of Work
for
13CRNM000000012

The duties of the United States Geological Survey are as follows:

1. Obtain data for yearly accounting from U.S. Geological Survey in New Mexico and Colorado as well as U.S Bureau of Reclamation, Albuquerque and El Paso Offices, and Colorado Division of Water Resources.

2. Prepare and submit provisional water accounting reports on the deliveries of the Rio Grande water.

3. Compile Rio Grande Compact Commission water accounting from the data supplied by various agencies. Present annual accounting at the Engineer Advisor's Meeting. Obtain signature of Engineer Advisors on approved accounting sheets.

RESOLUTION
RIO GRANDE COMPACT COMMISSION

Honoring Ken L. Beck

March 21, 2013

WHEREAS, *Ken L. Beck for a total of over 30 years has been a valued employee of the U.S. Bureau of Reclamation in the Durango office of the Animas La Plata Project and for the last 5 years as Manager of the Alamosa Field Division operating the Closed Basin Project; and*

WHEREAS, *during that time Mr. Beck did faithfully and conscientiously carry out his assigned duties on the Closed Basin Project to the overall benefit of not only the Bureau and the San Luis Valley but to the three states involved in the Rio Grande Compact; and*

WHEREAS, *during his tenure as the Alamosa Field Division Manager, oversaw a dramatic reduction in the power consumption of the project by resolving improperly sized well pump motor issues and instituted numerous new well rehabilitation, construction and operation techniques to address biofouling concerns on the Project; and*

WHEREAS, *during his tenure as a Bureau employee in the San Luis Valley, residents in the valley and the Rio Grande Compact Commissioners and Engineer Advisers of the three states of Colorado, New Mexico and Texas did develop great admiration, respect, and appreciation for Mr. Beck and his work; and*

NOW THEREFORE, BE IT RESOLVED *that the Rio Grande Compact Commission assembled in its 74th annual meeting held in Alamosa, Colorado acknowledges the devoted service of Ken L. Beck to the people of the Rio Grande basin which greatly benefited the Rio Grande Compact Commission, and this Commission, extends to Mr. Beck its best wishes for a prosperous and enjoyable future; and*

BE IT FURTHER RESOLVED, *that the Colorado Engineer Adviser of the Rio Grande Compact Commission is hereby directed to furnish a copy of this unanimously adopted resolution to Ken Beck, and to cause said resolution to be included in the Minutes of the 74th annual meeting of the Rio Grande Compact Commission.*

Hal Simpson
Chairman and Commissioner for the United States of America

Scott Verhines
Commissioner for New Mexico

Dick Wolfe
Commissioner for Colorado

Patrick R. Gordon
Commissioner for Texas

ACKNOWLEDGMENTS

This report was prepared by the U.S. Geological Survey, secretary to the Rio Grande Compact Commission. The water-supply data contained in this report have been provided by various Federal and State agencies.

The office of the State Engineer of Colorado provided records of transmountain diversions and of storage for the following:

Squaw Lake
Rito Hondo Reservoir
Hermit Lakes Reservoir No. 3
Troutvale No. 2 Reservoir
Jumper Creek Reservoir
Big Meadows Reservoir
Alberta Park Reservoir
Shaw Lake Enlargement
Mill Creek Reservoir
Fuchs Reservoir
Platoro Reservoir
Trujillo Meadows Reservoir

The office of the State Engineer of Colorado provided records of discharge for the following:

Rio Grande near Del Norte, Colo.
Conejos River below Platoro Reservoir, Colo.
Conejos River near Mogote, Colo
San Antonio River at Ortiz, Colo
Los Pinos River near Ortiz, Colo.
Conejos River near Lasauses, Colo.
Rio Grande near Lobatos, Colo.

The U.S. Bureau of Reclamation, Albuquerque, N. Mex., provided the following records:

Azotea Tunnel at Outlet, near Chama, N. Mex.
Willow Creek above Heron Res., near Los Ojos, N. Mex.
Horse Lake Creek above Heron Res., near Los Ojos, N. Mex.
Storage in Heron Reservoir near Los Ojos, N. Mex
Willow Creek below Heron Dam, N. Mex.
Storage in El Vado Reservoir near Tierra Amarilla, N. Mex.

The U.S. Geological Survey, in cooperation with the U.S. Bureau of Reclamation, Albuquerque, N. Mex, provided the following records:

Storage in Nambe Falls Reservoir near Nambe, N. Mex.
Rio Nambe below Nambe Falls Dam, near Nambe, N. Mex.

The U.S. Geological Survey supplied the record for Rio Grande below Elephant Butte Dam, and in cooperation with the New Mexico Interstate Stream Commission, also provided the following:

Rio Chama below El Vado Dam, N. Mex.
Rio Grande at Otowi Bridge, near San Ildefonso, N. Mex.
Storage in McClure Reservoir near Santa Fe, N. Mex.
Santa Fe River near Santa Fe, N. Mex.
Storage in Nichols Reservoir near Santa Fe, N. Mex.

The U.S. Geological Survey, in cooperation with the Corps of Engineers, Albuquerque, N. Mex., also provided the following records:

Rio Chama below Abiquiu Dam, N. Mex.
Rio Grande below Cochiti Dam, N. Mex.
Galisteo Creek below Galisteo Dam, N. Mex.
Jemez River below Jemez Canyon Dam, N. Mex.

The Corps of Engineers, Albuquerque, N. Mex., provided the following records of storage:

Abiquiu Reservoir.
Galisteo Reservoir.
Jemez Canyon Reservoir.
Cochiti Lake.

The Laguna Agency, Bureau of Indian Affairs, Laguna, N. Mex., supplied the records of storage in Seama Reservoir.

The U.S. Bureau of Reclamation, El Paso, Texas, provided the following records:

Storage in Elephant Butte Reservoir at Elephant Butte, N. Mex.
Storage in Caballo Reservoir near Arrey, N. Mex.
Rio Grande below Caballo Dam, N. Mex.
Bonito ditch below Caballo Dam, N. Mex.

The Rio Grande Compact Commission gratefully acknowledges the cooperation received from the agencies listed above.

ACCURACY OF RECORDS

The Rules and Regulations of the Commission state that the equipment, method, and frequency of measurement at each gaging station shall be sufficient to obtain records at least equal in accuracy to those classified as "good" by the U.S. Geological Survey. Within the physical limitations of stream gaging, the agencies obtaining the records at Compact gaging stations have complied with these regulations.

The accuracy of streamflow records depends primarily on (1) the stability of the stage- discharge relation or, if the control is unstable, the frequency of discharge measurements, and (2) the accuracy of observations of stage, measurements of discharge, and interpretation of records.

The station description states the degree of accuracy attributed to the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent of the true value; "good" within 10 percent; and "fair" within 15 percent. Records that do not meet the criteria mentioned are rated "poor." Different accuracies may be attributed to different parts of a given record. The probable error in a monthly or annual mean discharge depends more on the distribution of the daily errors between the limits than it does on the limits themselves. For this reason, monthly and annual records are more accurate than most daily records.

STREAMFLOW

Rio Grande near Del Norte, Colo

Location. -- Water-stage recorder, lat 37°41'19.0", long 106°27'35.5", in NW 1/4 sec. 29, T. 40 N., R. 5 E., on right bank, 40 ft downstream from county highway bridge, 6 mi west of Del Norte, and 5.0 mi upstream from Pinos Creek. Datum of gage is 7,980.25 ft above mean sea level, datum of 1929. Prior to May 16, 1908, staff gage at site 4 mi downstream. Records are equivalent.
Drainage area. -- 1,320 sq mi, approximately
Average discharge. -- 123 years (1890-2012), 889 ft^3/s (643,900 acre-ft per year).
Extremes. -- 1889-2012: Maximum discharge, 18,000 ft^3/s Oct. 5, 1911 (gage height, 6.80 ft), from rating curve extended above 12,900 ft^3/s; minimum daily, 69 ft^3/s Aug. 21, 1902.
Remarks. -- Records good except those for estimated daily discharges , which are poor. Flow regulated by four reservoirs, total capacity 126,100 acre-ft, and by several smaller ones. Six transmountain diversions import water into basin above station.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	4,780	185	140	154	9,490
February	4,810	185	150	166	9,540
March	13,200	1,280	185	425	26,100
April	43,300	2,680	822	1,440	85,800
May	70,800	2,930	1,290	2,280	140,000
June	23,100	1,450	377	771	45,900
July	11,800	556	285	381	23,400
August	8,990	335	261	290	17,800
September	7,550	413	196	252	15,000
October	6,850	286	170	221	13,600
November	5,410	238	105	180	10,700
December	4,590	188	125	148	9,110
Calendar year 2012	205,180	2,930	105	561	406,440

Conejos River below Platoro Reservoir, Colo.

Location. -- Water-stage recorder and concrete control, lat 37°21'18", long 106°32'37", in NW 1/4NW 1/4 sec. 22, T. 36 N., R. 4 E., on left bank 1,100 ft downstream from valve house for Platoro Reservoir, and 0.7 mi northwest of Platoro. Datum of gage is 9,866.60 ft above mean sea level (levels by Bureau of Reclamation).
Drainage area. -- 40 sq mi, approximately
Average discharge. -- 60 years (1890-2012), 92 ft3/s (66,520 acre-ft per year).
Extremes. -- 1952-2012: Maximum discharge, 1,160 ft3/s Nov. 1, 1957; maximum gage height, 4.29 ft June 15, 1958; no flow Oct. 16-20, 1955.
Remarks. -- Records good except those for winter months, which are fair. No diversions above station. Flow completely regulated by Platoro Reservoir (capacity, 59,570 acre-ft).

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	253	9.4	6.6	8.2	503
February	216	8.0	7.0	7.4	428
March	854	134	7.9	28.0	1,690
April	4,990	346	51	166	9,900
May	6,470	364	75	209	12,800
June	5,080	236	113	170	10,100
July	2,930	180	31	94	5,810
August	2,250	143	29	73	4,470
September	945	80	15	32	1,870
October	474	35	6.3	15	939
November	229	20	6.7	8	455
December	221	7.4	7.0	7.1	439
Calendar year 2012	24,910	364	6.3	68	49,400

STREAMFLOW

Conejos River near Mogote, Colo

Location. -- Water-stage recorder, lat 37°03'14", long 106°11'13", in SE 1/4SE 1/4 sec. 34, T. 33 N., R. 7 E., on left bank 75 ft downstream from bridge on State Highway 174, 0.4 mi downstream from Fox Creek, and 5.3 mi west of Mogote. Datum of gage is 8,269.39 ft above mean sea level.
Drainage area. -- 282 sq mi.
Average discharge. -- 102 years (1904, 1912-2012), 320 ft3/s (231,900 acre-ft per year).
Extremes. -- 1903-05, 1911-2012: Maximum discharge, 9,000 ft3/s Oct. 5, 1911 (gage height, 8.50 ft), from rating curve extended above 3,100 ft^3/s; minimum daily determined, 10 ft^3/s July 18, 1904.
Remarks. -- Records good except for estimated daily discharges, which are poor. Diversions above station for irrigation of about 500 acres. Since 1951 flow partly regulated by Platoro Reservoir.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	1,230	48	32	40	2,440
February	1,220	50	38	42	2,420
March	4,530	426	50	146	8,990
April	15,400	1,020	260	512	30,500
May	21,500	971	483	694	42,700
June	9,740	573	191	325	19,300
July	4,920	243	83	159	9,760
August	3,570	176	71	115	7,090
September	2,140	150	51	71	4,240
October	1,560	69	39	51	3,100
November	1,220	53	26	41	2,420
December	1,100	43	24	36	2,190
Calendar year 2012	68,130	1,020	24	186	135,150

San Antonio River at Ortiz, Colo

Location. -- Water-stage recorder, lat 36°59'35", long 106°02'17", in New Mexico in NE1/4SE1/4, sec. 24, T. 32 N., R. 8 E., on left bank 800 ft south of New Mexico-Colorado State line, 0.4 mi southeast of Ortiz, and 0.4 mi upstream from Los Pinos River. Altitude of gage is 7,970 ft.
Drainage area. -- 110 sq mi.
Average discharge. -- 72 years (1941-2012), 25 ft3/s (17,820 acre-ft per year).
Extremes. -- 1920, 1925-2012: Maximum discharge, 1,750 ft3/s Apr. 15, 1937 (gage height, 5.38 ft), from rating curve extended above 1,100 ft^3/s; no flow at times.
Remarks. -- Records good except for discharges less than 2.5 ft3/s,and estimated daily discharges, which are poor. A few small diversions above station for irrigation.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	80	3.2	2.0	2.6	159
February	89	4.4	2.6	3.1	177
March	1,280	119	4.6	41	2,540
April	2,250	147	37	75	4,460
May	428	33	2.2	14	848
June	18	2.5	0.0	0.62	37
July	19	3.2	0.0	0.61	37
August	38	4.9	0.01	1.2	76
September	17	2.0	0.0	0.57	34
October	46	4.7	0.68	1.5	92
November	51	2.0	1.4	1.7	101
December	48	1.8	1.2	1.6	95
Calendar year 2012	4,360	147	0.0	12	8,660

STREAMFLOW

Los Pinos River near Ortiz, Colo

Location. -- Water-stage recorder, lat 36°58'56", long 106°04'23", in New Mexico on line between secs. 26 and 27, T. 32 N., R. 8 E., on left bank 0.9 mi south of New Mexico-Colorado State line, 2.1 mi southwest of Ortiz, and 2.9 mi upstream from mouth. Altitude of gage is 8,040 ft.
Drainage area. -- 167 sq mi.
Average discharge. -- 94 years (1915-20, 1925-2012), 117 ft3/s (84,660 acre-ft per year).
Extremes. -- 1915-20, 1925-2012: Maximum discharge, 3,160 ft3/s May 12, 1941 (gage height, 5.77 ft, site and datum then in use), from rating curve extended above 1,600 ft^3/s; minimum observed, 4.0 ft^3/s Dec. 17, 1945.
Remarks. -- Records good except those for winter months, which are fair. Diversions above station for irrigation

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	435	19	11	14	863
February	570	22	17	20	1,130
March	2,840	387	20	92	5,640
April	10,700	522	234	356	21,200
May	6,830	344	82	220	13,600
June	990	75	13	33	1,960
July	531	31	11	17	1,050
August	424	20	9.6	14	840
September	418	37	8.3	14	828
October	397	23	8.2	13	786
November	413	18	8.0	14	819
December	368	16	8.0	12	730
Calendar year 2012	24,920	522	8.0	68	49,450

Conejos River near Lasauses, Colo

Location. -- Water-stage recorder, lat 37°18'01", long 105°44'47", in secs. 2 and 11(two channels), T. 35 N., R. 11 E., on left bank of main channel 125 ft downstream from bridge on State Highway 158 and on left bank of secondary channel 1,550 ft upstream from bridge, 1.0 mi upstream from mouth, and 1.5 mi north of Lasauses. Datum of gage on main channel is 7,495.02 ft and on secondary (south) channel is 7,499.86 ft above main sea level (levels by Bureau of Reclamation).
Drainage area. -- 887 sq mi.
Average discharge. -- 91 years (1922-2012), 173 ft3/s (125,000 acre-ft per year).
Extremes. -- 1921-2012: Maximum discharge, 3,890 ft3/s May 15, 1941; no flow at times in some years
Remarks. -- Records good except for estimated daily discharge, which are poor. Diversions above station for irrigation of about 75,000 acres above station.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	1,780	66	47	57	3,530
February	2,010	83	65	69	3,980
March	7,030	718	69	227	14,000
April	3,710	815	8.8	124	7,350
May	668	74	3.1	22	1,320
June	49	6.0	0.0	2.0	97
July	0.0	0.0	0.0	0.0	0.0
August	0.0	0.0	0.0	0.0	0.0
September	0.0	0.0	0.0	0.0	0.0
October	0.0	0.0	0.0	0.0	0.0
November	0.0	0.0	0.0	0	0.0
December	492	26	0.0	16	976
Calendar year 2012	15,740	815	0.0	43	31,250

STREAMFLOW

Rio Grande near Lobatos, Colo

Location. -- Water-stage recorder, lat 37°04'43", long 105°45'25", in NE1/4 NW1/4 sec. 27, T. 33 N., R. 11 E., on right bank at highway bridge, 5.7 mi north of Colorado-New Mexico State line, 11 mi east of Lobatos, and 14 mi east of Antonito. Datum of gage is 7,427.63 ft above mean sea level, datum of 1929.
Drainage area. -- 7,700 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley)
Average discharge. -- 32 years (1900-30), 846 ft3/s (612,900 acre-ft per year); 82 years (1931-2012) 432 ft3/s (312,700 acre-ft per year).
Extremes. -- 1899-2012: Maximum discharge observed, 13,200 ft3/s June 8, 1905 (gage height, 9.1 ft); from rating curve extended above 8,000 ft^3/s; no flow at times in 1950-51, 1956.
Remarks. -- Records good except for estimated daily discharges, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	7,660	275	220	247	15,180
February	7,860	290	250	271	15,590
March	18,100	1,270	260	584	35,910
April	8,430	920	131	281	16,720
May	5,240	249	112	169	10,400
June	2,260	132	38	75	4,480
July	1,410	59	34	46	2,800
August	947	41	21	31	1,880
September	1,130	64	15	38	2,250
October	1,370	59	34	44	2,730
November	3,710	224	42	124	7,350
December	5,650	226	130	182	11,200
Calendar year 2012	63,770	1,270	15	174	126,490

Willow Creek above Heron Reservoir, near Los Ojos, N. Mex.

Location. -- Water-stage recorder, lat 36°44'33", long 106°37'34", in Tierra Amarilla Grant, on right bank 200 ft downstream from bridge, 0.2 mi downstream from Iron Spring Creek, 3.3 mi west of Los Ojos, and at mi 9.7. Datum of gage is 7,196.29 ft above mean sea level. Prior to Apr. 1, 1971, at site 900 ft downsteam.
Drainage area. -- 112 sq mi.
Average discharge. -- 7 years (1963-69), 11.5 ft^3/s (8,330 acre-ft per year) prior to completion of Azotea tunnel; 43 years (1970-2012) 135 ft3/s (97,600 acre-ft per year) subsequent to completion of Azotea tunnel.
Extremes. -- 1962-2011: Maximum discharge, 1,610 ft3/s Mar. 12, 1985 (gage height, 6.65 ft); no flow at times.
Remarks. -- Records good except those for winter months, which are fair. Subsequent to Nov. 16, 1970, flow affected by transmountain diversions through Azotea tunnel. Flow in Rutheron Drain included prior to Apr. 1, 1971.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	0.0	0.0	0.0	0.0	0.0
February	0.0	0.0	0.0	0.0	0.0
March	3,860	373	0.0	124	7,650
April	10,100	552	191	336	20,000
May	9,620	436	189	310	19,100
June	2,510	250	4.5	84	4,990
July	461	64	0.0	15	915
August	198	35	0.0	6.4	393
September	38	21	0.0	1.3	76
October	0.0	0.0	0.0	0.0	0.08
November	0.0	0.0	0.0	0.0	0.0
December	0.0	0.0	0.0	0.0	0.0
Calendar year 2012	26,790	552	0.0	73	53,120

STREAMFLOW

Horse Lake Creek above Heron Reservoir, near Los Ojos, N. Mex.

Location. -- Water-stage recorder, lat 36°42'24", long 106°44'42", in Tierra Amarilla Grant, on right bank 3.7 mi northwest of Heron Dam, 7.8 mi downstream from Horse Lake, and 9.9 mi west of Los Ojos. Datum of gage is 7,188.85 ft above National Geodetic Vertical Datum of 1929. Prior to July 1, 1971, at site 1,100 ft upstream.
Drainage area. -- 45 sq mi, approximately
Average discharge. -- 12 years (1963-73,1986), 1.17 ft^3/s (848 acre-ft per year).
Extremes. -- 1963-2011: Maximum discharge, 3,960 ft3/s July 30, 1968 (gage height, 4.9 ft); no flow most of time
Remarks. -- Records good for period of record. Diversions above station for irrigation of meadows and for off-channel stock tanks. Seasonal gage discontinued in 2011.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	---	---	---	---	---
February	---	---	---	---	---
March	---	---	---	---	---
April	---	---	---	---	---
May	---	---	---	---	---
June	---	---	---	---	---
July	---	---	---	---	---
August	---	---	---	---	---
September	---	---	---	---	---
October	---	---	---	---	---
November	---	---	---	---	---
December	---	---	---	---	---
Calendar year 2012	---	---	---	---	---

Willow Creek below Heron Dam, N. Mex.

Location. -- Totalizing flowmeters, lat 36°39'46", long 106°42'20", in Tierra Amarilla Grant, in outlet conduits at Heron Dam, 0.2 mi upstream from Rio Chama, 5.1 mi northeast of El Vado Dam, and 8.7 mi southwest of Los Ojos.
Drainage area. -- 193 sq mi.
Average discharge. -- 42 years (1971-2012), 129 ft3/s (93,240 acre-ft per year).
Extremes. -- 1971-2012: Maximum daily discharge, 2,780 ft3/s Dec. 18, 19, 1982; no flow at times each year
Remarks. -- Records excellent. Flow completely regulated by Heron Dam

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	0.0	0.0	0.0	0.0	0.0
February	0.0	0.0	0.0	0.0	0.0
March	280	50	0.0	9.0	555
April	1,130	57	0.0	38	2,240
May	1,320	142	0.0	43	2,630
June	927	50	0.0	31	1,840
July	3,840	411	50	124	7,610
August	17,700	608	452	572	35,200
September	17,800	600	422	594	35,300
October	4,760	600	46	154	9,440
November	1,410	47	47	47	2,800
December	2,020	100	47	65	4,000
Calendar year 2012	51,190	608	0.0	140	101,610

STREAMFLOW

Rio Chama below El Vado Dam, N. Mex

Location. -- Water-stage recorder with satellite telemetry, lat 36°34'49.38", long 106°43'29.16", in Tierra Amarilla Grant, on left bank 1.5 mi downstream from El Vado Dam, 2.8 mi upstream from Rio Nutrias, and 13 mi southwest of Tierra Amarilla. Datum of gage is 6,696.12 ft above National Geodetic Vertical Datum of 1929. Prior to October 1935, at site 1.5 mi upstream and October 1935 to September 1938, at site 1.1 mi upstream at different datums.
Drainage area. -- 877 sq mi, of which about 100 sq mi is probably noncontributing
Average discharge. -- 4 years (1914, 1921-23), 444 ft3/s (321,700 acre-ft per year), prior to completion of El Vado Dam; 35 years (1936-70), 372 ft3/s (269,500 acre-feet per year), prior to release of transmountain water; 42 years (1971-2012) 463 ft3/s (335,400 acre-feet per year).
Extremes. -- 1914-16, 1920-24, 1936-2011; Maximum discharge observed, 9,000 ft3/s May 22, 1920 (gage height, 12 ft); no flow Mar. 25, 26, 31, 1955.
Remarks. -- Records good. Diversions above station for irrigation of about 10,600 acres. Since 1935 flow regulated by El Vado Reservoir and since October 1970 flow partly regulated by Heron Reservoir. Subsequent to May 1971 flow affected by releases of transmountain water from Heron Reservoir.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	1,620	80	43	52	3,220
February	1,760	80	42	61	3,480
March	5,260	412	54	170	10,400
April	13,000	605	388	434	25,800
May	19,000	1,010	350	612	37,600
June	28,500	1,040	836	951	56,600
July	21,600	983	395	698	42,900
August	20,800	742	589	672	41,300
September	20,000	1,000	590	668	39,800
October	5,180	601	48	167	10,300
November	6,940	454	57	232	13,800
December	10,900	462	161	352	21,700
Calendar year 2012	155,000	1,040	42	423	306,900

Rio Chama below Abiquiu Dam, N. Mex.

Location. -- Water-stage recorder with satellite telemetry, lat 36°14'14", long 106°25'02.7", in SE1/4SE1/4 sec. 8, T. 23 N., R. 5 E., on right bank 0.8 mi downstream from Abiquiu Dam and 5.9 mi northwest of Abiquiu. Altitude of gage is 6,040 ft above National Geodetic Vertical Datum of 1929 (from river-profile map and topographic map).
Drainage area. -- 2,147 sq mi, of which about 100 sq mi is probably noncontributing
Average discharge. -- 9 years (1962-70), 384 ft^3/s (278,200 acre-ft per year), prior to release of transmountain water; 42 years (1971-2012), 510 ft3/s (369,400 acre-feet per year).
Extremes. -- 1961-2011; Maximum discharge, 2,990 ft3/s July 1, 1965 (gage height, 6.69 ft); minimum, about 0.5 ft3/s Mar. 17, 1966, Jan. 28, 1972.
Remarks. -- Records good. Flow regulated by Heron, El Vado, and Abiquiu Reservoirs. Diversions above station for irrigation of about 17,600 acres. Subsequent to May 1971 flow affected by the release of transmountain water from Heron Reservoir.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	3,490	155	88	113	6,930
February	3,860	152	115	133	7,660
March	6,540	360	116	211	13,000
April	14,900	650	166	498	29,600
May	21,700	1,060	466	701	43,100
June	35,600	1,350	1,010	1,190	70,700
July	27,600	1,390	586	890	54,700
August	20,700	1,010	323	668	41,100
September	10,600	506	113	354	21,100
October	6,030	326	84	194	12,000
November	7,190	511	46	240	14,300
December	12,600	522	75	407	25,000
Calendar year 2012	170,810	1,390	46	467	339,190

STREAMFLOW

Rio Nambe below Nambe Falls Dam, near Nambe, N. Mex.

Location. -- Water-stage recorder with satellite telemetry, lat 35°50'46", long 105°54'17", in NE1/4SW1/4 sec. 29, T. 19 N., R. 10 E.,on Nambe Indian Reservation, in outlet conduits at Nambe Falls Dam, 300 ft upstream from Nambe Falls, 2.6 mi upstream from confluence of Rio Nambe and Rio En Medio, 4.4 mi southeast of Nambe Pueblo, and 5.4 mi southeast of Nambe. Datum of gage is 6,840 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Drainage area. -- 34.1 sq mi.
Average discharge. -- -- 34 years (1979-2012), 13 ft3/s (9,380 acre-feet per year).
Extremes. -- 1979-2012; Maximum discharge, 250 ft3/s June 9, 1979 at site 1,100 ft downstream; no flow December 31, 1994.
Remarks. -- Records good. Flow completely regulated by Nambe Falls Reservoir

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	13	0.60	0.24	0.41	25
February	6.2	0.26	0.18	0.21	12
March	155	23.0	0.12	5.0	307
April	674	27	18	23	1,340
May	683	27	16	22	1,350
June	669	28	4.2	22	1,330
July	345	27	4.2	11	685
August	235	24	4.8	7.6	465
September	109	5.5	2.2	3.6	216
October	135	5.9	2.1	4.3	262
November	20	1.6	0.47	0.67	40
December	15	0.50	0.45	0.47	29
Calendar year 2012	3,060	28	0.12	8.4	6,060

Rio Grande at Otowi Bridge, near San Ildefonso, N. Mex.

Location. -- Water-stage recorder with satellite telemetry, lat 35°52'28.2", long 106°08'32.8", in SW1/4SW1/4 sec. 18, T. 19 N., R. 8 E., in San Ildefonso Pueblo Grant, 400 ft downstream from bridge on State Highway 502, 1.8 mi southwest of San Ildefonso Pueblo, 2.5 mi downstream from Pojoaque River, and 6.8 mi west of Pojoaque. Datum of gage is 5,488.48 ft above National Geodetic Vertical Datum of 1929. Prior to May 19, 1904, and July 25 to Oct 1, 1904, staff gage at site 180 ft upstream at datum 2.02 ft lower.
Drainage area. -- 14,300 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.)
Average discharge. -- 113 years (1896-1905, 1910-2012), 1,494 ft3/s (1,082,000 acre-feet per year).
Extremes. -- 1895-1905, 1910-2012; Maximum discharge, 24,400 ft3/s May 23, 1920 (gage height, 14.1 ft); minimum daily, 60 ft^3/s July 4, 5, 1902.
Remarks. -- Records good. Flow partly regulated by Heron, El Vado, and Abiquiu Reservoirs. Diversions above station for irrigation of about 620,000 acres in Colorado and 75,000 acres in New Mexico. Subsequent to May 1971 flow affected by releases of transmountain water from Heron Reservoir.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	19,700	683	577	635	39,100
February	20,200	729	647	696	40,000
March	34,300	2,240	683	1,100	68,000
April	44,300	2,130	1,020	1,480	87,800
May	37,600	1,470	1,010	1,210	74,600
June	41,500	1,490	1,220	1,380	82,200
July	31,700	1,490	661	1,020	62,900
August	25,700	1,160	454	830	51,100
September	14,600	644	325	486	28,900
October	13,200	1,060	343	427	26,300
November	16,100	891	320	537	32,000
December	25,400	959	498	818	50,300
Calendar year 2012	324,300	2,240	320	886	643,200

STREAMFLOW

Santa Fe River near Santa Fe, N. Mex.

Location. -- Water-stage recorder with satellite telemetry and concrete control, lat 35°41'11.2", long 105°50'37", in NE1/4SE1/4 sec. 23, T. 17 N., R. 10 E., 0.4 mi downstream from McClure Dam, and 5.3 mi east of Santa Fe at mile 36.6. Altitude of gage is 7,720 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Nov. 4, 1930, at site 1.5 mi downstream, and Apr. 11, 1931 to Sept. 30, 1947, at site 0.3 mi upstream, each at different datum.
Drainage area. -- 18.2 sq mi.
Average discharge. -- 100 years (1913-2012), 7.9 ft3/s (5,700 acre-feet per year).
Extremes. -- 1913-2012; Maximum discharge, 1,500 ft3/s Aug. 14, 1921 (gage height, 5.17 ft); from rating curve extended above 150 ft^3/s; minimum, no flow Aug. 2-10, 2000.
Remarks. -- Records good. Flow regulated by McClure Reservoir, completed in 1926, raised in 1935 and again in 1947.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	53	1.8	1.7	1.7	106
February	51	1.8	1.7	1.7	100
March	57	2.0	1.6	1.9	114
April	145	9.5	1.7	4.8	287
May	303	9.9	9.6	9.8	602
June	280	9.5	9.1	9.3	555
July	273	9.1	8.4	8.8	541
August	242	8.4	4.2	7.8	481
September	42	1.6	1.3	1.4	83
October	40	1.4	1.2	1.3	79
November	42	1.4	1.3	1.4	83
December	27	1.1	0.79	0.86	53
Calendar year 2012	1,555	9.9	0.79	4.3	3,084

Rio Grande below Cochiti Dam, N. Mex.

Location. -- Water-stage recorder with satellite telemetry, lat 35°37'04.8", long 106°19'26.2", in SW1/4NE1/4 sec. 17, T. 16 N., R. 6 E., in Pueblo de Cochiti Grant, 320 ft upstream from bridge on State Highway 22, 700 ft downstream from Cochiti Dam, and 1.4 mi northeast of Cochiti Pueblo, and at mile 1,587.6. Datum of gage is 5,226.08 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 14, 1973, at site 2.4 mi downstream at altitude 5,210 ft, from topographic map. Nov. 14, 1973 to Jan. 8, 1976, at site 320 ft downstream at datum 1.79 ft lower.
Drainage area. -- 14,900 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.)
Average discharge. -- 42 years (1971-2012), 1,306 ft3/s (946,000 acre-feet per year).
Extremes. -- 1971-2011; Maximum discharge, 10,300 ft3/s July 26, 1971 (gage height, 7.90 ft) at site 2.4 mi downstream prior to closure of Cochiti Dam; from rating curve extended above 2,600 ft^3/s; minimum discharge 0.51 ft^3/s Aug. 3-5, 1977, Aug. 27-28, 1978.
Remarks. -- Records good. Since Nov. 12, 1973, flow completely regulated by Cochiti Dam. Cochiti Eastside Main Canal on left bank and Sili Main Canal on right bank bypass station.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	18,300	632	551	591	36,300
February	18,700	658	613	644	37,000
March	30,200	2,080	549	974	59,900
April	39,600	2,080	937	1,320	78,500
May	34,700	1,410	971	1,120	68,900
June	36,200	1,270	1,070	1,200	71,700
July	25,500	1,130	622	822	50,600
August	20,500	859	398	661	40,700
September	9,620	387	294	321	19,100
October	8,540	433	200	276	17,000
November	13,900	886	206	464	27,600
December	24,200	961	337	781	48,000
Calendar year 2012	279,960	2,080	200	765	555,300

STREAMFLOW

Galisteo Creek below Galisteo Dam, N. Mex.

Location. -- Water-stage recorder with satellite telemetry, lat 35°27'52.75", long 106°12'48.2", in NE1/4NE1/4 sec. 8, T. 14 N., R. 7 E., in Mesita de Juana Lopez Grant, on right bank 0.4 mi downstream from Galisteo Dam, 5.3 mi northwest of Cerrillos, and at mile 11.4. Elevation of gage is 5,450 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Dec. 21, 1981, at site 1,200 ft downstream at different datum.
Drainage area. -- 596 sq mi.
Average discharge. -- --42 years (1971-2012), 5.0 ft3/s (3,637 acre-feet per year).
Extremes. -- 1970-2012; Maximum discharge, 3,460 ft3/s Aug. 24, 1997 (gage height, 5.57 ft); no flow many days each year.
Remarks. -- Records poor. Flow partly regulated by uncontrolled outlet in Galisteo Dam. Capacity of outlet, 5,000 ft^3/s when reservoir is full. Diversions for irrigation of about 50 acres above reservoir.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	0.0	0.0	0.0	0.0	0.0
February	0.0	0.0	0.0	0.0	0.0
March	0.0	0.0	0.0	0.0	0.0
April	0.0	0.0	0.0	0.0	0.0
May	0.0	0.0	0.0	0.0	0.0
June	0.0	0.0	0.0	0.0	0.0
July	556	300	0.0	18.0	1,100
August	143	98	0.0	4.6	285
September	226	204	0.0	7.5	448
October	0.01	0.01	0.0	0.0	0.02
November	0.0	0.0	0.0	0.0	0.0
December	0.0	0.0	0.0	0.0	0.0
Calendar year 2011	925	300	0.0	2.5	1,840

Jemez River Outlet below Jemez Canyon Dam, N. Mex.

Location. -- Water-stage recorder with satellite telemetry, lat 35°23'41", long 106°32'41", in NE1/4 SW1/4 SW1/4 sec. 32, T. 14 N., R. 4 E., gage located at outlet pipe for Jemez Canyon Dam, 0.7 mi upstream from prior gage location. Datum of gage is 5,162 ft above National Geodetic Vertical Datum of 1929, from topographic map. Gage replaces Jemez River below Jemez Canyon Dam. Discharge records for two gages are comparable except the period 2002-2009, when original gage was affected by siltation.
Drainage area. -- 1,034 sq mi.
Average discharge. -- 3 years (2010-2012), 31 ft3/s (22,290 acre-feet per year).
Extremes. -- 2011; Maximum discharge, 2,790 cfs Jan. 8, 2011, gage height 1.90; no flow many days each year
Remarks. -- Records good. Flow regulated by Jemez Canyon Dam since October 1953. Diversions for irrigation of about 3,000 acres above station.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	378	20	7.8	12	749
February	389	17	9.5	13	771
March	2,970	278	11	96	5,900
April	4,240	243	75	141	8,410
May	544	61	0.05	18	1,080
June	3.6	0.43	0.0	0.12	7.1
July	327	230	0.01	11	648
August	42	15	0.0	1.4	83
September	67	61	0.0	2.3	134
October	4.5	3.0	0.0	0.14	8.8
November	36	2.8	0.0	1.2	72
December	70	5.5	0.03	2.3	138
Calendar year 2011	9,070	278	0.0	25	18,000

STREAMFLOW

Rio Grande below Elephant Butte Dam, N. Mex.

Location. -- Water-stage recorder with satellite telemetry, lat 33°08'54.64", long 107°12'24.42", in SW1/4 sec. 25, T. 13 S., R. 4 W. (projected), in Pedro Armendariz Grant, 1.0 mi downstream from dam and 1.5 mi upstream from Cuchillo Negro River. Datum of gage is 4,241.09 ft above National Geodetic Vertical Datum of 1929. Prior to April 23, 1942, at several different sites and datums.
Drainage area. -- 29,450 sq mi approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.)
Average discharge. -- 98 years (1915-2012), 991 ft3/s (718,000 acre-feet per year).
Extremes. -- 1915-2012; Maximum daily discharge, 8,220 ft3/s May 22, 1942; no flow at times prior to 1929, March 2-4, 1979; October 22-24 and November 17-21, 2011; October 16, 2012.
Remarks. -- Records good. Flow regulated by Elephant Butte Reservoir. Diversions for irrigation of about 800,000 acres above station.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	132	17	0.37	4.2	261
February	486	18	14	17	964
March	6,320	1,080	9	204	12,500
April	31,300	1,060	1,030	1,040	62,100
May	11,400	1,070	15	367	22,600
June	50,300	1,820	1,380	1,680	99,800
July	46,400	1,930	1,060	1,500	92,100
August	35,300	1,860	526	1,140	70,100
September	2,440	500	0.42	81	4,850
October	11	0.85	0.0	0.37	23
November	63	8.2	0.36	2.1	125
December	38	4.9	0.62	1.2	76
Calendar year 2011	184,190	1,930	0.0	503	365,500

Rio Grande below Caballo Dam, N. Mex.

Location. -- Water-stage recorder, lat 32°53'05.68", long 107°17'33.71", in NE1/4SW1/4 sec. 30, T. 16 S., R. 4 W., 2,000 ft upstream from Interstate Highway 25, 4,200 ft downstream from Caballo Dam, 1.2 mi downstream from Apache Canyon 1.3 mi upstream from Percha diversion dam, and 3 mi northeast of Arrey. Datum of gage is 4,140.90 ft above National Geodetic Vertical Dam of 1929. October 13, 1938 to December 31, 1945, at datum 5.0 ft higher.
Drainage area. -- 30,700 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.)
Average discharge. -- 75 years (1938-2012), 915 ft3/s (663,100 acre-feet per year).
Extremes. -- 1938-2012; Maximum daily discharge, 7,650 ft3/s May 20, 1942; minimum daily, 0.0 ft3/s May 9-15, 2012 and Oct 3, 2012
Remarks. -- Records good. Flow regulated by Elephant Butte Reservoir and Caballo Reservoirs. Diversions for irrigation of about 800,000 acres above station.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	31	1.0	1.0	1.0	61
February	29	1.0	1.0	1.0	58
March	31	1.0	1.0	1	61
April	31,300	1,460	438	1,040	62,100
May	9,400	1,270	0.0	303	18,600
June	51,800	2,140	1,330	1,730	103,000
July	47,700	1,980	850	1,540	94,700
August	39,800	2,080	695	1,280	79,000
September	7,200	715	0.11	240	14,300
October	5.8	0.35	0.0	0.2	12
November	11.0	0.40	0.33	0.4	22
December	9.4	0.33	0.30	0.3	19
Calendar year 2011	187,390	2,140	0.0	512	371,700

STREAMFLOW

Bonito Ditch below Caballo Dam, N. Mex.

Records available. -- January 1938 to current year. Published as supplementary data with Rio Grande below Caballo Dam in U.S.G.S. Water-Supply Papers and Water-Data Reports from October 1947 until September, 2005.

Remarks. -- Ditch diverts directly from Caballo Reservoir for irrigation of lands on right bank of river. The total release from Project Storage, as used in computations of Compact Commission, is the combined flow of this ditch and Rio Grande below Caballo Dam.

Diversion, in acre-ft

January	0.0
February	66.4
March	107.9
April	77.9
May	136.7
June	173.6
July	136.8
August	213.8
September	142.7
October	69.4
November	0.0
December	0.0
Calendar year 2012	1,125.2

STORAGE IN RESERVOIRS

Reservoirs in Rio Grande Basin in Colorado
(constructed or enlarged since 1937)

Squaw Lake. – Staff gage in sec. 12, T. 39 N., R. 4 W., on tributary to Squaw Creek. Completed in 1938; capacity, 162 acre-ft by 1953 survey. Water is used for irrigation below gaging station on Rio Grande near Del Norte.

Month-end gage height, in feet, and contents, in acre-feet

Calendar Year 2012

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Cal. Yr.
Gage height	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	-
Contents	162	162	162	162	162	162	162	162	162	162	162	162	-
Change	0	0	0	0	0	0	0	0	0	0	0	0	0

Rito Hondo Reservoir. – Staff gage in sec. 22, T. 42 N., R. 3 W., on Rito Hondo (Deep Creek) tributary to Clear Creek. Completed in 1957; capacity, 561 acre-ft. Originally filled during May and June 1958 with transmountain water; storage is not in debit status. Water is used for fish culture.

Month-end gage height, in feet, and contents, in acre-feet

Calendar Year 2012

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Cal. Yr.
Gage height	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	-
Contents	561	561	561	561	561	561	561	561	561	561	561	561	-
Change	0	0	0	0	0	0	0	0	0	0	0	0	0

Hermit Lakes Reservoir No.3. – In sec. 25, T. 41 N., R. 4 W., on South Clear Creek. Completed prior to 1960; capacity, 192 acre-ft. Capacity table based on elevation above bottom of outlet. Water is used for fish culture. Includes 169 acre-feet of transmountain water by exchange in 1984 and 23 acre-ft of transmountain water by exchange in 1985.

Month-end gage height, in feet, and contents, in acre-feet

Calendar Year 2012

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Cal. Yr.
Gage height	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	-
Contents	192	192	192	192	192	192	192	192	192	192	192	192	-
Change	0	0	0	0	0	0	0	0	0	0	0	0	0

Troutvale No. 2 Reservoir. – Staff gage in E1/2 sec. 10, T. 41 N., R. 3 W., on South Clear Creek. Completed in 1940; capacity, 435 acre-ft. Condition of spillway limited storage to 168 acre-ft after May 1942. Repairs to spillway in 1947 increased capacity to 257 acre-ft. Water is used for fish culture with only occasional sale for irrigation. Storage omitted from accounting by action of Commission on Feb. 15, 1962.

Month-end gage height, in feet, and contents, in acre-feet

Calendar Year 2012

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Cal. Yr.
Gage height	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	-
Contents	213	213	213	213	213	213	213	213	213	213	213	213	-
Change	0	0	0	0	0	0	0	0	0	0	0	0	0

STORAGE IN RESERVOIRS

Reservoirs in Rio Grande Basin in Colorado
(constructed or enlarged since 1937)

Jumper Creek Reservoir. – In sec. 5, T. 39 N., R. 2 W., on Jumper Creek, tributary to Trout Creek. Completed in 1951; capacity, 38 acre-ft. Capacity table based on elevation above bottom of outlet. Storage omitted from accounting by action of Commission on Feb. 15, 1962.

Month-end gage height, in feet, and contents, in acre-feet

Calendar Year 2012

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Cal. Yr.
Gage height	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	-
Contents	38	38	38	38	38	38	38	38	38	38	38	38	-
Change	0	0	0	0	0	0	0	0	0	0	0	0	0

Big Meadows Reservoir. – In NW1/4 sec. 17, T. 38 N., R. 2 E., on South Fork about 0.9 mi upstream from Hope Creek. Completed in 1967; capacity, 2,437 acre-ft. Capacity table based on elevation above outlet. Water is used for fish culture. Includes 140 acre-ft of transmountain water, by exchange, in 1967; 838 acre-ft, by exchange, in 1968; 347 acre-ft, by exchange, in 1969; and 1,112 acre-ft, by exchange, in 1983, for a total of 2,437 acre-ft.

Month-end gage height, in feet, and contents, in acre-feet

Calendar Year 2012

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Cal. Yr.
Gage height	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	-
Contents	2,437	2,437	2,437	2,437	2,437	2,437	2,437	2,437	2,437	2,437	2,437	2,437	-
Change	0	0	0	0	0	0	0	0	0	0	0	0	0

Alberta Park Reservoir. – In sec. 34, T. 38 N., R. 2 E., on Pass Creek. Completed in 1953; capacity, 598 acre-ft. Capacity table based on elevation above bottom of outlet. Storage prior to June 30, 1983 included 244 acre-ft of transmountain water imported in 1963. By a 1983 resolution of the Rio Grande Compact Commission, the reservoir was drained for repairs in July 1983; recovery was completed in 1984. The reservoir also contains 100 acre-ft of transmountain water stored by exchange in 1983 and 254 acre-ft of transmountain water stored in 1984.

Month-end gage height, in feet, and contents, in acre-feet

Calendar Year 2012

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Cal. Yr.
Gage height	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	-
Contents	598	598	598	598	598	598	598	598	598	598	598	598	-
Change	0	0	0	0	0	0	0	0	0	0	0	0	0

Shaw Lake Enlargement. – sec. 5, T. 38 N., R. 2 E., on tributary to Lake Creek. Capacity, 638 acre-ft by 1916 decree; enlarged in 1955 to 681 acre-ft. Only the storage in excess of 638 acre-ft is subject to terms of Rio Grande Compact. Includes 42 acre-ft of transmountain water imported in 1965.

Month-end gage height, in feet, and contents, in acre-feet

Calendar Year 2012

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Cal. Yr.
Gage height	-	-	-	-	-	-	-	-	-	-	-	-	-
Contents	42	42	42	42	42	42	42	42	42	42	42	42	-
Change	0	0	0	0	0	0	0	0	0	0	0	0	0

STORAGE IN RESERVOIRS

Reservoirs in Rio Grande Basin in Colorado
(constructed or enlarged since 1937)

Mill Creek Reservoir. – In sec. 16, T. 39 N., R. 3 E., on Mill Creek. Completed in 1953; capacity, 43 acre-ft. Capacity based on elevation above bottom of outlet. Includes 43 acre-ft of transmountain water, by exchange, in 1976.

Month-end gage height, in feet, and contents, in acre-feet

Calendar Year 2012

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Cal. Yr.
Gage height	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	-
Contents	41	41	41	41	41	41	41	41	41	41	41	41	-
Change	0	0	0	0	0	0	0	0	0	0	0	0	0

Fuchs Reservoir. – Staff gage in sec. 2, T. 37 N., R. 4 E., on East Pinos Creek. Completed in 1939; capacity, 237 acre-ft with 2 ft of flash boards in spillway. Prior to calendar year 1999, contents reported as 238 acre-ft were actually 237 acre-ft. Pinos Creek enters Rio Grande below station near Del Norte.

Month-end gage height, in feet, and contents, in acre-feet

Calendar Year 2012

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Cal. Yr.
Gage height	10.6	12.4	14.1	15.7	17.2	9.0	8.6	6.1	6.1	6.1	7.4	9.8	-
Contents	103	136	169	203	237	78	73	40	40	40	56	91	-
Change	+35	+33	+33	+34	+34	-159	-5	-33	0.0	0.0	+16	+35	

Platoro Reservoir. – Water-stage recorder in NW1/4 sec. 22, T. 36 N., R. 4 E., on Conejos River. Completed in 1951; capacity, 59,570 acre-ft at crest of spillway. Reservoir is used for irrigation and flood control. Storage affects Conejos Index Supply. Contents include 3,000 acre-ft of transmountain water stored by exchange in April 1985 on behalf of the Colorado Division of Wildlife.

Month-end elevation, in feet, and contents, in acre-feet

Date	Elevation	Contents	Change in contents
December 31, 2011	9,973.82	15,098	-
January 31, 2012	9,974.21	15,293	+195
February 29	9,974.60	15,493	+200
March 31	9,974.90	15,643	+150
April 30	9,973.48	14,830	-813
May 31	9,983.56	20,357	+5,527
June 30	9,978.52	17,539	-2,818
July 31	9,970.77	13,598	-3,941
August 31	9,962.98	10,027	-3,571
September 30	9,961.20	9,267	-760
October 31	9,960.09	8,806	-461
November 30	9,959.93	8,740	-66
December 31, 2012	9,960.03	8,782	+42
Calendar year 2012	-	-	-6,316

Trujillo Meadows Reservoir. – In sec. 5, T. 32 N., R. 5 E., on Los Pinos River. Completed in 1957; capacity, 869 acre-ft, effective Jan. 1, 1999. Water is used for fish culture. Storage is transmountain water, by exchange, in 1959.

Month-end gage height, in feet, and contents, in acre-feet

Calendar Year 2012

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Cal. Yr.
Gage height	22.6	22.6	22.6	24.3	24.0	23.6	23.3	23.3	23.4	23.3	23.0	22.6	-
Contents	738	738	738	850	830	803	783	783	790	783	764	738	-
Change	0.0	0.0	0.0	+112	-20	-27	-20	0.0	+7	-7	-19	-26	0.0

STORAGE IN RESERVOIRS

Reservoirs in Rio Grande Basin in New Mexico
(constructed or enlarged since 1929)

Heron Reservoir. – Water-stage recorder with satellite telemetry, lat 36°39'56", long 106°42'13", on Willow Creek. Storage began in October 1970. Capacity, 401,300 acre-ft at elevation 7,186.1 ft (low point on crest of spillway); dead storage, 1,340 acre-ft at elevation 7,003.0 ft. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Used for storage of transmountain water.

Month-end elevation, in feet, and contents, in acre-feet

Date	Elevation	Contents	Change in contents
December 31, 2011	7152.39	229761	-
January 31, 2012	7152.33	228075	-1,686
February 28	7152.32	228032	-43
March 31	7154.16	236014	+7,982
April 30	7157.54	251108	+15,094
May 31	7160.41	264369	+13,261
June 30	7160.49	264744	+375
July 31	7158.99	257757	-6,987
August 31	7151.01	222449	-35,308
September 30	7141.84	185631	-36,818
October 31	7138.98	174975	-10,656
November 30	7138.04	171563	-3,412
December 31, 2012	7136.84	167274	-4,289
Calendar year 2012	-	-	-62,487

El Vado Reservoir. – Water-stage recorder and surface follower, lat 36°35'39", long 106°44'00", on Rio Chama. Storage began in January 1935. Capacity, 186,250 acre-ft at gage height 6,902.0 ft (crest of spillway); dead storage, 480 acre-ft, below gage height 6,775.0 ft (invert of outlet works), as determined by survey in 1984. Datum of gage is 8.21 ft above National Geodetic Vertical Datum of 1929. Storage includes both Rio Grande and transmountain water.

Month-end gage height, in feet, and contents, in acre-feet

Date	Gage Height	Contents	Change in contents	Transmountain water
December 31, 2011	6,862.03	86,655	-	67176
January 31, 2012	6,862.08	86,751	+96	67160
February 28	6,861.99	86,579	-172	67,162
March 31	6,866.32	95,132	+8,553	64,533
April 30	6,883.36	135,373	+40,241	59,691
May 31	6,879.52	125,338	-10,035	59,262
June 30	6,853.87	71,900	-53,438	39,912
July 31	6,830.37	37,760	-34,140	8,509
August 31	6,827.79	34,714	-3,046	6,228
September 30	6,826.77	33,552	-1,162	6,757
October 31	6,827.43	34,301	+749	7,819
November 30	6,818.79	25,266	-9,035	9,412
December 31, 2012	6,800.30	10,463	-14,803	10,463
Calendar year 2012	-	-	-76,192	-

STORAGE IN RESERVOIRS

Reservoirs in Rio Grande Basin in New Mexico
(constructed or enlarged since 1929)

Abiquiu Reservoir. -- Water-stage recorder, lat 36°14'24", long 106°25'44", on Rio Chama. Completed in February 1963; capacity, 1,192,800 acre-ft at elevation 6,350 feet (crest of spillway) by 1998 survey. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Reservoir is operated by Corps of Engineers for flood control and sediment storage. A resolution granting permission to store transmountain waters was approved by Rio Grande Compact Commission on May 3, 1974. Storage includes both Rio Grande and transmountain water.

Month-end elevation, in feet, and contents, in acre-feet

Date	Elevation	Contents	Change in contents	Transmountain water
December 31, 2011	6,219.43	181,597	-	177,025
January 31, 2012	6,218.62	178,378	-3,219	173,797
February 28	6,217.83	175,269	-3,109	171,392
March 31	6,217.71	174,799	-470	170,069
April 30	6,217.92	175,622	+823	171,349
May 31	6,216.61	170,519	-5,103	166,121
June 30	6,213.15	157,452	-13,067	153,587
July 31	6,210.37	147,247	-10,205	143,346
August 31	6,210.46	147,573	+326	143,592
September 30	6,214.76	163,462	+15,889	160,051
October 31	6,214.07	160,876	-2,586	156,881
November 30	6,213.55	158,938	-1,938	154,967
December 31, 2012	6,212.73	155,897	-3,041	151,934
Calendar year 2012	-	-	-25,700	-

Nambe Falls Reservoir. – Water-stage recorder, lat 35°50'46", long 105°54'17", in NE1/4SW1/4 sec. 29, T. 19 N., R. 10 E., in Nambe Indian Reservation, on Rio Nambe. Completed in 1976; capacity 1,920 acre-ft at elevation 6,826.6 feet (crest of spillway) by 2004 survey, dead storage 121 acre-ft at elevation 6,760.9 ft. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Storage is transmountain water by exchange (see resolution adopted March 27, 1975).

Month-end elevation, in feet, and contents, in acre-feet

Date	Elevation	Contents	Change in contents
December 31, 2011	6,812.57	1,221	-
January 31, 2012	6,816.75	1,408	+187
February 28	6,820.87	1,609	+201
March 31	6,826.85	1,934	+325
April 30	6,826.80	1,931	-3
May 31	6,826.77	1,930	-1
June 30	6,810.62	1,140	-790
July 31	6,805.95	962	-178
August 31	6,805.02	929	-33
September 30	6,807.50	1,019	+90
October 31	6,807.09	1,004	-15
November 30	6,811.16	1,162	+158
December 31, 2012	6,815.09	1,332	+170
Calendar year 2012	-	-	+111

STORAGE IN RESERVOIRS

Reservoirs in Rio Grande Basin in New Mexico
(constructed or enlarged since 1929)

McClure (Granite Point) Reservoir. – Water-stage recorder, lat 35°41'18", long 105°50'06", in NE1/4SW1/4 sec. 24, T. 17 N., R. 10 E., on Santa Fe River. Original reservoir completed in 1926, capacity, 561 acre-ft; in 1935, permanent flash boards were installed in spillway increasing capacity to 650 acre-ft; in 1947 both dam and spillway were reconstructed increasing capacity to 2,615 acre-ft (gage height, 96.6 ft, crest of spillway). In 1953 spillway was equipped with radial gates that opened automatically, increasing capacity to over 3,000 acre-ft. In 1972, radial gates were removed decreasing capacity to 2,615 acre-ft. In 1989, modifications to the dam and spillway increased capacity to 2,813 acre-ft. In 1995, modification to the dam and spillway increased capacity to 3,257 acre-ft. No dead storage. Elevation of gage is 7,790 ft above National Geodetic Vertical Datum of 1929, from topographic map. Water is for municipal use in Santa Fe. Storage includes both Rio Grande water and transmountain water by exchange. Capacity includes 561 acre-ft for pre-Compact storage and additional capacity as may be available to accomodate up to a total of 1,061 acre-feet of pre-Compact storage in McClure and Nichols Reservoirs combined.

Month-end gage height, in feet, and contents, in acre-feet

Date	Gage height	Contents	Change in contents	Pre-Compact water	Transmountain water
December 31, 2011	7,841.91	929	-	0	929
January 31, 2012	7,848.40	950	+21	0	950
February 28	7,848.86	969	+19	0	969
March 31	7,855.53	1,270	+301	253	1,017
April 30	7,866.97	1,920	+650	887	1,033
May 31	7,867.72	1,970	+50	676	1,294
June 30	7,860.92	1,560	-410	266	1,294
July 31	7,852.96	1,140	-420	0	1,140
August 31	7,843.29	756	-384	0	756
September 30	7,842.06	713	-43	0	713
October 31	7,840.61	666	-47	0	666
November 30	7,839.60	634	-32	0	634
December 31, 2012	7,839.79	640	+6	0	640
Calendar year 2012	-		-289		

Nichols Reservoir. – Water-stage recorder, lat 35°41'24", long 105°52'46", in SE1/4NE1/4 sec. 21, T. 17 N., R. 10 E., on Santa Fe River. Completed in 1942; capacity, 685 acre-ft at gage height 167.0 feet (crest of spillway), dead storage, 14 acre-ft at gage height 121.1 feet. Datum of gage is 7,313.2 feet above National Geodetic Vertical Datum of 1929. Water is for municipal use in Santa Fe. Storage includes both Rio Grande water and transmountain water by exchange. Capacity may include pre-Compact storage such that total pre-Compact storage in McClure and Nichols Reservoirs combined does not exceed 1,061 acre-ft.

Month-end gage height, in feet, and contents, in acre-feet

Date	Gage height	Contents	Change in contents	Pre-Compact water	Transmountain water
December 31, 2011	162.28	552	-	364	188
January 31, 2012	160.77	512	-40	345	167
February 28	154.69	369	-143	221	148
March 31	148.17	251	-118	151	100
April 30	149.70	274	+23	174	100
May 31	158.15	448	+174	348	100
June 30	158.57	458	+10	358	100
July 31	158.87	465	+7	211	254
August 31	160.20	496	+31	0	496
September 30	154.84	372	-124	0	372
October 31	152.19	321	-51	5	316
November 30	155.23	380	+59	32	348
December 31, 2012	157.02	640	+260	298	342
Calendar year 2012	-		+88		

STORAGE IN RESERVOIRS

Reservoirs in Rio Grande Basin in New Mexico
(constructed or enlarged since 1929)

Cochiti Lake. – Water-stage recorder with satellite telemetry, lat 35°37'01", long l06°18'58", in NW1/4SW1/4 sec. 16, T. 16 N., R. 6 E., in Pueblo de Cochiti Grant, on Rio Grande. Completed in l975; capacity 491,259 acre-ft at elevation 5,450.0 ft (crest of service spillway); zero storage at elevation 5,255.0 from 1998 survey. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by the U.S. Army Corps of Engineers). A 50,000 acre-foot permanent pool was authorized by Public Law 88-293, 88th Congress, March 26, 1964. Reservoir is operated by Corps of Engineers for flood control, sediment storage, and recreation. Storage began Nov. 12, 1973.

Month-end elevation, in feet, and contents, in acre-feet

Date	Elevation	Contents	Change in contents	Transmountain water
December 31, 2011	5,341.33	50,764	-	45,183
January 31, 2012	5,341.67	51,192	+428	45,058
February 28	5,341.40	50,851	-341	44,872
March 31	5,341.62	51,129	+278	44,527
April 30	5,341.99	51,604	+475	44,181
May 31	5,340.57	49,828	-1,776	43,624
June 30	5,339.98	49,121	-707	42,930
July 31	5,341.64	51,154	+2033	45,343
August 31	5,343.00	52,964	+1810	47,036
September 30	5,343.01	52,977	+13	46,630
October 31	5,342.68	52,523	-454	46,272
November 30	5,342.65	52,482	-41	46,031
December 31, 2012	5,342.95	52,894	+412	48,152
Calendar year 2012	-	-	+2130	-

Galisteo Reservoir. – Water-stage recorder above elevation 5,500.3 ft, nonrecording below, lat 35°27'44", long 106°12'30", in NW1/4 sec. 9, T. 14 N., R. 7 E., on Galisteo Creek. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Storage records begin in October 1970. Capacity 88,990 acre-ft at elevation 5,608.0 ft (crest of spillway). No dead storage. Reservoir is operated by Corps of Engineers for flood control and sediment storage.

Month-end contents, in acre-feet

Calendar Year 2012

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Cal. Yr.
Contents	0	0	0	0	0	0	0	0	0	0	0	0	-
Change	0	0	0	0	0	0	0	0	0	0	0	0	0

STORAGE IN RESERVOIRS

Reservoirs in Rio Grande Basin in New Mexico
(constructed or enlarged since 1929)

Jemez Canyon Reservoir. – Water-stage recorder, lat 35°23'40", long l06°32'50", in SW1/4SW1/4 sec. 32, T. 14 N., R. 4 E., on Jemez River. Completed in 1953; capacity, 259,423 acre-ft at elevation 5,271.20 ft. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Maximum controlled capacity at elevation 5,232.0 ft (floor of spillway) is 97,425 acre-ft by 1998 survey. Reservoir is operated by Corps of Engineers for flood control and sediment storage. A sediment pool of about 2,000 acre-ft of transmountain water has been maintained since August l979.

Month-end elevation, in feet, and contents, in acre-feet

Date	Elevation	Contents	Change in contents	Transmountain water
December 31, 2011	5,155.00	0	-	0
January 31, 2012	5,155.00	0	0	0
February 29	5,155.00	0	0	0
March 31	5,155.00	0	0	0
April 30	5,155.00	0	0	0
May 31	5,155.00	0	0	0
June 30	5,155.00	0	0	0
July 31	5,155.00	0	0	0
August 31	5,155.00	0	0	0
September 30	5,155.00	0	0	0
October 31	5,155.00	0	0	0
November 30	5,155.00	0	0	0
December 31, 2012	5,155.00	0	0	0
Calendar year 2012	-	-	0	-

Acomita Reservoir. – Staff gage in SE1/4 sec. 29, T. 10 N., R. 7 W., on San Fidel Arroyo; water for reservoir is diverted from Rio San Jose. Completed in 1938; original capacity, 850 acre-ft; present capacity 650 acre-ft on basis of 1956 sediment survey. Water is used for irrigation on Acoma Indian Reservation. Storage omitted from accounting by action of Commission on March 23, 2000.

Month-end contents, in acre-feet

Calendar Year 2012

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Cal. Yr.
Contents	-	-	-	-	-	-	-	-	-	-	-	-	-
Change	-	-	-	-	-	-	-	-	-	-	-	-	-

Seama Reservoir. – In sec. 36, T. 10 N., R. 7 W., off channel from Rio San Jose. Completed in October 1980; capacity approximately 400 acre-ft. Water is used for irrigation on Laguna Indian Reservation.

No storage during 2012.

STORAGE IN RESERVOIRS

Reservoirs in Rio Grande Basin in New Mexico
(project storage)

Elephant Butte Reservoir. – Water-stage recorder, lat 33°09'15", long l07°11'28", in NW1/4 sec. 30, T. 13 S., R. 3 W., on Rio Grande. Storage began Jan. 6, 1915; capacity, 2,023,400 acre-ft at gage height 4,407.0 ft (crest of spillway), by survey of 1999 with flood control storage reservation of 50,000 acre-ft from April through September and 25,000 acre-ft from October through March in accordance with Sept. 9, 1998 resolution of the Rio Grande Compact Commission. Datum of gage is 43.3 ft above National Geodetic Vertical Datum of 1929. Water is used for power development and irrigation in New Mexico and Texas. Records furnished by Bureau of Reclamation. Delivery of transmountain water for minimum recreation pool was initiated in December 1975. Beginning Jan. 1, 1977 gage readings are midnight readings.

Month-end gage height, in feet, and contents, in acre-feet

Date	Gage Height	Contents	Change in contents	Transmountain water
December 31, 2011	4,322.45	294,518	-	48,627
January 31, 2012	4,326.20	331,891	+37,373	48,410
February 29	4,329.54	367,048	+35,157	48,157
March 31	4,331.25	385,773	+18725	47,650
April 30	4,330.02	372,245	-13,528	47,055
May 31	4,329.45	366,077	-6,168	46,323
June 30	4,319.47	266,412	-99,665	45,216
July 31	4,308.28	177,385	-89,027	44,311
August 31	4,297.65	111,813	-65,572	43,487
September 30	4,297.88	113,063	+1,250	42,634
October 31	4,298.09	114,212	+1,149	41,707
November 30	4,299.66	123,019	+8,807	41,203
December 31, 2012	4,305.86	161,138	+38,119	40,973
Calendar year 2012	-	-	-133,380	-

Caballo Reservoir. – Water-stage recorder, lat 32°53'47", long l07°17'30", in SE1/4SW1/4 sec. 19, T. 16 S., R. 4 W., on Rio Grande. Storage began Feb. 8, 1938; capacity, 326,700 acre-ft (by 1999 resurvey), at gage height 4,182.0 ft (above which spillway gates open automatically). Datum of gage is 43.3 ft above National Geodetic Vertical Datum of 1929.

Month-end gage height, in feet, and contents, in acre-feet

Date	Gage height	Contents	Change in contents
December 31, 2011	4,133.09	13,640	-
January 31, 2012	4,133.73	14,822	+1182
February 29	4,134.52	16,329	+1507
March 31	4,138.93	26,103	+9774
April 30	4,137.69	23,091	-3,012
May 31	4,138.09	20,040	-3,051
June 30	4,136.66	20,747	+707
July 31	4,136.63	20,681	-66
August 31	4,132.57	12,706	-7,975
September 30	4,127.69	5,184	-7,522
October 31	4,128.15	5,775	+591
November 30	4,128.69	6,504	+729
December 31, 2012	4,129.00	7,461	+957
Calendar year 2012	-	-	-6,179

STORAGE IN RESERVOIRS

Reservoirs in Rio Grande Basin in New Mexico
(project storage)

Project storage. – The combined total storage in Elephant Butte and Caballo Reservoirs.

Month-end contents, in acre-feet

Date	Contents	Change in contents
December 31, 2011	308,158	-
January 31, 2012	346,713	+38555
February 29	383,377	+36664
March 31	411,876	+28499
April 30	395,336	-16,540
May 31	386,117	-9,219
June 30	287,159	-98,958
July 31	198,066	-89,093
August 31	124,519	-73,547
September 30	118,247	-6,272
October 31	119,987	+1740
November 30	129,523	+9536
December 31, 2012	168,599	+39076
Calendar year 2012		-139,559

NOTE.-- Values of combined contents may not agree with sum of individual values because of rounding.

TRANSMOUNTAIN DIVERSIONS

Pine River - Weminuche Pass ditch (Fuchs ditch).-- Water-stage recorder and 3-ft Parshall flume in sec. 33, T. 40 N., R. 4 W., at Weminuche Pass in Colorado. Diversion is from North Fork Los Pinos River in San Juan River Basin into Weminuche Creek in Rio Grande Basin. Second enlargement was completed in 1936. Diversion for irrigation is from Rio Grande above the Del Norte gaging station.

Weminuche Pass ditch (Raber-Lohr ditch).-- Water-stage recorder and 4-ft rectangular flume in sec. 33, T. 40 N., R. 4 W., at Weminuche Pass in Colorado. Diversion is from Rincon la Vaca Creek in San Juan River Basin into Weminuche Creek in Rio Grande Basin. Second enlargement was completed in 1936. Diversion for irrigation is from Rio Grande above the Del Norte gaging station.

Williams Creek - Squaw Pass ditch.-- Water-stage recorder and 2-ft Parshall flume in sec. 21, T. 39 N., R. 3 W., at Squaw Pass in Colorado. Diversion is from Williams Creek in San Juan River Basin into Squaw Creek in Rio Grande Basin. Constructed in 1938. Diversion for irrigation is from Rio Grande below Del Norte gaging station.

Tabor ditch.-- Water-stage recorder and 3-ft Parshall flume in sec. 35, T. 43 N., R. 3 W., at Spring Creek Pass in Colorado. Diversion is from Cebolla Creek in Gunnison River Basin into tributary of Clear Creek in Rio Grande Basin. Completed in 1910 or 1911. Diversion for irrigation is from Rio Grande below Del Norte gaging station.

Don La Font No. 1 & 2 ditches (Piedra Pass ditch).-- Water-stage recorder and 2-ft Parshall flume in sec. 4, T. 38 N., R. 1 W., at Piedra Pass in Colorado. Diversion is from tributaries of Piedra River in San Juan River Basin to South River in Rio Grande Basin. Original ditch completed in l938, first enlargement completed in 1940. Water is imported by Colorado Game and Fish Department, beginning in 1959, to offset losses from fish culture reservoirs.

Treasure Pass diversion ditch.-- Water-stage recorder and 2-ft Parshall flume in sec. 31, T. 38 N., R. 2 E., at Wolf Creek Pass in Colorado. Diversion is from Wolf Creek in San Juan River Basin to a tributary of South Fork Rio Grande. Completed in 1923 or 1924. Water is diverted for irrigation from Rio Grande above the Del Norte gaging station, beginning in 1959. Prior to 1959 it was diverted below gaging station.

Azotea tunnel.-- Water-stage recorder and 10-ft Parshall flume, lat 36°51’12", long 106°40’18", at south portal of Azotea tunnel, San Juan-Chama Project. Diversion is from Rio Blanco, Little Navajo River, and Navajo River in Colorado and discharge is into Azotea in New Mexico. Construction completed in 1970.

Imported quantities, in acre-feet, 2012

Month	Pine River-Weminuche Pass ditch	Weminuche Pass ditch	Williams Creek-Squaw Pass ditch	Tabor ditch	Don La Font ditches	Treasure Pass diversion ditch	Azotea tunnel
January	0	0	0	0	0	0	0
February	0	0	0	0	0	0	0
March	0	0	0	0	0	0	7,014
April	0	0	0	72	0	7	18,133
May	244	219	187	136	132	150	17,032
June	0	0	126	66	49	52	4,037
July	0	0	21	47	1	2	670
August	0	0	1	14	2	1	260
September	0	0	2	0	0	1	76
October	0	0	0	0	0	0	0
November	0	0	0	0	0	0	0
December	0	0	0	0	0	0	0
Calendar year	244	219	337	335	184	213	47,222

EVAPORATION AND PRECIPITATION

The last paragraph of Article VI of the Compact states, in part, --- "such credits and debits shall be reduced annually to compensate for evaporation losses in the proportion that such credits or debits bear to the total amount of water in such reservoirs during the year."

To provide the data needed for the computation of such evaporation losses, the Commission has encouraged the establishment and operation of evaporation stations near each major reservoir in the basin and at other selected locations.

Evaporation and other climatological data collected at the several stations in Colorado and New Mexico are tabulated on the next page. At some of the stations, it was not possible to obtain evaporation records throughout the winter period.

The measurements of evaporation were made in accordance with standard practice for the type of pan in use. Measurements of precipitation were made in standard 8-inch rain gages, which were supplemented at some of the stations by recording rain gages.

Records for the evaporation stations at the State University, Elephant Butte Dam, and El Vado Dam antedated the creation of the Commission; the stations at Abiquiu Dam, Cochiti Dam, and Jemez Canyon Dam were established by the Corps of Engineers. All others were established at the request of the Commission.

The Rio Grande Compact Commission gratefully acknowledges the cooperation of the National Oceanic and Atmospheric Administration, U.S. Army Corps of Engineers, and U.S. Bureau of Reclamation for furnishing the climatological records contained in this report.

Alamosa Airport.--Lat 37°27', long 105°52', in Alamosa County at airport near Alamosa, Colo. Standard class A pan, anemometer, maximum and minimum thermometers, standard 8-inch and recording rain gages at elevation 7,536 f

Platoro Dam.--Lat 37°21', long 106°30', in Conejos County near Platoro, Colo. Standard class A pan, anemometer, maximum and minimum thermometers, fan type psychrometer, standard 8-inch and recording rain gages at elevation 9,826 ft.

Heron Dam.--Lat 36°40', long 106°42', in Rio Arriba County about 4 mi. northeast of Heron Dam near Tierra Amarilla, N. Me: Standard class A pan, maximum and minimum thermometers, and standard 8-inch rain gage at elevation 7,310 ft.

El Vado Dam.--Lat 36°36', long 106°44', in Rio Arriba County at El Vado Dam near Tierra Amarilla, N. Mex. Standard class A pan, anemometer, maximum and minimum thermometers, standard 8-inch and recording rain gages at elevation 6,750 f

Abiquiu Dam.--Lat 36°14', long 106°26', in Rio Arriba County at Abiquiu Dam near Abiquiu, N. Mex. Standard class A pan, maximum and minimum thermometers, standard 8-inch and recording rain gages at elevation 6,380 ft.

Nambe Falls Dam.--Lat 35°51', long 105°54', in Santa Fe County at Nambe Falls Dam, N. Mex. Standard class A pan, maximum and minimum thermometers, recording thermograph, standard 8-inch and recording rain gages at elevation 6,840 ft.

Cochiti Dam.--Lat 35°38', long 106°19', in Sandoval County at operations building, at Cochiti Dam, N. Mex. Standard class A pan, anemometer, maximum and minimum thermometers, standard 8-inch and recording rain gages at elevation 5,560 f

Jemez Canyon Dam.--Lat 35°23', long 106°32', in Sandoval County at Jemez Canyon Dam, N. Mex. Standard class A pan, anemometer, maximum and minimum thermometers, standard 8-inch and recording rain gages at elevation 5,388 f

Elephant Butte Dam.--Lat 33°09', long 107°11', in Sierra County at Elephant Butte Dam, N. Mex. Standard class A pan, anemometer, maximum and minimum thermometers, and standard 8-inch rain gage at elevation 4,576 ft.

Caballo Dam.--Lat 32°54', long 107°18', in Sierra County at Caballo Dam, N. Mex. Standard class A pan, anemometer, maximum and minimum thermometers, standard 8-inch and recording rain gages at elevation 4,190 ft.

New Mexico State University.--Lat 32°17', long 106°45', in Doña Ana County at University Park, N. Mex. Standard class A pan, anemometer, maximum and minimum thermometers, standard 8-inch and recording rain gages at elevation 3,881 f

EVAPORATION AND PRECIPITATION

Evaporation and precipitation, in inches
2012

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug	Sept.	Oct.	Nov.	Dec.	Annual
Alamosa	Evap.	-	-	-	-	-	-	-	-	-	-	-	-	-
Airport	Precip.	0.06	0.28	0.1	0.20	0.88	0.21	0.99	0.50	1.1	0.37	0.08	0.81	5.58
Platoro	Evap.	-	-	-	-	4.92	6.72	4.2	3.6	3.48	3.48	0.96	-	-
Dam	Precip.	-	-	-	-	0.94	0.55	3.83	2.13	2.41	0.74	-	-	-
Heron	Evap.	-	-	-	5.52	8.38	10.96	7.68	7.84	6.52	5.30	-	-	-
Dam	Precip.	0.57	1.05	0.43	1.09	0.84	0.02	2.25	4.15	1.49	0.10	0.24	1.5	13.73
El Vado	Evap.	-	-	-	6.21	9.12	11.22	8.2	7.46	6.64	5.64	-	-	-
Dam	Precip.	0.42	0.67	0.41	1.11	0.70	0.05	2.07	1.02	1.61	0.15	0.10	1.37	9.68
Abiquiu	Evap.	-	-	-	7.56	11.62	13.25	9.59	10.22	7.21	7.57	-	-	-
Dam	Precip.	0.00	0.37	0.01	0.91	0.24	0.49	1.39	1.76	0.65	0.46	0.04	0.34	6.66
Nambe	Evap.	-	-	-	7.51	10.79	14.14	10.26	9.65	7.37	7.01	-	-	-
Canyon Dam	Precip.	0.20	0.35	0.00	0.74	0.52	0.13	1.31	2.65	1.27	0.61	0.00	0.99	8.77
Cochiti	Evap.	-	-	-	6.96	10.14	12.28	9.88	9.17	7.11	5.89	-	-	-
Dam	Precip.	0.23	0.04	0.12	0.66	0.24	0.00	0.25	1.61	0.80	0.38	0.02	0.06	4.41
Jemez	Evap.	-	-	-	9.53	12.62	14.33	13.68	12.02	9.37	6.01	-	-	-
Canyon Dam	Precip.	0.03	0.14	0.08	0.76	0.21	0.00	0.25	0.06	0.20	0.17	0.00	0.06	1.96
Elephant	Evap.	4.47	6.06	11.6	13.46	17.85	22.42	15.98	14.94	10.10	11.40	6.57	4.43	139.28
Butte Dam	Precip.	0.00	0.18	0.10	0.00	0.07	0.00	0.86	2.07	0.91	0.00	0.06	0.61	4.86
Caballo	Evap.	4.48	5.04	9.22	11.77	12.30	17.67	14.30	14.35	9.7	9.05	5.69	-	-
Dam	Precip.	0.04	0.36	0.11	0.00	0.04	0.00	1.40	0.31	1.32	0.00	0.06	-	-
State	Evap.	-	4.79	-	10.85	11.64	12.01	12.11	12.06	8.56	6.98	4.89	3.93	-
University	Precip.	0.75	0.08	0.00	0.00	0.61	0.00	1.14	0.72	2.07	0.00	0.01	0.14	5.52

RIO GRANDE COMPACT

The State of Colorado, the State of New Mexico, and the State of Texas, desiring to remove all causes of present and future controversy among these States and between citizens of one of these States and citizens of another State with respect to the use of the waters of the Rio Grande above Fort Quitman, Texas, and being moved by considerations of interstate comity, and for the purpose of effecting an equitable apportionment of such waters, have resolved to conclude a Compact for the attainment of these purposes, and to that end, through their respective Governors, have named as their respective Commissioners:

For the State of Colorado	M. C. Hinderlider
For the State of New Mexico	Thomas M. McClure
For the State of Texas	Frank B. Clayton

who, after negotiations participated in by S. O. Harper, appointed by the President as the representative of the United States of America, have agreed upon the following articles, to- wit:

ARTICLE I

(a) The State of Colorado, the State of New Mexico, the State of Texas, and the United States of America, are hereinafter designated “Colorado,” “New Mexico,” “Texas,” and the “United States,” respectively.

(b) “The Commission” means the agency created by this Compact for the administration thereof.

(c) The term “Rio Grande Basin” means all of the territory drained by the Rio Grande and its tributaries in Colorado, in New Mexico, and in Texas above Fort Quitman, including the Closed Basin in Colorado.

(d) The “Closed Basin” means that part of the Rio Grande Basin in Colorado where the streams drain into the San Luis Lakes and adjacent territory, and do not normally contribute to the flow of the Rio Grande.

(e) The term “tributary” means any stream which naturally contributes to the flow of the Rio Grande.

(f) “Transmountain Diversion” is water imported into the drainage basin of the Rio Grande from any stream system outside of the Rio Grande Basin, exclusive of the Closed Basin.

(g) “Annual Debits” are the amounts by which actual deliveries in any calendar year fall below scheduled deliveries.

(h) “Annual Credits” are the amounts by which actual deliveries in any calendar year exceed scheduled deliveries.

(i) “Accrued Debits” are the amounts by which the sum of all annual debits exceeds the sum of all annual credits over any common period of time.

(j) “Accrued Credits” are the amounts by which the sum of all annual credits exceeds the sum of all annual debits over any common period of time.

(k) “Project Storage” is the combined capacity of Elephant Butte Reservoir and all other reservoirs actually available for the storage of usable water below Elephant Butte and above the first diversion to lands of the Rio Grande Project, but not more than a total of 2,638,860 acre feet.

RIO GRANDE COMPACT

(l) “Usable Water” is all water, exclusive of credit water, which is in project storage and which is available for release in accordance with irrigation demands, including deliveries to Mexico.

(m) “Credit Water” is that amount of water in project storage which is equal to the accrued credit of Colorado, or New Mexico, or both.

(n) “Unfilled Capacity” is the difference between the total physical capacity of project storage and the amount of usable water then in storage.

(o) “Actual Release” is the amount of usable water released in any calendar year from the lowest reservoir comprising project storage.

(p) “Actual Spill” is all water which is actually spilled from Elephant Butte Reservoir, or is released therefrom for flood control, in excess of the current demand on project storage and which does not become usable water by storage in another reservoir; provided, that actual spill of usable water cannot occur until all credit water shall have been spilled.

(q)”Hypothetical Spill” is the time in any year at which usable water would have spilled from project storage if 790,000 acre feet had been released therefrom at rates proportional to the actual release in every year from the starting date to the end of the year in which hypothetical spill occurs; in computing hypothetical spill the initial condition shall be the amount of usable water in project storage at the beginning of the calendar year following the effective date of this Compact, and thereafter the initial condition shall be the amount of usable water in project storage at the beginning of the calendar year following each actual spill.

ARTICLE II

The Commission shall cause to be maintained and operated a stream gaging station equipped with an automatic water stage recorder at each of the following points, to-wit:

(a) On the Rio Grande near Del Norte above the principal points of diversion to the San Luis Valley;

(b) On the Conejos River near Mogote;

(c) On the Los Pinos River near Ortiz;

(d) On the San Antonio River at Ortiz;

(e) On the Conejos River at its mouths near Los Sauces;

(f) On the Rio Grande near Lobatos;

(g) On the Rio Chama below El Vado Reservoir;

(h) On the Rio Grande at Otowi Bridge near San Ildefonso;

(i) On the Rio Grande near San Acacia;

(j) On the Rio Grande at San Marcial;

(k) On the Rio Grande below Elephant Butte Reservoir;

(l) On the Rio Grande below Caballo Reservoir.

Similar gaging stations shall be maintained and operated below any other reservoir constructed after 1929, and at such other points as may be necessary for the securing of records required for the carrying out of the Compact; and automatic water stage recorders shall be maintained and operated on each of the reservoirs mentioned, and on all others constructed after 1929.

RIO GRANDE COMPACT

Such gaging stations shall be equipped, maintained and operated by the Commission directly or in cooperation with an appropriate Federal or State agency, and the equipment, method and frequency of measurement at such stations shall be such as to produce reliable records at all times. (Note: See Resolution of Commission printed elsewhere in this report.)

ARTICLE III

The obligation of Colorado to deliver water in the Rio Grande at the Colorado-New Mexico State Line, measured at or near Lobatos, in each calendar year, shall be ten thousand acre feet less than the sum of those quantities set forth in the two following tabulations of relationship, which correspond to the quantities at the upper index stations:

DISCHARGE OF CONEJOS RIVER

Quantities in thousands of acre feet

Conejos Index Supply (1)	Conejos River at Mouths (2)
100	0
150	20
200	45
250	75
300	109
350	147
400	188
450	232
500	278
550	326
600	376
650	426
700	476

Intermediate quantities shall be computed by proportional parts.

(1) Conejos Index Supply is the natural flow of Conejos River at the U.S.G.S. gaging station near Mogote during the calendar year, plus the natural flow of Los Pinos River at the U.S.G.S. gaging station near Ortiz and the natural flow of San Antonio River at the U.S.G.S. gaging station at Ortiz, both during the months of April to October, inclusive.

(2) Conejos River at Mouths is the combined discharge of branches of this river at the U.S.G.S. gaging stations near Los Sauces during the calendar year.

DISCHARGE OF RIO GRANDE EXCLUSIVE OF CONEJOS RIVER

Quantities in thousands of acre feet

Rio Grande at Del Norte (3)	Rio Grande at Lobatos less Conejos at Mouths (4)
200	60
250	65
300	75
350	86
400	98
450	112
500	127
550	144
600	162

RIO GRANDE COMPACT

DISCHARGE OF RIO GRANDE EXCLUSIVE OF CONEJOS RIVER--Con.

Quantities in thousands of acre feet

Rio Grande at Del Norte (3)	Rio Grande at Lobatos less Conejos at Mouths (4)
650	182
700	204
750	229
800	257
850	292
900	335
950	380
1,000	430
1,100	540
1,200	640
1,300	740
1,400	840

Intermediate quantities shall be computed by proportional parts.

(3) Rio Grande at Del Norte is the recorded flow of the Rio Grande at the U.S.G.S. gaging station near Del Norte during the calendar year (measured above all principal points of diversion to San Luis Valley) corrected for the operation of reservoirs constructed after 1937.

(4) Rio Grande at Lobatos less Conejos at Mouths is the total flow of the Rio Grande at the U.S.G.S. gaging station near Lobatos, less the discharge of Conejos River at its Mouths, during the calendar year.

The application of these schedules shall be subject to the provisions hereinafter set forth and appropriate adjustments shall be made for (a) any change in location of gaging stations; (b) any new or increased depletion of the runoff above inflow index gaging stations; and (c) any transmountain diversions into the drainage basin of the Rio Grande above Lobatos.

In event any works are constructed after 1937 for the purpose of delivering water into the Rio Grande from the Closed Basin, Colorado shall not be credited with the amount of such water delivered, unless the proportion of sodium ions shall be less than forty-five percent of the total positive ions in that water when the total dissolved solids in such water exceeds three hundred fifty parts per million.

ARTICLE IV

The obligation of New Mexico to deliver water in the Rio Grande at San Marcial, during each calendar year, exclusive of the months of July, August, and September, shall be that quantity set forth in the following tabulation of relationship, which corresponds to the quantity at the upper index station:

RIO GRANDE COMPACT

DISCHARGE OF RIO GRANDE AT OTOWI BRIDGE AND AT SAN MARCIAL
EXCLUSIVE OF JULY, AUGUST AND SEPTEMBER
Quantities in thousands of acre feet

Otowi Index Supply (5)	San Marcial Index Supply (6)
100	0
200	65
300	141
400	219
500	300
600	383
700	469
800	557
900	648
1,000	742
1,100	839
1,200	939
1,300	1,042
1,400	1,148
1,500	1,257
1,600	1,370
1,700	1,489
1,800	1,608
1,900	1,730
2,000	1,856
2,100	1,985
2,200	2,117
2,300	2,253

Intermediate quantities shall be computed by proportional parts.

(5) The Otowi Index Supply is the recorded flow of the Rio Grande at the U.S.G.S. gaging station at Otowi Bridge near San Ildefonso (formerly station near Buckman) during the calendar year, exclusive of the flow during the months of July, August and September, corrected for the operation of reservoirs constructed after 1929 in the drainage basin of the Rio Grande between Lobatos and Otowi Bridge.

(6) San Marcial Index Supply is the recorded flow of the Rio Grande at the gaging station at San Marcial during the calendar year exclusive of the flow during the months of July, August and September.

The application of this schedule shall be subject to the provisions hereinafter set forth and appropriate adjustments shall be made for (a) any change in location of gaging stations; (b) depletion after 1929 in New Mexico at any time of the year of the natural runoff at Otowi Bridge; (c) depletion of the runoff during July, August and September of tributaries between Otowi Bridge and San Marcial, by works constructed after 1937; and (d) any transmountain diversions into the Rio Grande between Lobatos and San Marcial.

Concurrent records shall be kept of the flow of the Rio Grande at San Marcial, near San Acacia, and of the release from Elephant Butte Reservoir to the end that the records at these three stations may be correlated. (Note: See Resolution of Commission printed elsewhere in this report.)

RIO GRANDE COMPACT

ARTICLE V

If at any time it should be the unanimous finding and determination of the Commission that because of changed physical conditions, or for any other reason, reliable records are not obtainable, or cannot be obtained, at any of the stream gaging stations herein referred to, such stations may, with the unanimous approval of the Commission, be abandoned, and with such approval another station, or other stations, shall be established and new measurements shall be substituted which, in the unanimous opinion of the Commission, will result in substantially the same results so far as the rights and obligations to deliver water are concerned, as would have existed if such substitution of stations and measurements had not been so made. (Note: See Resolution of Commission printed elsewhere in this report.)

ARTICLE VI

Commencing with the year following the effective date of this Compact, all credits and debits of Colorado and New Mexico shall be computed for each calendar year; provided, that in a year of actual spill no annual credits nor annual debits shall be computed for that year.

In the case of Colorado, no annual debit nor accrued debit shall exceed 100,000 acre feet, except as either or both may be caused by holdover storage of water in reservoirs constructed after 1937 in the drainage basin of the Rio Grande above Lobatos. Within the physical limitations of storage capacity in such reservoirs, Colorado shall retain water in storage at all times to the extent of its accrued debit.

In the case of New Mexico, the accrued debit shall not exceed 200,000 acre feet at any time, except as such debit may be caused by holdover storage of water in reservoirs constructed after 1929 in the drainage basin of the Rio Grande between Lobatos and San Marcial. Within the physical limitations of storage capacity in such reservoirs, New Mexico shall retain water in storage at all times to the extent of its accrued debit. In computing the magnitude of accrued credits or debits, New Mexico shall not be charged with any greater debit in any one year than the sum of 150,000 acre-feet and all gains in the quantity of water in storage in such year.

The Commission by unanimous action may authorize the release from storage of any amount of water which is then being held in storage by reason of accrued debits of Colorado or New Mexico; provided, that such water shall be replaced at the first opportunity thereafter.

In computing the amount of accrued credits and accrued debits of Colorado or New Mexico, any annual credits in excess of 150,000 acre feet shall be taken as equal to that amount.

In any year in which actual spill occurs, the accrued credits of Colorado, or New Mexico, or both, at the beginning of the year shall be reduced in proportion to their respective credits by the amount of such actual spill; provided that the amount of actual spill shall be deemed to be increased by the aggregate gain in the amount of water in storage, prior to the time of spill, in reservoirs above San Marcial constructed after 1929; provided, further, that if the Commissioners for the States having accrued credits authorize the release of part, or all, of such credits in advance of spill, the amount so released shall be deemed to constitute actual spill.

In any year in which there is actual spill of usable water, or at the time of hypothetical spill thereof, all accrued debits of Colorado, or New Mexico, or both, at the beginning of the year shall be cancelled.

RIO GRANDE COMPACT

In any year in which the aggregate of accrued debits of Colorado and New Mexico exceeds the minimum unfilled capacity of project storage, such debits shall be reduced proportionally to an aggregate amount equal to such minimum unfilled capacity.

To the extent that accrued credits are impounded in reservoirs between San Marcial and Courchesne, and to the extent that accrued debits are impounded in reservoirs above San Marcial, such credits and debits shall be reduced annually to compensate for evaporation losses in the proportion that such credits or debits bore to the total amount of water in such reservoirs during the year.

ARTICLE VII

Neither Colorado nor New Mexico shall increase the amount of water in storage in reservoirs constructed after 1929 whenever there is less than 400,000 acre feet of usable water in project storage; provided, that if the actual releases of usable water from the beginning of the calendar year following the effective date of this Compact, or from the beginning of the calendar year following actual spill, have aggregated more than an average of 790,000 acre feet per annum, the time at which such minimum stage is reached shall be adjusted to compensate for the difference between the total actual release and releases at such average rate; provided, further, that Colorado, or New Mexico, or both, may relinquish accrued credits at any time, and Texas may accept such relinquished water, and in such event the state, or states, so relinquishing shall be entitled to store water in the amount of the water so relinquished.

ARTICLE VIII

During the month of January of any year the Commissioner for Texas may demand of Colorado and New Mexico, and the Commissioner for New Mexico may demand of Colorado, the release of water from storage reservoirs constructed after 1929 to the amount of the accrued debits of Colorado and New Mexico, respectively, and such releases shall be made by each at the greatest rate practicable under the conditions then prevailing, and in proportion to the total debit of each, and in amounts, limited by their accrued debits, sufficient to bring the quantity of usable water in project storage to 600,000 acre feet by March first and to maintain this quantity in storage until April thirtieth, to the end that a normal release of 790,000 acre feet may be made from project storage in that year.

ARTICLE IX

Colorado agrees with New Mexico that in event the United States or the State of New Mexico decides to construct the necessary works for diverting the waters of the San Juan River, or any of its tributaries, into the Rio Grande, Colorado hereby consents to the construction of said works and the diversion of waters from the San Juan River, or the tributaries thereof, into the Rio Grande in New Mexico, provided the present and prospective uses of water in Colorado by other diversions from the San Juan River, or its tributaries, are protected.

ARTICLE X

In the event water from another drainage basin shall be imported into the Rio Grande Basin by the United States or Colorado or New Mexico, or any of them jointly, the State having the right to the use of such water shall be given proper credit therefor in the application of the schedules.

ARTICLE XI

New Mexico and Texas agree that upon the effective date of this Compact all controversies between said States relative to the quantity or quality of the water of the Rio Grande are composed and settled; however, nothing herein shall be interpreted to prevent

recourse by a signatory state to the Supreme Court of the United States for redress should the character or quality of the water, at the point of delivery, be changed hereafter by one signatory state to the injury of another. Nothing herein shall be construed as an admission by any signatory state that the use of water for irrigation causes increase of salinity for which the user is responsible in law.

ARTICLE XII

To administer the provisions of this Compact there shall be constituted a Commission composed of one representative from each state, to be known as the Rio Grande Compact Commission. The State Engineer of Colorado shall be ex-officio the Rio Grande Compact Commissioner for Colorado. The State Engineer of New Mexico shall be ex-officio the Rio Grande Compact Commissioner for New Mexico. The Rio Grande Compact Commissioner for Texas shall be appointed by the Governor of Texas. The President of the United States shall be requested to designate a representative of the United States to sit with such Commission, and such representative of the United States, if so designated by the President, shall act as Chairman of the Commission without vote.

The salaries and personal expenses of the Rio Grande Compact Commissioners for the three States shall be paid by their respective States, and all other expenses incident to the administration of this Compact, not borne by the United States, shall be borne equally by the three States.

In addition to the powers and duties hereinbefore specifically conferred upon such Commission, and the members thereof, the jurisdiction of such Commission shall extend only to the collection, correlation and presentation of factual data and the maintenance of records having a bearing upon the administration of this Compact, and, by unanimous action, to the making of recommendations to the respective States upon matters connected with the administration of this Compact. In connection therewith, the Commission may employ such engineering and clerical aid as may be reasonably necessary within the limit of funds provided for that purpose by the respective States. Annual reports compiled for each calendar year shall be made by the Commission and transmitted to the Governors of the signatory States on or before March first following the year covered by the report. The Commission may, by unanimous action, adopt rules and regulations consistent with the provisions of this Compact to govern their proceedings.

The findings of the Commission shall not be conclusive in any court or tribunal which may be called upon to interpret or enforce this Compact.

ARTICLE XIII

At the expiration of every five-year period after the effective date of this Compact, the Commission may, by unanimous consent, review any provisions hereof which are not substantive in character and which do not affect the basic principles upon which the Compact is founded, and shall meet for the consideration of such questions on the request of any member of the Commission; provided, however, that the provisions hereof shall remain in full force and effect until changed and amended within the intent of the Compact by unanimous action of the Commissioners, and until any changes in this Compact are ratified by the legislatures of the respective states and consented to by the Congress, in the same manner as this Compact is required to be ratified to become effective.

ARTICLE XIV

The schedules herein contained and the quantities of water herein allocated shall never be increased nor diminished by reason of any increase or diminution in the delivery or loss of water to Mexico.

RIO GRANDE COMPACT

ARTICLE XV

The physical and other conditions characteristic of the Rio Grande and peculiar to the territory drained and served thereby, and to the development thereof, have actuated this Compact and none of the signatory states admits that any provisions herein contained establishes any general principle or precedent applicable to other interstate streams.

ARTICLE XVI

Nothing in this Compact shall be construed as affecting the obligations of the United States of America to Mexico under existing treaties, or to the Indian Tribes, or as impairing the rights of the Indian Tribes.

ARTICLE XVII

This Compact shall become effective when ratified by the legislatures of each of the signatory states and consented to by the Congress of the United States. Notice of ratification shall be given by the Governor of each state to the Governors of the other states and to the President of the United States, and the President of the United States is requested to give notice to the Governors of each of the signatory states of the consent of the Congress of the United States.

IN WITNESS WHEREOF, the Commissioners have signed this Compact in quadruplicate original, one of which shall be deposited in the archives of the Department of State of the United States of America and shall be deemed the authoritative original, and of which a duly certified copy shall be forwarded to the Governor of each of the signatory States.

Done at the City of Santa Fe, in the State of New Mexico, on the 18th day of March, in the year of our Lord, One Thousand Nine Hundred and Thirty-eight.

(Sgd.) M. C. HINDERLIDER

(Sgd.) THOMAS M. McCLURE

(Sgd.) FRANK B. CLAYTON

APPROVED:

(Sgd.) S. O. HARPER

RATIFIED BY:

Colorado, February 21, 1939
New Mexico, March 1, 1939
Texas, March 1, 1939

Passed Congress as Public Act No. 96, 76th Congress,

Approved by the President May 31, 1939

RESOLUTION ADOPTED BY RIO GRANDE COMPACT COMMISSION
AT THE ANNUAL MEETING HELD AT EL PASO, TEXAS, FEBRUARY 22-24, 1948, CHANGING
GAGING STATIONS AND MEASUREMENTS OF
DELIVERIES BY NEW MEXICO

R E S O L U T I O N

Whereas, at the Annual Meeting of the Rio Grande Compact Commission in the year 1945, the question was raised as to whether or not a schedule for delivery of water by New Mexico during the entire year could be worked out, and

Whereas, at said meeting the question was referred to the Engineering Advisers for their study, recommendations and report, and

Whereas, said Engineering Advisers have met, studied the problems and under date of February 24, 1947, did submit their Report, which said Report contains the findings of said Engineering Advisers and their recommendations, and

Whereas, the Compact Commission has examined said Report and finds that the matters and things therein found and recommended are proper and within the terms of the Rio Grande Compact, and

Whereas, the Commission has considered said Engineering Advisers' Report and all available evidence, information and material and is fully advised:

Now, Therefore, Be it Resolved:

The Commission finds as follows:

(a) That because of change of physical conditions, reliable records of the amount of water passing San Marcial are no longer obtainable at the stream gaging station at San Marcial and that the same should be abandoned for Compact purposes.

(b) That the need for concurrent records at San Marcial and San Acacia no longer exists and that the gaging station at San Acacia should be abandoned for Compact purposes.

(c) That it is desirable and necessary that the obligations of New Mexico under the Compact to deliver water in the months of July, August, September, should be scheduled.

(d) That the change in gaging stations and substitution of the new measurements as hereinafter set forth will result in substantially the same results so far as the rights and obligations to deliver water are concerned, and would have existed if such substitution of stations and measurements had not been so made.

Be it Further Resolved:

That the following measurements and schedule thereof shall be substituted for the measurements and schedule thereof as now set forth in Article IV of the Compact:

"The obligation of New Mexico to deliver water in the Rio Grande into Elephant Butte Reservoir during each calendar year shall be measured by that quantity set forth in the following tabulation of relationship which corresponds to the quantity at the upper index station:

RIO GRANDE COMPACT COMMISSION REPORT

DISCHARGE OF RIO GRANDE AT OTOWI BRIDGE AND ELEPHANT BUTTE EFFECTIVE SUPPLY

Quantities in thousands of acre-feet

Otowi Index Supply (5)	Elephant Butte Effective Index Supply (6)
100	57
200	114
300	171
400	228
500	286
600	345
700	406
800	471
900	542
1,000	621
1,100	707
1,200	800
1,300	897
1,400	996
1,500	1,095
1,600	1,195
1,700	1,295
1,800	1,395
1,900	1,495
2,000	1,595
2,100	1,695
2,200	1,795
2,300	1,895
2,400	1,995
2,500	2,095
2,600	2,195
2,700	2,295
2,800	2,395
2,900	2,495
3,000	2,595

Intermediate quantities shall be computed by proportional parts.

(5) The Otowi Index Supply is the recorded flow of the Rio Grande at the U.S.G.S. gaging station at Otowi Bridge near San ildefonso (formerly station near Buckman) during the calendar year, corrected for the operation of reservoirs constructed after 1929 in the drainage basin of the Rio Grande between Lobatos and Otowi Bridge.

(6) Elephant Butte Effective Index Supply is the recorded flow of the Rio Grande at the gaging station below Elephant Butte Dam during the calendar year plus the net gain in storage in Elephant Butte Reservoir during the same year or minus the net loss in storage in said reservoir, as the case may be.

RIO GRANDE COMPACT

The application of this schedule shall be subject to the provisions hereinafter set forth and appropriate adjustments shall be made for (a) any change in location of gaging stations; (b) depletion after 1929 in New Mexico of the natural runoff at Otowi Bridge; and (c) any transmountain diversions into the Rio Grande between Lobatos and Elephant Butte Reservoir."

Be it Further Resolved:

That the gaging stations at San Acacia and San Marcial be, and the same are hereby abandoned for Compact purposes.

Be it Further Resolved:

That this Resolution has been passed unanimously and shall be effective January 1, 1949, if within 120 days from this date the Commissioner for each State shall have received from the Attorney General of the State represented by him, an opinion approving this Resolution, and shall have so advised the Chairman of the Commission, otherwise, to be of no force and effect.

(Note: The following paragraph appears in the Minutes of the Annual Meeting of the Commission held at Denver, Colorado, February 14-16, 1949.

"The Chairman announced that he had received, pursuant to the Resolution adopted by the Commission at the Ninth Annual Meeting on February 24, 1948, opinions from the Attorneys General of Colorado, New Mexico and Texas that the substitution of stations and measurements of deliveries by New Mexico set forth in said resolution was within the powers of the Commission").

RULES AND REGULATIONS FOR ADMINISTRATION OF THE RIO GRANDE COMPACT

A Compact, known as the Rio Grande Compact, between the States of Colorado, New Mexico and Texas, having become effective on May 31, 1939 by consent of the Congress of the United States, which equitably apportions the waters of the Rio Grande above Fort Quitman and permits each State to develop its water resources at will, subject only to its obligations to deliver water in accordance with the schedules set forth in the Compact, the following Rules and Regulations have been adopted for its administration by the Rio Grande Compact Commission; to be and remain in force and effect only so long as the same may be satisfactory to each and all members of the Commission, and provided always that on the objection of any member of the Commission, in writing, to the remaining two members of the Commission after a period of sixty days from the date of such objection, the sentence, paragraph or any portion or all of these rules to which any such objection shall be made, shall stand abrogated and shall thereafter have no further force and effect; it being the intent and purpose of the Commission to permit these rules to obtain and be effective only so long as the same may be satisfactory to each and all of the Commissioners.

GAGING STATIONS /1

Responsibility for the equipping, maintenance and operation of the stream gaging stations and reservoir gaging stations required by the provisions of Article II of the Compact shall be divided among the signatory States as follows:

(a) Gaging stations on streams and reservoirs in the Rio Grande Basin above the Colorado-New Mexico boundary shall be equipped, maintained, and operated by Colorado in cooperation with the U.S. Geological Survey.

(b) Gaging stations on streams and reservoirs in the Rio Grande Basin below Lobatos and above Caballo Reservoir shall be equipped, maintained and operated by New Mexico in cooperation with the U.S. Geological Survey to the extent that such stations are not maintained and operated by some other Federal agency.

(c) Gaging stations on Elephant Butte Reservoir and on Caballo Reservoir, and the stream gaging stations on the Rio Grande below those reservoirs shall be equipped, maintained and operated by or on behalf of Texas through the agency of the U.S. Bureau of Reclamation.

The equipment, method and frequency of measurements at each gaging station shall be sufficient to obtain records at least equal in accuracy to those classified as “good” by the U.S. Geological Survey. Water-stage recorders on the reservoirs specifically named in Article II of the Compact shall have sufficient range below maximum reservoir level to record major fluctuations in storage. Staff gages may be used to determine fluctuations below the range of the water-stage recorders on these and other large reservoirs, and staff gages may be used upon approval of the Commission in lieu of water-stage recorders on small reservoirs, provided that the frequency of observation is sufficient in each case to establish any material changes in water levels in such reservoirs.

/1 Amended at Eleventh Annual Meeting, February 23, 1950.

RULES AND REGULATIONS

RESERVOIR CAPACITIES /1

Colorado shall file with the Commission a table of areas and capacities for each reservoir in the Rio Grande Basin above Lobatos constructed after 1937; New Mexico shall file with the Commission a table of areas and capacities for each reservoir in the Rio Grande Basin between Lobatos and San Marcial constructed after 1929; and Texas shall file with the Commission tables of areas and capacities for Elephant Butte Reservoir and for all other reservoirs actually available for the storage of water between Elephant Butte and the first diversion to lands under the Rio Grande Project.

Whenever it shall appear that any table of areas and capacities is in error by more than five per cent, the Commission shall use its best efforts to have a re-survey made and a corrected table of areas and capacities to be substituted as soon as practicable. To the end that the Elephant Butte effective supply may be computed accurately, the Commission shall use its best efforts to have the rate of accumulation and the place of deposition of silt in Elephant Butte Reservoir checked at least every three years.

ACTUAL SPILL /2, /3, /4, /6

(a) Water released from Elephant Butte in excess of Project requirements, which is currently passed through Caballo Reservoir, prior to the time of spill, shall be deemed to have been Usable Water released in anticipation of spill, or Credit Water if such release shall have been authorized.

(b) Excess releases from Elephant Butte Reservoir, as defined in (a) above, shall be added to the quantity of water actually in storage in that reservoir, and Actual Spill shall be deemed to have commenced when this sum equals the total capacity of that reservoir to the level of the uncontrolled spillway less capacity reserved for flood purposes, i.e., 1,999,600 acre-feet in the months of October through March inclusive, and 1,974,600 acre-feet in the months of April through September, inclusive, as determined from the 2009 area-capacity table or successor area-capacity tables and flood control storage reservation of 50,000 acre-feet from April through September and 25,000 acre-feet from October through March.

(c) All water actually spilled at Elephant Butte Reservoir, or released therefrom, in excess of Project requirements, which is currently passed through Caballo Reservoir, after the time of spill, shall be considered as Actual Spill, provided that the total quantity of water then in storage in Elephant Butte Reservoir exceeds the physical capacity of that reservoir at the level of the sill of the spillway gates, i.e. -1,830,000 acre-ft in 1942.

(d) Water released from Caballo Reservoir in excess of Project requirements and in excess of water currently released from Elephant Butte Reservoir, shall be deemed Usable Water released, excepting only flood water entering Caballo Reservoir from tributaries below Elephant Butte Reservoir.

DEPARTURES FROM NORMAL RELEASES /5

For the purpose of computing the time of Hypothetical Spill required by Article VI and for the purpose of the adjustment set forth in Article VII, no allowance shall be made for the difference between Actual and Hypothetical Evaporation, and any under-release of usable water from Project Storage in excess of 150,000 acre-ft in any year shall be taken as equal to that amount.

/1 Amended at Eleventh Annual Meeting, February 23, 1950.
/2 Adopted at Fourth Annual Meeting, February 24, 1943.
/3 Amended September 9, 1998.
/4 Amended March 22, 2001; made effective January 1, 2001.
/5 Adopted June 2, 1959; made effective January 1, 1952.
/6 Adopted March 31, 2009; made effective January 1, 2010.

RULES AND REGULATIONS

EVAPORATION LOSSES /6, /7, /8

The Commission shall encourage the equipping, maintenance and operation, in cooperation with the U.S. Weather Bureau or other appropriate agency, of evaporation stations at Elephant Butte Reservoir and at or near each major reservoir in the Rio Grande Basin within Colorado constructed after 1937 and in New Mexico constructed after 1929. The net loss by evaporation from a reservoir surface shall be taken as the difference between the actual evaporation loss and the evapo-transpiration losses which would have occurred naturally, prior to the construction of such reservoir. Changes in evapo-transpiration losses along stream channels below reservoirs may be disregarded.

Net losses by evaporation, as defined above, shall be used in correcting Index Supplies for the operation of reservoirs upstream from Index Gaging Stations as required by the provisions of Article III and Article IV of the Compact.

In the application of the provisions of the last unnumbered paragraph of Article VI of the Compact:

(a) Evaporation losses for which accrued credits shall be reduced shall be taken as the difference between the gross evaporation from the water surface of Elephant Butte Reservoir and rainfall on the same surface.

(b) Evaporation losses for which accrued debits shall be reduced shall be taken as the net loss by evaporation as defined in the first paragraph.

ADJUSTMENT OF RECORDS

The Commission shall keep a record of the location, and description of each gaging station and evaporation station, and, in the event of change in location of any stream gaging station for any reason, it shall ascertain the increment in flow or decrease in flow between such locations for all stages. Wherever practicable, concurrent records shall be obtained for one year before abandonment of the previous station.

NEW OR INCREASED DEPLETIONS

In the event any works are constructed which alter or may be expected to alter the flow at any of the Index Gaging Stations mentioned in the Compact, or which may otherwise necessitate adjustments in the application of the schedules set forth in the Compact, it shall be the duty of the Commissioner specifically concerned to file with the Commission all available information pertaining thereto, and appropriate adjustments shall be made in accordance with the terms of the Compact; provided, however, that any such adjustments shall in no way increase the burden imposed upon Colorado or New Mexico under the schedules of deliveries established by the Compact.

TRANSMOUNTAIN DIVERSIONS

In the event any works are constructed for the delivery of waters into the drainage basin of the Rio Grande from any stream system outside of the Rio Grande Basin, such waters shall be measured at the point of delivery into the Rio Grande Basin and proper allowances shall be made for losses in transit from such points to the Index Gaging Station on the stream with which the imported waters are comingled.

/6 Amended at Tenth Annual Meeting, February 15, 1949.
/7 Amended at Twelfth Annual Meeting, February 24, 1951.
/8 Amended June 2, 1959.

RULES AND REGULATIONS

QUALITY OF WATER

In the event that delivery of water is made from the Closed Basin into the Rio Grande, sufficient samples of such water shall be analyzed to ascertain whether the quality thereof is within the limits established by the Compact.

SECRETARY /8, /9

The Commission may, on a yearly basis, employ appropriate entities to render such engineering and clerical aid as may reasonably be necessary for administration of the Compact. The entities may be employed to:

(1) Collect and correlate all factual data and other records having a material bearing on the administration of the Compact and keep each Commissioner advised thereof.

(2) Inspect all gaging stations required for administration of the Compact and make recommendations to the Commission as to any changes or improvements in methods of measurement or facilities for measurement which may be needed to insure that reliable records be obtained.

(3) Report to each Commissioner by letter on or before the fifteenth day of each month, except January, a summary of all hydrographic data then available for the current year - on forms prescribed by the Commission - pertaining to:

(a) Deliveries by Colorado
(b) Deliveries by New Mexico
(c) Operation of Project Storage

(4) Make such investigations as may be requested by the Commission in aid of its administration of the Compact.

(5) Act as Secretary to the Commission and submit to the Commission at its regular meeting in February a report on its activities and a summary of all data needed for determination of debits and credits and other matters pertaining to administration of the Compact.

COSTS /1, /2

At its annual meeting, the Commission shall adopt a budget for the ensuing fiscal year beginning July first.

Such budget shall set forth the total cost of maintenance and operating of gaging stations, of evaporation stations, the cost of engineering and clerical aid, and all other necessary expenses excepting the salaries and personal expenses of the Rio Grande Compact Commissioners.

Contributions made directly by the United States and the cost of services rendered by the United States without cost shall be deducted from the total budget amount; the remainder shall then be allocated equally to Colorado, New Mexico and Texas.

/8 The substitution of this section for the section titled “Reports to Commissioners” was adopted at Ninth Annual Meeting, February 22, 1948.
/9 Amended March 31, 2009.

/1 Amended at Eleventh Annual Meeting, February 23, 1950.
/2 Amended March 31, 2009.

RULES AND REGULATIONS

Expenditures made directly by any State for purposes set forth in the budget shall be credited to that State; contributions in cash or in services by any State under a cooperative agreement with any federal agency shall be credited to such State, but the amount of the federal contribution shall not so be credited; in event any State, through contractual relationships, causes work to be done in the interest of the Commission, such State shall be credited with the cost thereof, unless such cost is borne by the United States.

Costs incurred by the Commission under any cooperative agreement between the Commission and any U.S. Government Agency, not borne by the United States, shall be apportioned equally to each State, and each Commissioner shall arrange for the prompt payment of one-third thereof by his State.

The Commissioner of each State shall report at the annual meeting each year the amount of money expended during the year by the State which he represents, as well as the portion thereof contributed by all cooperating federal agencies, and the Commission shall arrange for such proper reimbursement in cash or credits between States as may be necessary to equalize the contributions made by each State in the equipment, maintenance and operation of all gaging stations authorized by the Commission and established under the terms of the Compact.

It shall be the duty of each Commissioner to endeavor to secure from the Legislature of his State an appropriation of sufficient funds with which to meet the obligations of his State, as provided by the Compact.

MEETING OF COMMISSION /1, /10

The Commission shall meet in Santa Fe, New Mexico, on the third Thursday of February of each year for the consideration and adoption of the annual report for the calendar year preceding, and for the transaction of any other business consistent with its authority; provided that the Commission may agree to meet elsewhere. Other meetings as may be deemed necessary shall be held at any time and place set by mutual agreement, for the consideration of data collected and for the transaction of any business consistent with its authority.

No action of the Commission shall be effective until approved by the Commissioner from each of the three signatory States.

(Signed) M. C. HINDERLIDER

M. C. Hinderlider

Commissioner for Colorado

(Signed) THOMAS M. McCLURE

Thomas M. McClure

Commissioner for New Mexico

(Signed) JULIAN P. HARRISON

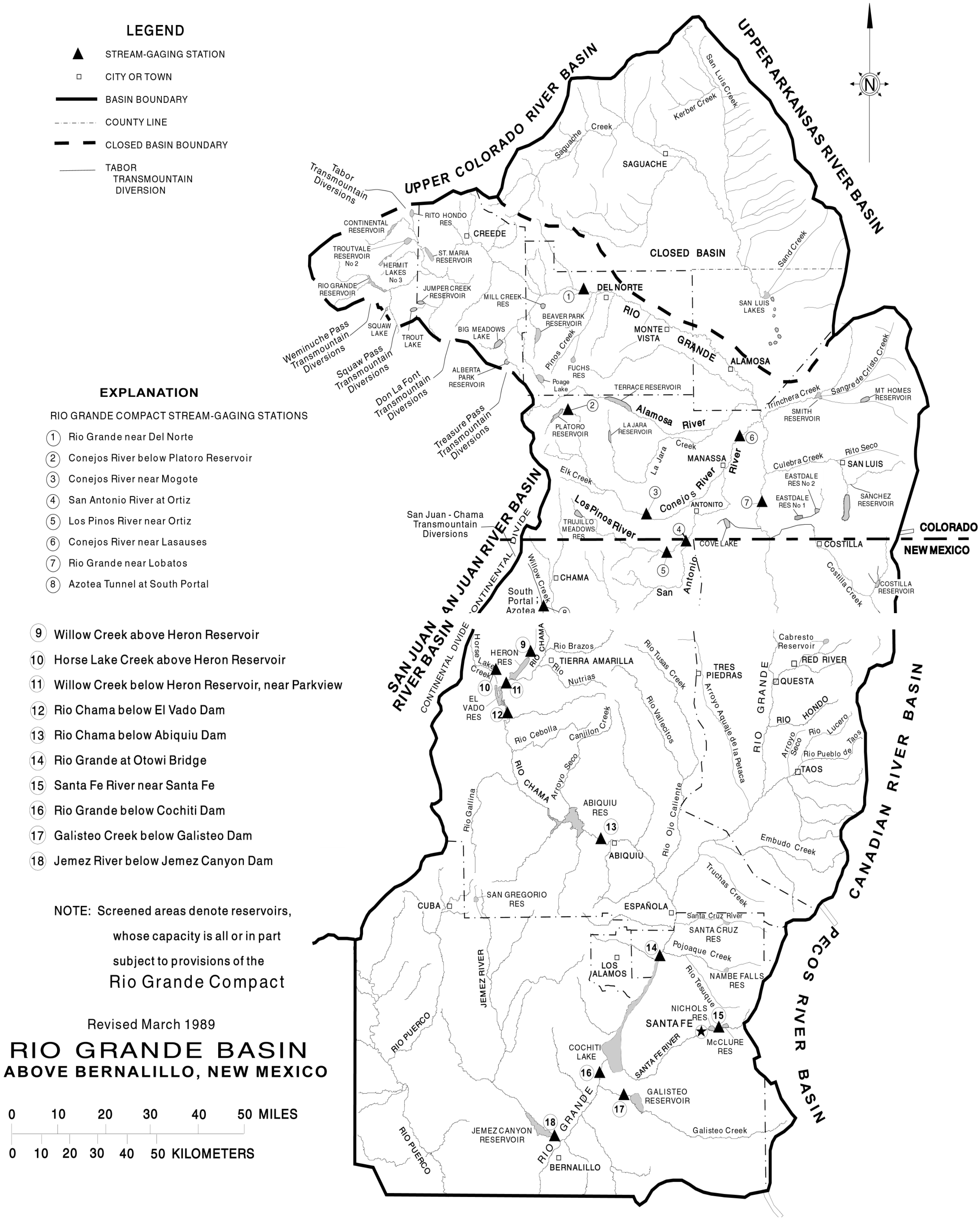
Julian P. Harrison

Commissioner for Texas

Adopted December 19, 1939.

/1 Amended at Eleventh Annual Meeting, February 23, 1950.

/10 Amended at Thirteenth Annual Meeting, February 25, 1952.


LEGEND
STREAM-GAGING STATION
CITY OR TOWN
BASIN BOUNDARY
COUNTY LINE
CLOSED BASIN BOUNDARY
TABOR TRANSMOUNTAIN DIVERSION
EXPLANATION
RIO GRANDE COMPACT STREAM-GAGING STATIONS
1 Rio Grande near Del Norte
2 Conejos River below Platoro Reservoir
3 Conejos River near Mogote
4 San Antonio River at Ortiz
5 Los Pinos River near Ortiz
6 Conejos River near Lasauses
7 Rio Grande near Lobatos
8 Azotea Tunnel at South Portal
9 Willow Creek above Heron Reservoir
10 Horse Lake Creek above Heron Reservoir
11 Willow Creek below Heron Reservoir, near Parkview
12 Rio Chama below El Vado Dam
13 Rio Chama below Abiquiu Dam
14 Rio Grande at Otowi Bridge
15 Santa Fe River near Santa Fe
16 Rio Grande below Cochiti Dam
17 Galisteo Creek below Galisteo Dam
18 Jemez River below Jemez Canyon Dam
NOTE: Screened areas denote reservoirs, whose capacity is all or in part subject to provisions of the Rio Grande Compact
Revised March 1989
RIO GRANDE BASIN
ABOVE BERNALILLO, NEW MEXICO
0 10 20 30 40 50 MILES
0 10 20 30 40 50 KILOMETERS
UPPER COLORADO RIVER BASIN
UPPER ARKANSAS RIVER BASIN
SAN JUAN RIVER BASIN
CANADIAN RIVER BASIN
PECOS RIVER BASIN
CONTINENTAL DIVIDE
CLOSED BASIN
COLORADO
NEW MEXICO
Tabor Transmountain Diversions
Weminuche Pass Transmountain Diversions
Squaw Pass Transmountain Diversions
Don La Font Transmountain Diversions
Treasure Pass Transmountain Diversions
San Juan - Chama Transmountain Diversions
CONTINENTAL RESERVOIR
TROUTVALE RESERVOIR No 2
RIO GRANDE RESERVOIR
HERMIT LAKES No 3
RITO HONDO RES
ST. MARIA RESERVOIR
JUMPER CREEK RESERVOIR
SQUAW LAKE
TROUT LAKE
CREEDE
MILL CREEK RES
BIG MEADOWS LAKE
ALBERTA PARK RESERVOIR
BEAVER PARK RESERVOIR
Pinos Creek
Poage Lake
FUCHS RES
TERRACE RESERVOIR
PLATORO RESERVOIR
LA JARA RESERVOIR
SAGUACHE
Saguache Creek
Kerber Creek
San Luis Creek
Sand Creek
SAN LUIS LAKES
DEL NORTE
MONTE VISTA
RIO GRANDE
ALAMOSA
Alamosa River
La Jara Creek
MANASSA
Conejos River
ANTONITO
Elk Creek
Los Pinos River
TRUJILLO MEADOWS RES
COVE LAKE
Trinchera Creek
Sangre de Cristo Creek
SMITH RESERVOIR
MT HOMES RESERVOIR
Culebra Creek
Rito Seco
SAN LUIS
EASTDALE RES No 2
EASTDALE RES No 1
SANCHEZ RESERVOIR
COSTILLA
Costilla Creek
COSTILLA RESERVOIR
CHAMA
Willow Creek
South Portal Azotea
San Antonio
HERON RES
Horse Lake Creek
RIO CHAMA
Rio Brazos
TIERRA AMARILLA
Rio Nutrias
EL VADO RES
Rio Tusas Creek
Rio Vallecitos
TRES PIEDRAS
Arroyo Aguaje de la Petaca
Cabresto Reservoir
RED RIVER
QUESTA
RIO HONDO
Arroyo Seco
Rio Lucero
Rio Pueblo de Taos
TAOS
Rio Cebolla
Canjilon Creek
Arroyo Seco
Rio Gallina
ABIQUIU RES
ABIQUIU
Rio Ojo Caliente
Embudo Creek
Truchas Creek
CUBA
SAN GREGORIO RES
ESPAÑOLA
Santa Cruz River
SANTA CRUZ RES
Pojoaque Creek
JEMEZ RIVER
LOS ALAMOS
Rio Tesuque
NAMBE FALLS RES
NICHOLS RES
SANTA FE
McCLURE RES
SANTA FE RIVER
RIO PUERCO
COCHITI LAKE
GALISTEO RESERVOIR
Galisteo Creek
JEMEZ CANYON RESERVOIR
BERNALILLO