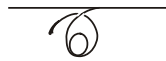
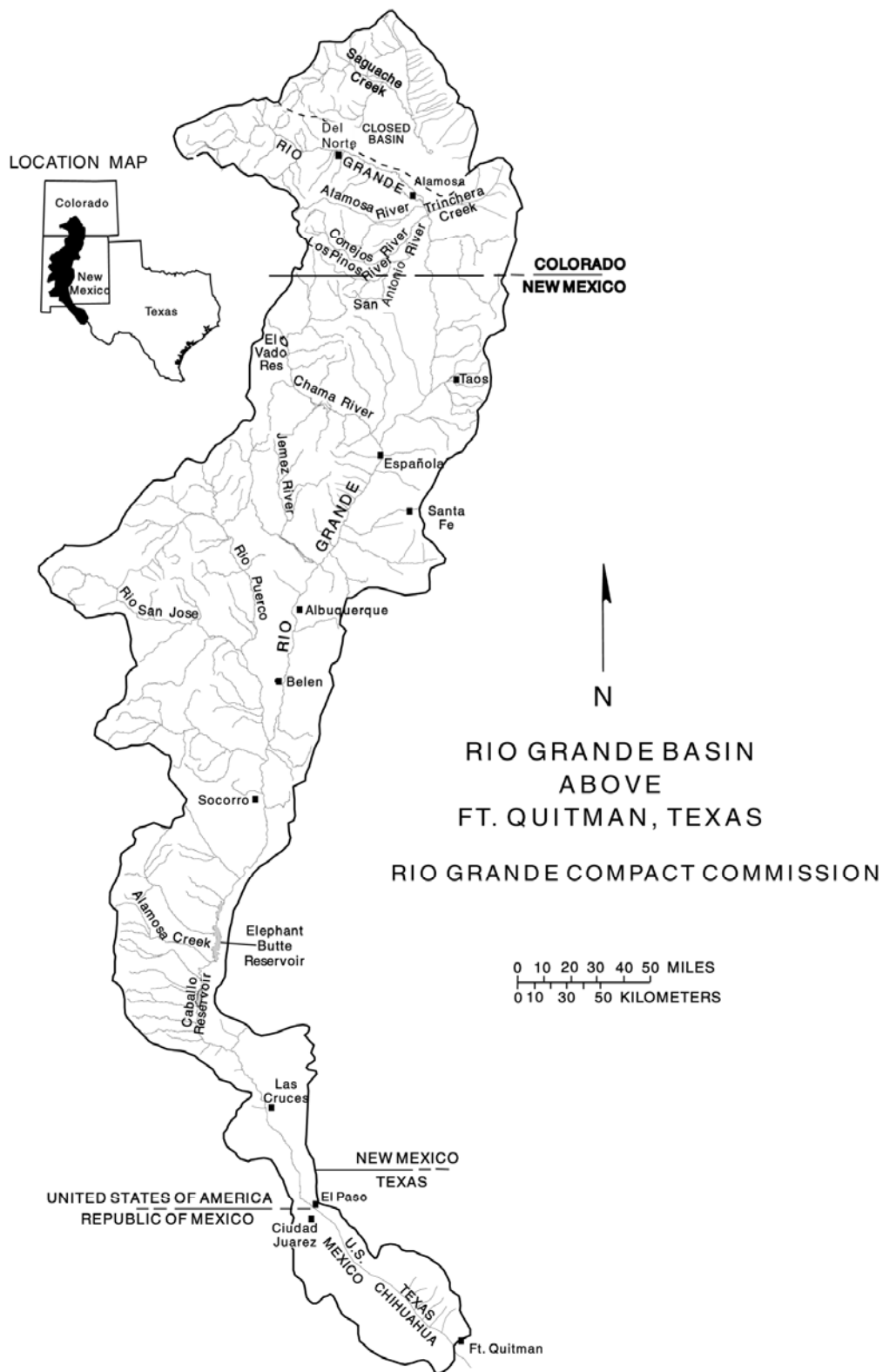


**REPORT
of the
RIO GRANDE COMPACT
COMMISSION
FOR CALENDAR YEAR 2022**



**TO THE GOVERNORS OF
Colorado, New Mexico and Texas**



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RIO GRANDE COMPACT COMMISSION

COLORADO NEW MEXICO TEXAS

April 21, 2023

The Honorable Michelle Lujan Grisham
Governor of the State of New Mexico
Santa Fe, New Mexico

The Honorable Greg Abbott
Governor of the State of Texas
Austin, Texas

The Honorable Jared Polis
Governor of the State of Colorado
Denver, Colorado

Honorable Governors:

The 84th Annual Meeting of the Rio Grande Compact Commission was held in Santa Fe, New Mexico on April 21, 2023. The meeting was held to discuss Rio Grande Compact issues such as compact accounting and administration. Public comment was also received by the Commission.

The Commission reviewed the cost of operation and found that the expenses for the administration of the Rio Grande Compact were \$223,929 in the fiscal year ending June 30, 2022. The United States bore \$71,840 of this total; the balance of \$152,089 was borne equally by the three States party to the Compact.

Upon printing, the Report of the Rio Grande Compact Commission for calendar year 2022 will be provided under separate cover.

Respectfully,



Mike A. Hamman, P.E., Commissioner for New Mexico



Robert S. Skov, Commissioner for Texas



Kevin G. Rein, P.E., Commissioner for Colorado

**REPORT OF THE ENGINEER ADVISERS
TO THE RIO GRANDE COMPACT COMMISSION
FOR CALENDAR YEAR 2022
April 11, 2023**

The Engineer Advisers to the Rio Grande Compact Commission met in person and by video conference on January 19, 2023, and from March 13 to March 17, 2023, to:

- Receive reports;
- Reconcile the 2011 to 2021 Rio Grande Compact (Compact) water accounting pursuant to the November 10, 2022 Rio Grande Compact Commission Credit Water Agreement for Administration and Accounting at Elephant Butte Reservoir (Agreement)
- Prepare the 2022 Compact water accounting;
- Discuss continuing and new issues in preparation for the 2023 annual meeting of the Rio Grande Compact Commission (Commission); and
- Prepare the Engineer Advisers' report.

The Engineer Advisers received the participation of the Colorado Division of Water Resources (CDWR), 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) at the meetings. The agencies each presented information about their specific water-related activities in the basin during calendar year 2022.

2011-2021 COMPACT ACCOUNTING RECONCILIATION

Since 2011, there has been a lack of consensus among the Engineer Advisers on finalizing the annual Compact delivery accounting. The lack of consensus is well documented in the annual reports of the Engineer Advisers from 2011 through 2021. At the direction of the Rio Grande Compact Commission, in June of 2022, the Engineer Advisers initiated discussions to reach a consensus on finalizing Compact accounting for 2011 forward. In Fall 2022, the Engineer Advisers developed the Agreement that resolved the dispute over how the evaporative losses on Credit Water are calculated and tabulated in the accounting for water deliveries. The

Agreement also addresses future mandatory relinquishments, accounting of evaporation of Credit Water using the “Constant Credit Water Method,” and a one-time adjustment to delivery credits for New Mexico and Colorado to compensate for the 2011 releases of Credit Water.

On November 10, 2022, at a special meeting of the Rio Grande Compact Commission, a resolution was passed which adopted the Agreement. Based on this Agreement, the Engineer Advisers reconciled the annual Compact delivery accounting from 2011 to 2021. The methodology described below was utilized to reconcile the accounting, using the 2010 approved accounting as a starting point. Calculation of evaporation on Credit Water used the following methodology:

- Rio Grande storage and Rio Grande evaporation in Elephant Butte Reservoir data were exported from the final Upper Rio Grande Water Operations Model (URGWOM) files for the years 2011-2021;
- Beginning of Year (BOY) Credit Water in storage for Colorado and New Mexico was held constant throughout each year;
- Evaporation on Colorado and New Mexico’s Credit Water was calculated on a daily timestep for each year, in proportion to the total amount of native water physically stored daily in Elephant Butte Reservoir. In previous years, evaporation on Credit Water was calculated on a monthly timestep, but since daily pan evaporation and reservoir storage data are readily available, a more accurate daily timestep method was utilized for the accounting reconciliation.; and
- The daily Credit Water evaporation was totaled for Colorado and New Mexico annually for each year, and the BOY Credit Water storage for each state was reduced by the respective evaporation volumes for 2011 through 2021.

As part of their discussions on reconciliation of the accounting, the Engineer Advisers also agreed to compute evaporation on retained Debit Water in storage on a daily basis and to apply it annually. This method can be used to calculate evaporation on retained Debit Water in any reservoir where it may be in storage:

- The data for Rio Grande storage and evaporation in El Vado Reservoir were exported from the final URGWOM files for the years when New Mexico retained Debit Water (2017, 2018 and 2020);
- Evaporation on New Mexico’s retained debit was calculated on a daily timestep in proportion to the total native water stored daily in El Vado; and

- For the years where Debit Water was retained, the daily evaporation on debit water was totaled annually and applied as a credit to the Accrued Debit.

The reconciled and Engineer Adviser-approved accounting sheets will be presented to the Commissioners for approval at the 2023 Commission annual meeting, in accordance with the Agreement. The reconciled accounting sheets will be included in a separate document in the Rio Grande Compact Commission annual report.

The Engineer Advisers agreed that this will be the method for Credit and Debit water accounting going forward. Based on the reconciled accounting period which ended on December 31, 2021, New Mexico's Accrued Debit was 128,900 acre-feet, and Colorado's Accrued Debit was 4,000 acre-feet.

2022 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 2022 and reached a consensus on the accounting. As determined by the Engineer Advisers, scheduled and actual deliveries, release of Usable Water for the year 2022, and balances as of January 1, 2023, are as follows:

Deliveries by Colorado at the State line:

Balance as of January 1, 2022	-4,000 acre-feet
Scheduled delivery from Conejos River	86,200 acre-feet
Scheduled delivery from Rio Grande	109,800 acre-feet
Actual delivery at Lobatos plus 10,000 acre-feet	199,900 acre-feet
One-time adjustment/delivery credit	300 acre-feet
Accrued credit January 1, 2023	200 acre-feet

(a) Deliveries by New Mexico at Elephant Butte

Dam:

Balance as of January 1, 2023	-128,900 acre-feet
Scheduled delivery	336,600 acre-feet
Actual delivery	340,000 acre-feet
One-time adjustment/delivery credit	32,500 acre-feet
Accrued debit January 1, 2023	93,000 acre-feet

(b) Project Storage and Releases:	
Accrued departure (credit) as of January 1, 2023	2,765,800 acre-feet
Actual release of Usable Water	269,900 acre-feet
Normal release for year	790,000 acre-feet
Under Release in excess of 150,000 acre-feet	370,100 acre-feet
Accrued departure (credit) as of January 1, 2023	2,915,800 acre-feet

For calendar year 2022, New Mexico carried an Accrued Debit of 128,900 acre-feet. Article VI of the Rio Grande Compact states in part that, “Within the physical limitations of storage capacity of such reservoirs, New Mexico shall retain water in storage at all times to the extent of its accrued debit.” New Mexico was unable to store Debit Water in 2022 because Article VII restrictions were in effect for the entire year.

The Engineer Advisers jointly prepare the Compact accounting based on information provided and presented by state and federal agencies, which is the best available information at the time of report preparation. The Engineer Advisers’ report is considered final upon signature by the three Engineer Advisers.

RIO GRANDE BASIN CONDITIONS

Snowpack and snow-water equivalent (SWE) amounts were near to below average throughout the winter of 2021-2022. The SWE for most headwater areas in both Colorado and New Mexico peaked at slightly below their average peak values. At the end of the winter season the SWE dropped drastically, resulting in a snow-free date for most locations occurring approximately one month earlier than usual. Below-average precipitation in the spring months as well as windy conditions and very low soil moisture were factors preventing much of the SWE from reaching the rivers and streams. As a result, snowmelt runoff levels and yearly streamflow amounts in 2022 were well below the long-term average for most areas across the basin in Colorado and in New Mexico. Multiple summer monsoonal precipitation events were instrumental in increasing most basin streamflows to around the historical average.

Due to the low runoff flows, Platoro Reservoir only reached a high of approximately 44 percent of capacity during late May of 2022. Usable Water in Rio Grande Project (Project) Storage was below the Article VII trigger of 400,000 acre-feet the entire year, which imposed Article VII storage restrictions on storage in post-compact reservoirs.

CONTINUING ISSUES

This section of the report summarizes new information about issues previously addressed by the Engineer Advisers. It reflects information obtained by the Engineer Advisers prior to the writing of the Engineer Advisers' report, including information obtained from the reports of the federal agencies at the 2023 Engineer Advisers meetings or otherwise reported. The terms "reported" and "indicated" herein reflect information provided by various entities without analysis or approval by the Engineer Advisers.

Middle Rio Grande Endangered Species Collaborative Program

The Middle Rio Grande Endangered Species Collaborative Program (Collaborative Program) was authorized by the Omnibus Appropriations Act of 2009 (P.L. 111- 8). The Collaborative Program continues to seek innovative and collaborative ways to support Endangered Species Act (ESA) compliance for listed species while protecting water uses in the Middle Rio Grande. Reclamation reported that their federal appropriations in federal fiscal year (FY) 2022 were \$2.78 million for Collaborative Program activities, which stayed consistent from the \$2.78 million in federal FY 2021 but decreased from \$3.84 million in federal FY 2020. Projects funded through Reclamation that remain in the Collaborative Program are several long-term monitoring programs such as the Rio Grande silvery minnow (RGSM) population and genetics monitoring, and Middle Rio Grande bird surveys.

WildEarth Guardian's Litigation over the 2016 Biological Opinion

On November 30, 2022, WildEarth Guardians filed a lawsuit in U.S. District Court against the Service and Reclamation regarding the 2016 Middle Rio Grande Biological Opinion (2016 BO). The lawsuit claims the 2016 BO is invalid under the Endangered Species Act (ESA) and arbitrary under the Administrative Procedure Act. The MRGCD intervened without protest and on February 6, 2023, a 90-day stay was granted for settlement negotiations.

Upper Rio Grande Water Operations Model

The URGWOM is a computational model developed through an interagency effort led by the Corps, Reclamation, and the New Mexico Interstate Stream Commission (NMISC). The effort includes regular meetings to discuss modeling outputs for daily water operations and

accounting procedures.

During 2022, URGWOM activities included:

- Updating the basin-wide annual operating plan (AOP) in collaboration with Reclamation and the NMISC;
- Updating the database to include data through 2021 for the MRG and the Lower Rio Grande (LRG);
- Developing, calibrating, and implementing deep aquifer objects into the model;
- Updating the five-year plan;
- Updating all URGWOM documentation volumes to the public website;
- Studying the Abiquiu deviation to store Prior and Paramount water due to rehabilitation of El Vado Dam; and
- Continuing to develop the real-time operation model by linking URGWOM to the Corps Water Management System (CWMS) and using National Weather Service (NWS) forecasts for real-time operations.

Key objectives for 2023 include:

- Preparing basin wide AOPs for 2023;
- Continuing to develop CWMS compatibility with our partners at the Center for Advanced Decision Support for Water and Environmental Systems to eventually move URGWOM into the CWMS platform; and
- Updating the Real-Time Forecast Model using NWS forecast data (10-day forecast).

Compliance by Federal and State Agencies with State Water Law

The NMISC continues to track habitat restoration projects implemented by various federal and state agencies, and to account and report on related depletions in the Middle Rio Grande. It coordinates with the New Mexico Office of the State Engineer (NMOSE) to determine if a permit is needed and to ensure any new depletions are offset by the projects' sponsors. The NMISC reported that it continues to coordinate with the Corps on several habitat restoration projects to ensure that those depletions are offset. The NMISC also coordinates with Reclamation in using the State's Strategic Water Reserve for ESA-related water management, including offsetting depletions associated with habitat restoration and river augmentation

activities. Below-average snowmelt runoff in 2022 resulted in approximately 2 acre-feet of depletions for habitat restoration projects in the Middle Rio Grande that were offset by New Mexico's Strategic Water Reserve.

Elephant Butte Delta Channel Project

With a below-average snowmelt runoff and an above-average monsoon season the Elephant Butte Delta Channel (Delta Channel) successfully conveyed all flows during 2022. The extended duration of the monsoon season, combined with the lower magnitude of precipitation, generated smaller peak flows that resulted in less degradation of the Delta Channel throughout the year.

During October and November of 2022, the NMISC construction contractor conducted regular maintenance on the Delta Channel in the middle and upper project sections. Since 2003, New Mexico has spent nearly \$20 million to construct and maintain the Delta Channel and continues to partner with Reclamation, which provides engineering support, environmental compliance, access-road work, and primary maintenance for the project.

Relinquishment Update

The total amount of Accrued Credit relinquished by Colorado since 2013 is 3,000 acre-feet. Colorado did not store any relinquishment credit water in 2022. Between 2013 and 2021, Colorado stored a total of 2,885 acre-feet of relinquishment credit water in Platoro Reservoir, which leaves a balance of 115 acre-feet in Colorado's relinquishment account.

The total amount of Accrued Credit relinquished by New Mexico since 2003 is 380,500 acre-feet. No relinquishment credit water was stored in New Mexico reservoirs during the 2022 calendar year. Relinquishment-credit water storage to date totals 288,728 acre-feet, leaving a balance of 91,772 acre-feet available to be stored in future years when Article VII storage restrictions are in effect.

Article VII storage restrictions are anticipated to be lifted for several months beginning in the spring of 2023.

Gaging Station Review

At the preliminary Engineer Adviser meeting in January 2023, the Colorado Division of Water Resources (CDWR) reported on activities at Colorado's Compact gages. The Colorado USGS reviewed CDWR gaging station records for the seven Colorado Compact gages and approved all of those records for 2022. The CDWR made an average of 28 measurements at each of these seven compact gaging stations. The records for most of these stations were rated as "good" except for the periods of estimation, which were rated as "poor".

For the Rio Grande near Otowi streamflow gage (#08313000), the USGS reported that in calendar year 2022 they continued to use the stage discharge rating (#42) which was implemented on February 8, 2021. The USGS reported they made a total of 14 measurements at the Otowi gage in 2022, with nine rated "good", one rated "fair", and one rated "poor". For 2022, the USGS continued to utilize redundant primary sensors (non-contact radar and wire weight) as well as redundant secondary reference gages (bubbler and staff gage) for gage-height readings. There were no equipment changes at the Otowi gage for 2022.

The USGS reported that during the 2022 calendar year, 33 measurements were collected at the Rio Grande below Elephant Butte streamflow gage (#08361000). Of the 33 measurements, 13 were rated "good", five were rated "fair", and two were rated "poor." Aquatic vegetation growth on the streambed at the USGS gaging station section continues to cause a low bias in gaged flow during certain months. This issue has occurred for an undetermined period but began to be addressed in 2016 by utilizing an alternate section which is not impacted by vegetation growth during certain months. After June 1, 2022, all measurements were made at the alternate section below Elephant Butte dam due to vegetation impacts at the primary section cableway. The gage records for 2016 through 2022 reflect improved precision, and the NMISC will continue to coordinate with the USGS to provide more accurate gage records in the future.

Reclamation reported that they analyzed the data for the Rio Grande Below Caballo gage. A total of 42 measurements were made at the below Caballo gage between June 1st and August 20th of which 24 measurements were reported as "Compact measurements." The Acoustic Doppler Velocity Meter (ADVM) is no longer being utilized at the site because their analysis has indicated that stage-discharge data are more representative of flow due to the site conditions. The ADVM will be deployed to the alternate section below Elephant Butte.

The USGS also reported that they reviewed and approved the 2022 streamflow gage below Caballo (#08362500) flow records developed by Reclamation, and that all necessary documentation was provided. The USGS reported that the record accuracy looked good, in large part due to the high number of measurements made at the gage.

The NMISC continued its survey of water-level elevations in Elephant Butte and Caballo reservoirs. NMISC's surveyor performed surveys alongside Reclamation staff in June 2022 and January 2023. Results from both NMISC's surveys indicated that Reclamation's reservoir stage elevations were within the agreed upon threshold criteria of 0.05 feet difference between the surveyed elevation and the stage-discharge recorder (SDR). Reclamation performed routine stage elevation surveys throughout 2022 and adjusted the SDR as needed if the threshold criteria was exceeded.

In 2022, Reclamation continued to measure Elephant Butte elevation via the SDR and a bubbler. The bubbler, which is maintained in conjunction with the USGS, shows more scatter but in general more accurately reflects observed elevation when the reservoir is low. NMISC and Reclamation will continue to perform side-by-side surveys at select times during 2023 to ensure the accuracy of the reservoir elevation data.

Mass Balance Review

The NMISC conducted a mass balance analysis for the Rio Grande between the Elephant Butte and Caballo gages for calendar year 2022. The mass balance analysis indicated that the reach gained water in nine out of twelve months with a total calculated annual gain of 43,242 acre-feet. The large gain during the year is largely attributed to intervening flows from significant monsoon rains, with August and September inflows exceeding 20,000 acre-feet and 15,000 acre-feet respectively. Losses occurred in May, June, and July with May seeing losses of over 5,000 acre-feet as irrigation water started being released.

Gaging Station Costs

The Engineer Advisers and Compact Commissioners have expressed concern in the past multiple years over the large difference in costs between what Reclamation charges to operate the gage below Caballo Reservoir as compared to what CDWR and USGS charge for other Compact gages. The three Compact states split the costs of their operations in support of the

Compact equally, including operation and maintenance of the Compact gaging stations. Therefore, this high cost from Reclamation affects all three states.

The cost charged by Reclamation for the operation of the below Caballo Gage for this coming year is no exception to the recent very large charges that Reclamation submits to the Engineer Advisers. For this upcoming year, Reclamation provided a cost estimate for the operation of this gaging station of \$36,581. Of that total, the cost to be borne by the compact states was \$29,265. This is an increase of \$14,024, or a 92% increase over last year's costs. Additionally, there was no documentation or justification to support this very large increase, even though the Engineer Advisers have asked repeatedly for this information. Currently Reclamation's charges to the Compact states are approaching three times the amount of the average cost charged per gage by CDWR and USGS. The Engineer Advisers remain very concerned with Reclamation's high cost for the operation of this gage and with the large fluctuations in the charged costs year to year and request detailed documentation and justification from Reclamation on how their gaging costs are derived.

Colorado Groundwater Regulations

In late 2015, the State Engineer of Colorado completed the development of rules and regulations concerning the use of groundwater in the Upper Rio Grande Basin in Colorado. These rules were approved by the Colorado Division 3 (Rio Grande Basin) Water Court in 2019 and went into full effect on March 15, 2021. As an integral part of these rules, the State Engineer of Colorado has also completed the development of Phase 6 of the Rio Grande Decision Support System Model. Development of Phase 7 began and is currently moving forward along with peer review. This model captures the interaction between surface and groundwater and shows the effect that wells have on senior surface water rights. The owners of non-exempt wells are required to mitigate the injurious depletions that their wells cause to senior surface-water rights and regulate the use of the confined and unconfined aquifers to maintain a sustainable water supply in each aquifer system. There are currently seven groundwater user subdistricts and multiple individual augmentation plans that have been developed as a way for the well owners to comply with the rules. Difficulty meeting sustainability in Subdistrict One has led to the contemplation of a new Plan of Water Management for that subdistrict and the filing of three significant independent Plans of Augmentation in Colorado Water Court.

Aamodt Settlement and Pojoaque Basin Regional Water System

The Aamodt Water Rights Settlement Agreement (Settlement Agreement) was developed through multi-party negotiations, which began in 2000 between the Pueblos of Nambé, Pojoaque, Tesuque and San Ildefonso, the State of New Mexico, the United States of America, Santa Fe, Santa Fe County, and representatives of non-Pueblo water users, to settle the Pueblos' water right claims in the Pojoaque Basin. The Settlement Agreement provides for the funding and construction of the Pojoaque Basin Regional Water System to supply treated water to Pueblo and non-Pueblo parties. As expressly stated in the Settlement Agreement, "Nothing in this agreement shall be construed to limit the authority of the State Engineer to...ensure compliance with the Rio Grande Compact," (Section 6.6.1.6). The Engineer Advisers will continue to evaluate the project as it moves forward, including evaluating potential impacts to the Otowi Index Supply.

The final Pojoaque Basin Regional Water System Environmental Impact Statement was published in the Federal Register in January 2018 and the Record of Decision was signed on September 11, 2019. Construction began on the intake area of the Regional Water System in June 2020. Additional funding and a time extension were authorized in late 2020 and the first portion of Phase I work was completed in January 2022. The next portion of Phase 1 construction was expected to begin in March 2022.

In 2022, about 3 acre-feet were withdrawn from the completed wells for construction purposes, such as dust abatement and compaction.

Reclamation's Lower San Acacia Reach Improvements Project

For FY 2022, Reclamation reported on progress on the Identification of San Acacia Reach Options (ISARO), which advanced to the next stage called the Evaluation of San Acacia Reach Options (ESARO) and is now referred to as the Lower San Acacia Reach Improvements Project (LSARI). This project focuses on the lower section of the San Acacia Reach from Highway 380 bridge just above the Bosque del Apache National Wildlife Refuge (BDANWR), downstream to the Narrows of Elephant Butte Reservoir. As previously reported, this area has historically been problematic for deliveries of water and sediment downstream into the reservoir, and high losses continue to occur in this section of the river. Reclamation has engaged with the NMISC, MRGCD, Service, and local landowners on its conceptual engineering options. A Value

Planning Study required by Reclamation for large-scale projects was completed in 2021. In 2022, two alternatives were identified, a feasibility-level study and EIS was started, and a technical team was established that includes nonfederal partners, with an estimated completion date in 2024.

Conversion from a two-channel system consisting of the river channel and Low Flow Conveyance Channel (LFCC) to a single channel is the highest-ranking option in a Feasibility Study, but other options will continue to be evaluated. In addition, the re-operation of the LFCC from the San Acacia Diversion Dam to its terminus will be part of the evaluation as requested by the MRGCD.

YEAR 2021 OPERATIONS

Closed Basin Project

The total production of the Closed Basin Project in calendar year 2022 was 11,673 acre-feet. This total includes water that was exchanged for Colorado Parks and Wildlife water to be delivered to the Blanca Wildlife Habitat Area, the Alamosa National Wildlife Refuge and to the San Luis Lakes State Wildlife Area. The amount creditable for Compact purposes from direct delivery and exchange was 8,276 acre-feet. 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 the water delivered to the Rio Grande in 2022 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. During 2022, Reclamation rehabilitated 19 wells and installed four new pumps. Wells will continue to be rehabilitated as budgetary constraints allow to help maintain project production. The Closed Basin Operating Committee continues to monitor groundwater levels and groundwater production and to adjust project operations pursuant to the enabling legislation.

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 San Juan Chama Project (SJCP) water, for endangered species' needs and compliance with the 2016 BO. The program originally included

water acquisition, reservoir storage, and release of water to support river flows. From 2001 to 2020, it also included operation of a pumping network in the San Acacia Reach to pump water from the LFCC to the river.

In 2022, a total of 6,337 acre-feet of supplemental water was released for endangered species purposes. Reclamation reported that the release of supplemental water began on May 24 and continued through June 17. Releases resumed on July 8 through July 27 and again on September 5 through September 21.

Reclamation ended 2022 with a total of 5,016 acre-feet of supplemental water in storage: 1,656 acre-feet of water in Abiquiu Reservoir and 3,360 acre-feet of water in Heron Reservoir, all leased from 2022 SJCP contractor allocations. Reclamation is negotiating leases of up to 12,000 acre-feet from SJCP contractor allocations for 2023.

In addition to the water released by Reclamation, three other sources of water were reportedly used to support ESA needs:

- 139.61 acre-feet of pre-1907 native rights were permitted for offset via New Mexico's Strategic Water Reserve, released as needed between April 27 and May 5;
- 137 acre-feet of SJCP water leased by Audubon New Mexico, released between June 15 and September 11; and
- 2,551 acre-feet of native water were acquired via the MRGCD's Environmental Water Leasing Program (EWLP), which is a fallowing program funded by Reclamation.

Reclamation reported that 2,554 acres were enrolled in the EWLP and that the program receives a credit, in acre-feet, for all enrolled acres, prorated to account for water availability. According to Reclamation, above average monsoon activity resulted in above average summer and fall inflows, which generated a credit of 7,015 acre-feet for the season. Beginning in June, 2,551 acre-feet of this water were released for ESA needs and Reclamation reported that the remaining 4,464 acre-feet of EWLP credits were not released and did not carry over.

The Neil Cupp pumping site, originally developed by Reclamation for temporary pumping operations from the LFCC to the river, was converted to a permanent pumping site in 2020. It is now owned and operated by MRGCD and is capable of pumping to both the river and to irrigation facilities. In 2022, MRGCD pumped a total of 230 acre-feet to the river between June 2 and June 7 to maintain river connectivity.

Six Middle Rio Grande Pueblos Prior and Paramount Operations

In 2022, due to the limitations of storage in El Vado Reservoir during the repair to El Vado Dam, a request was made by the Corps to the Commission to allow Rio Grande water to be stored in Abiquiu Reservoir for use by the Pueblos in their Prior and Paramount (P&P) operations. The three compacting states agreed to allow up to 20,000 acre-feet of storage in Abiquiu Reservoir for P&P operations. Storage began on January 1, 2022, and the entire amount was stored while Article VII Compact restrictions were in place. Due to significant monsoon rains and sufficient spring runoff, none of the water stored for P&P operations in 2022 was released for irrigation purposes. The P&P water stored in Abiquiu Reservoir suffered 1,356 acre-feet of evaporative losses, and the remaining 18,644 acre-feet was released downstream to Elephant Butter Reservoir November 15 through December 12, 2022.

Based on the March 2023, most-probable snowmelt runoff forecast, the BIA reported a preliminary storage target of approximately 18,496 acre-feet for their P&P operations in 2023. Additional forecasts may change this storage estimate, and the May 1 forecast is used as the final storage target. If the computed P&P storage based on the May 1 forecast is less than the 20,000 acre-feet permitted for P&P use in 2023, then the computed storage amount would be used. It is anticipated that all P&P storage in 2023 will be made during Article VII restrictions.

The BIA was able to make funding available to the Pueblos to perform work upgrading their irrigation systems. The BIA also provides funds to the MRGCD to perform maintenance work on the systems which serve Pueblo lands.

2022 Rio Chama Water Supply Conditions

Snowpack conditions in the Rio Chama Basin were well-below average during the winter of 2021-2022. The March through July native inflow to El Vado Reservoir was 114,422 acre-feet, or approximately 51 percent of average.

Beginning in early summer, flows on the Rio Chama were insufficient to meet the direct-flow irrigation needs of the Rio Chama Acequia Association (RCAA). RCAA represents 16 acequias on the Rio Chama between Abiquiu Reservoir and the confluence with the Rio Grande that have direct surface flow diversion rights. With insufficient native flows to meet their needs and the absence of sufficient leased SJCP water, the NMOSE curtailed RCAA diversions to the available natural flow of the river from summer through fall of 2022.

Rio Grande Project Operations

The 2022 Rio Grande Project (Project) water accounting amounts were approved by the respective district boards and Reclamation prior to the 2023 Engineer Advisers' Meeting. All accounting information reported by Reclamation is based on URGWOM.

On January 1, 2022, there was 183,512 acre-feet of Usable Water in Project Storage (Elephant Butte and Caballo reservoirs combined) and 275,963 acre-feet on December 31, 2022. Usable Water reached a high of 296,984 acre-feet on May 27 and a low of 89,546 acre-feet on August 18, 2022.

Reclamation's initial allocation for calendar year 2022 for El Paso County Water Improvement District No. 1 (EP No. 1) and Elephant Butte Irrigation District (EBID), was calculated in May after the 2021 water accounting had been finalized.

Mexico was provided an initial allocation of zero acre-feet in December 2021. Based on the provisions of the 1906 Convention for extraordinary drought, the allocations to Mexico were updated monthly, with a final in-season allocation in July 2022 of 14,827 acre-feet, which is about 24 percent of a full allocation.

The final in-season Project allocation of 340,257 acre-feet was given on July 7, 2022, including Mexico's allocation of 14,827 acre-feet. The final calculated charges were: 111,483 acre-feet to EP No. 1; 82,339 acre-feet to EBID; and 14,843 acre-feet to Mexico. A total of 208,665 acre-feet of water deliveries were charged to the Project water users.

Mexico is allocated Project Water for delivery during the year based on the anticipated release of Usable Water. This allocation cannot be reduced once it has been made. The actual release for the 2022 irrigation season was less than the anticipated release forecasted in May. Deliveries to Mexico during the year are made based on the most recent Project allocation. At the

end of the year, Mexico's final allocation is determined using the actual annual release from Caballo Dam. If the amount of water delivered to Mexico is larger than Mexico's final allocation, the difference is charged to the two districts based on the proportion of the end-of-year 2022 allocation balances. Therefore, EP No. 1 and EBID were charged with -562 acre-feet and -739 acre-feet, respectively, as adjustments for the difference between Mexico's allocation and measured diversions.

Reclamation reported that the final 2022 allocation balances and beginning balances for 2023 were 71,860 acre-feet and 58,447 acre-feet for EP No. 1 and EBID, respectively.

Reclamation reported final 2022 releases from Caballo Reservoir for Project accounting during the irrigation season of 268,290 acre-feet for all three Project water users: EP No. 1, EBID, and Mexico. Releases from Caballo Reservoir began on June 1 and ended on August 20, 2022. EBID and EP No. 1 began the irrigation season with coordinated orders and diversions. Mexico delayed their initial order by one week, and their diversions began on June 7. EBID ended their surface water diversions on June 28, Mexico ended on August 9, and EP No. 1 ended diversions on August 31.

During 2022, Reclamation's report indicates drainage flows into Hudspeth County Conservation and Reclamation District No. 1 (HCCRD) during March through September were 16,009 acre-feet. The calendar year total flow data for HCCRD was 25,827 acre-feet. Additionally, 926 acre-feet was delivered from Caballo Reservoir through the Bonita Lateral during calendar year 2022.

The USGS reported that the total annual flow volume at the gage below Elephant Butte dam was 281,815 acre-feet. There was a total of 268,974 acre-feet measured at the Caballo gage which is the amount used in Compact accounting for the calendar year.

For 2023 Project operations, Reclamation determined that the initial 2023 allocation to Mexico is 7,374 acre-feet based on the December 1, 2022, data. Reclamation will continue to evaluate the amount of Usable Water monthly to determine the actual Project allocations, which will occur in April or May.

Based on the March 2023 snowmelt runoff forecast for the Rio Grande and current hydrologic conditions, Reclamation anticipates a shortened irrigation season beginning around June 2, 2023.

ADDITIONAL FEDERAL AGENCY REPORTED INFORMATION

Representatives for Reclamation, Corps, USGS, Service, and IBWC presented additional information to the Engineer Advisers as summarized below:

U. S. Geological Survey

The Engineer Advisers received reports from the USGS on their Rio Grande Basin studies. The USGS, in cooperation with Reclamation, has developed a model of the transboundary aquifers and interconnected surface waters of the Palomas and Mesilla basins in New Mexico and Texas and the Conejos-Médanos Basin of northern Mexico, known as Rio Grande Transboundary Integrated Hydrologic Model (RGTIHM). A Scientific Investigations Report was published in 2022. USGS is currently extending the simulation period of the historical calibration and incorporating a process to allow dynamic simulation of Rio Grande Project operations. USGS also reported on a project to study streamflow response to potential changes in climate in the Upper Rio Grande basin.

The USGS listed, but did not give details on, many other New Mexico Water Science Center projects and activities in the Rio Grande Basin, such as the Transboundary Aquifer Assessment Program, the Mesilla Basin Monitoring Program, URGWOM support and other groundwater and surface water monitoring programs.

U.S. Army Corps of Engineers Civil Works Projects

The Corps reported on the status of Civil Works projects under the Water Resources Development Act (WRDA) of 2020, which provided reauthorization for the Rio Grande Environmental Management Program in Colorado, New Mexico, and Texas. Authorization for this program was extended through federal FY 2029. Current projects undergoing either a feasibility study, higher-level planning, or construction include: Abiquiu Reservoir legislation, Bernalillo to Belen Levee Project, and Sandia to Isleta ecosystem restoration.

Legislation related to Abiquiu Reservoir in WRDA 2020 changed the storage limit of SJCP and native Rio Grande water in Abiquiu Reservoir from a total volume of 200,000 acre-feet to an elevation of 6,230 feet MSL (229,199 acre-feet) and to allow concurrent storage of Rio Grande and SJCP water in Abiquiu Reservoir. This would not have an effect on flood control operations at Abiquiu. The Water Control Manual must be updated and environmental

compliance completed, with a target date of the end of 2023. Additionally, future storage easements must be acquired.

The Bernalillo to Belen Levee Project, Espanola Valley Ecosystem Restoration, and Sandia to Isleta Ecosystem Restoration projects are authorized for construction under WRDA 2020. Most received funding to begin work on design and compliance contingent on executing agreements with project sponsors in FY 2023. The Espanola Valley Ecosystem Restoration design agreements were signed in November 2022 and the design is ongoing.

The Tribal Partnership Program is currently underway for San Felipe, Santa Ana, Zia, and Santo Domingo pueblos. These projects include watershed assessments, drought resilience planning and feasibility studies for irrigation infrastructure. Efforts were initiated in FY 2020 and were completed in FY 2022.

Rio Grande Silvery Minnow

The Service reported on the 2022 monitoring results for the endangered Rio Grande silvery minnow (RGSM) using the October Catch per Unit Effort (CPUE) data used to report long-term trends in relative abundance.

The Service has adopted the use of 30 sites for evaluating RGSM take instead of the standard 20 sites. The 2022 October fish monitoring estimated an RGSM density of 0.17 fish/100 square meter (m^2) for 30 sites. High spring runoff years in 2017 and 2019 had October RGSM densities of 23.2 and 3.4 fish/ m^2 . However, due to rapid decreases in discharge and extensive drying in 2022, there were no successful spawning events or egg collection, which impacted hatchery production and augmentation. The Service reported that only 129,497 (out of the 269,000 needed) RGSM were augmented to the Middle Rio Grande in 2022, in comparison to 208,772 in 2021, and 310,634 in 2020. Fish were provided by the City of Albuquerque's BioPark, the Service's Southwestern Native Aquatic Resources and Recovery Center located in Dexter, New Mexico, and the NMISC's Los Lunas Silvery Minnow Refugium. The Service expressed concern about the potential CPUE in 2023 because of the lower-than-normal number of augmented fish in 2022. The Service stated that through 2021, the 2016 BO has not been violated nor has Reclamation exceeded its take for RGSM. The Service is waiting for the 2022 final report from Reclamation for a decision on the 2022 CPUE. Only a portion of the RGSM that were stocked in 2020, 2021, and 2022 were tagged because of Covid-19 restrictions, so

distinguishing wild and hatchery fish will not be possible until tagging of all the fish is resumed.

The Service, with assistance from the 2016 BO partners, conducted rescue activities in the 49.4 miles of unique drying within the San Acacia, Isleta, and Albuquerque reaches. There were 2,114 RGSM rescued from these reaches in 2022. Drying and fish rescue in the Albuquerque reach extended north to Montano Road.

El Vado Dam Repairs

Reclamation previously reported that substantial degradation of the steel lining system and service spillway has occurred at El Vado Dam. Corrective action studies determined that construction and repair work need to be conducted at the dam. The El Vado Safety of Dams Project is occurring in two phases: 1) installation of a synthetic liner system across the entire face plate of the existing dam to reduce embankment seepage, and 2) repair and refurbishment of the spillway.

Reclamation reported that contractor mobilization occurred in March 2022. During the 2022 construction season, the contractor completed repairs to the steel face plate and below-grade grouting efforts. Reclamation and the contractor also worked through several contract modifications related to material quantities and changes in site conditions. While the project is still on budget, it was reported that the contract changes are likely to add 6-12 months to the first phase of the project schedule.

Reclamation reported that the second phase of the project, the El Vado spillway repair and refurbishment, is going through final design changes and contract solicitation will be posted in late 2023 with construction activities scheduled to begin in spring of 2024.

During both phases of construction, there will be restrictions on storage of water in El Vado Reservoir. In 2022, NMISC and Reclamation each submitted a request to the Corps to deviate from the Water Control Plan at Abiquiu Reservoir to temporarily store native water at Abiquiu Reservoir during El Vado Dam and spillway construction activities under the same rules that would apply to native water storage at El Vado Reservoir. The Corps conducted the necessary regulatory compliance and ultimately stored only P&P water. (The Engineer Advisers note that Colorado and New Mexico approved storing all native water, while Texas approved storing only P&P water). The Corps reported that the deviation from normal operations at

Abiquiu Dam is valid through the 2024 calendar year. If the El Vado Dam repairs are not complete within that timeframe, additional requests from the parties will be required, but no additional regulatory compliance would be necessary.

Middle Rio Grande Project Channel Maintenance

Reclamation's report indicates it is pursuing work at 17 active priority sites along the Middle Rio Grande Project reach where bank erosion or reduced channel capacity could cause levee failure.

Reclamation reported that the BDANWR Pilot Realignment Project, which was completed in March 2021, had adaptive maintenance performed starting in October 2022. The adaptive maintenance focused on implementing additional mechanical adjustment of the bed slope, which was necessary because recent spring snow-melt runoff flows were insufficient to scour the project area as originally intended. (The New Mexico Engineer Adviser notes that the current channel continues to be undefined through a significant portion of the project, resulting in extensive open water evaporation that is likely contributing to Compact delivery issues.) Reclamation reported that the BDA upper realignment is currently in the design phase with NEPA compliance to begin in 2023 and construction expected to begin in 2024.

Reclamation reported on the River Mile 60 Project, which will temporarily connect the LFCC to the Rio Grande with controlled outfalls in the Lower San Acacia Reach. This project fulfills one of the 2016 BO Conservation Measures and has an intended goal of improving water delivery to Elephant Butte Reservoir while avoiding negative impacts to southwestern willow flycatcher (flycatcher) habitat nearby. Experimental operations and adaptive management plans have been developed and Reclamation is currently working on drafting a memorandum of understanding for the MRGCD to operate the project gates.

Vegetation Management at Elephant Butte and Caballo Reservoirs

Reclamation reported that it performed vegetation maintenance at Caballo Reservoir during 2022, using federal funding. Reclamation noted that maintenance at Caballo Reservoir included mowing and mulching of approximately 400 acres of phreatophytic vegetation.

(The Engineer Advisers remain concerned about the lack of vegetation management activities by Reclamation at Elephant Butte Reservoir. The State of New Mexico would support

vegetation management efforts at Elephant Butte Reservoir through the existing Technical Services Agreement and encourages Reclamation to work with staff to implement vegetation management projects at Elephant Butte in 2023.)

Southwestern Willow Flycatcher and Yellow-billed Cuckoo

Reclamation and the Service conduct surveys and nest monitoring for the flycatcher and the western yellow-billed cuckoo (cuckoo) during the summer along the Rio Grande from Belen, New Mexico, to El Paso, Texas. Survey efforts were impacted by travel and hiring restrictions during the COVID-19 pandemic that resulted in inconsistent survey efforts in 2020 and 2021. Decreases in reported territories do not represent the actual species condition within the Middle Rio Grande during those years.

For 2022, 504 flycatcher territories were documented in the Middle Rio Grande and 108 territories in the Lower Rio Grande. As usual, most of the flycatcher territories are in the San Marcial and Elephant Butte Reservoir areas; however, increased activity also occurred within the Isleta Reach. While the current number of flycatcher territories in the Middle Rio Grande is well above the recovery goal of 100 territories, habitats in other regions have not hit their recovery targets yet, and downlisting or delisting has not been considered for this species. In 2022, the Upper Rio Grande and San Luis Valley management units had limited survey efforts with 10 flycatchers found by the Bureau of Land Management. The next round of surveys in the San Luis Valley will occur in 2023.

Reclamation has historically conducted surveys for the cuckoo from Belen to El Paso. In 2022, 157 cuckoo territories were observed in the surveyed area. In late 2021, the Service began a Species Status Assessment (SSA), that is still in progress, to inform the future recovery plan. In 2022, the Upper Rio Grande and San Luis Valley management units had limited survey efforts with only one detection. The next round of surveys in the San Luis Valley is scheduled for 2023.

The tamarisk leaf beetle continues to be found in most of the Rio Grande area, and defoliation of salt cedar in occupied territories may result in impacts to nesting success. Although numbers of tamarisk beetles in the Middle Rio Grande have been declining in the past few years, this may be cyclical, and it is uncertain if there is a long-term trend.

Additional Listing Information Provided by the Service

In 2016, the Service found that listing the Rio Grande chub and the Rio Grande sucker may be warranted. A Conservation Agreement was signed in September 2018 between the Service and the states of New Mexico, Colorado and Texas, the Jicarilla Apache Nation, the Pueblo of Santa Ana, several counties in Colorado, the U.S. Forest Service, BLM, and the National Park Service to reduce the threats to these fishes. The Service will complete an SSA in 2023 and conduct a 12-month review in 2024.

The Service conducts photographic monitoring of the New Mexico meadow jumping mouse (jumping mouse) at BDANWR. In 2022, there were 36 unique photo detections, which is considerably higher than the 23 unique detections in the previous year.

International Boundary and Water Commission Activities

The IBWC provided a report of its activities along the Rio Grande in New Mexico and Texas during 2022 and their projected activities for 2023. The items discussed included their levee rehabilitation work and Federal Emergency Management Agency (FEMA) status, the status of their new hydraulic modeling, the River Management Plan and habitat restoration, flood control issues and activities, sediment removal activities, water accounting operations, IBWC gaging station information and status, as well as information on the border fence projects.

The Sunland Park East Levee sections contracts were awarded, and construction began, in 2022 with completion estimated in 2025. Floodplain maps will be developed for the levee areas which show the reduced flood zones due to the levees.

In 2019, the IBWC began development of a new hydraulic model for three separate reaches between Percha Dam and American Dam. The hydraulic models will be used to analyze sediment accumulation, channel capacities, levee deficiencies, and the amount of sediment required to be removed to maintain channel capacities. IBWC reported that they achieved the 60% design in April 2022, but that additional model calibration is necessary. Contract modifications are underway to complete the project.

IBWC presented updates to the status of the Canalization River Management Plan (RMP). The RMP covers floodplain management, endangered species management, and channel maintenance. It incorporates the 2009 Record of Decision (ROD) commitments, the 2017

Biological Opinion, and statutory compliance. The last version of the RMP was November 2018, and the update is pending the analysis in the ongoing hydraulic modeling study. The target date for the revised update is now 2024.

Currently, the IBWC has implemented 22 of 30 habitat restoration sites, totaling over 500 acres. Under the River Habitat Restoration Program, the IBWC is treating 246 acres of salt cedar near Hatch, New Mexico. The IBWC completed an Environmental Assessment for aquatic habitat restoration in November 2021 and has identified five potential aquatic habitat restoration sites.

Brief updates were also provided for the IBWC's ongoing channel maintenance projects. The American Canal Lower Reach redesign was completed in 2022 and the contract is out for solicitation with a projected completion date of 2026.

The IBWC estimated that 400,000 cubic yards of silt are deposited into the Rio Grande Canalization Project reach annually. This results in sediment plugs, island formations, raised riverbeds, increased flooding risks, and inhibited irrigation return flows. The Canalization reach is defined as 105 river miles from Percha Dam in New Mexico to El Paso. During 2021, the IBWC utilized both inhouse work crews and outside contractors to remove over 400,000 cubic yards. In 2022, IBWC work crews were able to remove about 275,000 cubic yards, and for 2023, the IBWC anticipates its work crews will remove about 250,000 cubic yards of sediment. IBWC reported that it has spent considerable portions of its budget in 2022 to purchase new equipment to replace aging equipment and to increase its in-house capacity to conduct sediment removal in the Rincon, Canutillo, and El Paso County regions of the Rio Grande.

The IBWC reported that the 2022 allocation to Mexico for the Convention of 1906 was 14,827 acre-feet, which was 24.7 percent of a full allocation. The final delivery charged to Mexico was 14,843 acre-feet. A preliminary February allocation for 2023 to Mexico was reported to be 14,891 acre-feet, which is slightly more than the 2022 final allocation, but this could change before the final allocation is made.

The IBWC provided an update on the border wall projects in the Compact reach. Work was suspended on Customs and Border Protection (CBP) border wall projects in 2021. Border wall construction activities resumed in 2022 to remediate the negative impacts from previous CBP and Texas border wall construction.

ENGINEER ADVISER RECOMMENDATIONS

On January 1, 2020, Reclamation implemented new area-capacity tables for Elephant Butte Reservoir based on their 2017 sediment survey. These tables account for the sediment buildup within the reservoir and the related loss of storage. They also are used to determine the current total storage volume of the reservoir. The Rio Grande Compact Rules and Regulations describe the now-outdated total storage volume in the reservoir. The Engineer Advisers again recommend that the Commissioners direct the Legal Committee, in conjunction with the Engineer Advisers, to incorporate the new tables developed by Reclamation for Elephant Butte Reservoir into the Compact Rules and Regulations for potential approval at the 2024 Commission annual meeting.

The Engineer Advisers recommend that the Commissioners again direct the Legal Committee in conjunction with the Engineer Advisers to investigate the need to create an official Rio Grande Compact document repository and report the results of their investigation at the 2024 Commission annual meeting.

The Engineer Advisers recommend that the Commissioners direct the Engineer Advisers and the Legal Committee to investigate the costs submitted by Reclamation for the yearly operation and maintenance of the Rio Grande Below Caballo Reservoir gaging station, and whether a different method can or should be used to determine the costs for this gage which are allocated equally between the states.

BUDGET

The Engineer Advisers reviewed the cost of operation for the fiscal year ending June 30, 2022, and the budget for the fiscal year ending June 30, 2024.

The Engineer Advisers found that the expenses for gaging stations and administration of the Compact for the year ending June 30, 2022, were \$223,929. The U.S. federal government bore \$71,840 of this total, with the balance of \$152,089 to be borne equally by the three states.

The Engineer Advisers found that the proposed budget for the fiscal year ending June 30, 2024, indicates that a total of \$245,825 will be spent for gaging and administration, with a proposed contribution by the U.S. federal government of \$74,782.

A handwritten signature in blue ink, reading "Craig W. Cotten", written over a horizontal line.

Craig W. Cotten, P.E.

Engineer Adviser for Colorado

A handwritten signature in blue ink, reading "Page Pegram", written over a horizontal line.

Page Pegram

Engineer Adviser for New Mexico

A handwritten signature in blue ink, reading "Suzy Valentine", written over a horizontal line.

Suzy Valentine, P.E.

Engineer Adviser for Texas

RIO GRANDE COMPACT - DELIVERIES BY COLORADO AT STATE LINE
YEAR 2022

Quantities in thousands of acre feet to nearest hundred

MONTH	CONEJOS INDEX SUPPLY										RIO GRANDE INDEX SUPPLY										DELIVERIES			
	MEASURED FLOW				ADJUSTMENTS				SUPPLY		RECORDED FLOW NEAR DEL NORTE	ADJUSTMENTS				SUPPLY		CONJOS RIVER AT MOUTH NEAR LASAUCES	RIO GRANDE LESS CONJOS RIVER	RIO GRANDE AT LOBATOS	ACCUMULATED TOTAL AT LOBATOS			
	CONJOS AT MOGOTE	LOS PINOS NEAR ORTIZ	SAN ANTONIO AT ORTIZ	TOTAL	STORAGE AT END OF MONTH ^c	CHANGE IN STORAGE	OTHER ADJUSTMENTS ^a	NET ADJUSTMENTS	SUPPLY IN MONTH	ACCUMULATED TOTAL		STORAGE AT END OF MONTH	CHANGE IN STORAGE	TRANS MOUNTAIN ^b DIVERSIONS	OTHER ADJUSTMENTS ^a	NET ADJUSTMENTS	SUPPLY IN MONTH					ACCUMULATED TOTAL		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
					8.8					0.0		0.2						0.0				0.0		
JAN	2.7			2.7	8.7	-0.1		-0.1	2.6	2.6	8.6	0.2	0.0			0.0	8.6	8.6	2.5	10.2	12.7	12.7		
FEB	2.4			2.4	8.6	-0.1		-0.1	2.3	4.9	7.1	0.2	0.0			0.0	7.1	15.7	2.6	9.0	11.6	24.3		
MAR	5.7			5.7	8.8	0.2		0.2	5.9	10.8	14.1	0.2	0.0			0.0	14.1	29.8	5.6	15.4	21.0	45.3		
APR	24.2	18.6	5.0	47.8	9.0	0.2		0.2	48.0	58.8	63.2	0.2	0.0			0.0	63.2	93.0	9.8	7.2	17.0	62.3		
MAY	68.3	24.0	1.6	93.9	20.5	11.5	0.2	11.7	105.6	164.4	145.7	0.2	0.0			0.0	145.7	238.7	20.6	14.3	34.9	97.2		
JUN	26.5	3.1	0.2	29.8	16.5	-4.0	0.1	-3.9	25.9	190.3	43.0	0.2	0.0			0.0	43.0	281.7	3.2	6.0	9.2	106.4		
JUL	19.1	3.6	0.8	23.5	15.5	-1.0	0.1	-0.9	22.6	212.9	37.6	0.2	0.0	-1.4	0.2	-1.2	36.4	318.1	5.1	3.4	8.5	114.9		
AUG	18.8	5.0	2.0	25.8	14.2	-1.3	0.0	-1.3	24.5	237.4	47.8	0.2	0.0			0.0	47.8	365.9	8.8	8.1	16.9	131.8		
SEPT	10.1	1.7	0.3	12.1	11.4	-2.8	0.1	-2.7	9.4	246.8	21.9	0.2	0.0			0.0	21.9	387.8	4.9	4.6	9.5	141.3		
OCT	10.7	1.9	0.2	12.8	10.1	-1.3	0.0	-1.3	11.5	258.3	26.5	0.2	0.0			0.0	26.5	414.3	5.9	6.0	11.9	153.2		
NOV	5.9			5.9	8.9	-1.2	0.0	-1.2	4.7	263.0	16.3	0.2	0.0			0.0	16.3	430.6	6.6	11.9	18.5	171.7		
DEC	4.0			4.0	8.4	-0.5	0.0	-0.5	3.5	266.5	11.4	0.2	0.0			0.0	11.4	442.0	5.1	13.1	18.2	189.9		
YEAR	198.4	57.9	10.1	266.4		-0.4	0.5	0.1	266.5		443.2		0.0	-1.4	0.2	-1.2	442.0		80.7	109.2	189.9			
SUMMARY OF DEBITS AND CREDITS																								
ITEM												DEBIT				CREDIT				BALANCE				
C1												Balance at Beginning of Year								Dr. 4.0				
C2												Scheduled Delivery from Conejos River				86.2				Dr. 90.2				
C3												Scheduled Delivery from Rio Grande				109.8				Dr. 200.0				
C4												Actual Delivery at Lobatos plus 10,000 acre-feet								199.9				
C5												Reduction of Debits a/c Evaporation								Dr. 0.1				
C6												Reduction of Credits a/c Evaporation				0				Dr. 0.1				
C7												One-time Adjustment/Delivery Credit ^d								0.3				
C8												Balance at End of Year								Cr. 0.2				

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

^a Evaporation loss post-compact reservoirs; as reported by the Engineer Adviser for Colorado.

^b Deductions for transmountain water passing the upper index gage equals 1,657 ac-ft minus 243 ac-ft pre-compact; as reported by the Engineer Adviser for Colorado.

^c 0 ac-ft relinquishment credit stored in 2022. Storage of relinquished credit to date has totaled 2,885 acre-feet; balance remaining is 115 acre-feet.

^d One-time adjustment/delivery credit pursuant to RGCC Credit Water Agreement for Administration and Accounting at Elephant Butte Reservoir

APPROVED:
Engineer Adviser for Colorado

 Date: 4/4/23

Engineer Adviser for New Mexico

 Date: 4/4/23

Engineer Adviser for Texas

 Date: 4-4-23

Updated: 03/13/2022

Quantities in thousands of acre feet to nearest hundred

APPROVED: CNC Date: 4/4/23 Engineer Adviser for New Mexico
 APPROVED: SK Date: 4/4/23 Engineer Adviser for Texas
 Updated: 03/13/2023

RIO GRANDE COMPACT - RELEASE AND SPILL FROM PROJECT STORAGE
YEAR 2022

Quantities in thousands of acre feet to nearest hundred													
MONTH	USABLE WATER IN STORAGE			CREDIT WATER IN STORAGE			RIO GRANDE BELOW CABALLO DAM						
	Total Project Storage Capacity Available at End of Month ^a	Elephant Butte Reservoir	Caballo Reservoir	Total at End of Month	Unfilled Capacity of Project Storage at End of Month	Colorado Credit Water	New Mexico Credit Water	Total at End of Month	Flood Water in Storage in Caballo Reservoir at End of Month	Total Water in Project Storage at End of Month	Measured Flow at Caballo Gaging Station	Intervening Diversions to Canals	Total Release and Spill
1	2	3	4	5	6	7	8	9	10	11	12	13	14
						0.0 ^b	0.0 ^b						
JAN	2,210.4	194.6	15.7	210.3	2,000.1	0.0	0.0	0.0		210.3	0.1	0.1	0.2
FEB	2,210.4	217.1	16.0	233.1	1,977.3	0.0	0.0	0.0		233.1	0.1	0.1	0.2
MAR	2,210.4	237.5	15.9	253.4	1,957.0	0.0	0.0	0.0		253.4	0.1	0.2	0.3
APR	2,185.4	254.5	15.2	269.7	1,915.7	0.0	0.0	0.0		269.7	0.1	0.1	0.2
MAY	2,185.4	252.6	43.8	296.4	1,889.0	0.0	0.0	0.0		296.4	0.1	0.3	0.4
JUN	2,185.4	152.8	23.6	176.4	2,009.0	0.0	0.0	0.0		176.4	135.7	0.0	135.7
JUL	2,185.4	81.7	18.9	100.6	2,084.8	0.0	0.0	0.0		100.6	93.6	0.1	93.7
AUG	2,185.4	93.9	33.7	127.6	2,057.8	0.0	0.0	0.0		127.6	39.0	0.0	39.0
SEPT	2,185.4	108.5	35.4	143.9	2,041.5	0.0	0.0	0.0		143.9	0.0	0.0	0.0
OCT	2,210.4	139.1	49.5	188.6	2,021.8	0.0	0.0	0.0		188.6	0.0	0.0	0.0
NOV	2,210.4	178.0	49.5	227.5	1,982.9	0.0	0.0	0.0		227.5	0.1	0.0	0.1
DEC	2,210.4	225.1	50.9	276.0	1,934.4	0.0	0.0	0.0		276.0	0.1	0.0	0.1
YEAR											269.0	0.9	269.9
ACCURED DEPARTURE FROM NORMAL RELEASE													
ITEM													
P1													
P2													
P3													
P4													
P5													
P6													
P7													
TIME OF HYPOTHETICAL SPILL Did not occur													
DEBIT CREDIT BALANCE													
Cr. 2765.8													
Cr. 2495.9													
Cr. 3285.9													
Cr. 2915.8													
Cr. 2915.8													

Remarks:

^a Total Project Storage Capacity is 2,185,400 acre-feet (April through September) and 2,210,400 acre-feet (October through March) which accounts for flood control storage reservation at Caballo Reservoir of 100,000 acre-feet and at Elephant Butte Reservoir of 50,000 acre-feet from April through September and 25,000 acre-feet from October through March.

^b Balance at Beginning of Year.

APPROVED:  Date: 4/4/23 Engineer Adviser for New Mexico  Date: 4-4-23 Updated 03/13/2023

Reconciled Accounting Tables
2011-2021

RIO GRANDE COMPACT - DELIVERIES BY COLORADO AT STATE LINE
YEAR 2011 (RECONCILED IN 2023)

Quantities in thousands of acre feet to nearest hundred

MONTH	CONEJOS INDEX SUPPLY										RIO GRANDE INDEX SUPPLY										DELIVERIES			
	MEASURED FLOW					ADJUSTMENTS					ADJUSTMENTS					SUPPLY					CONEJOS RIVER AT MOUTH NEAR LASAUCES	RIO GRANDE LESS CONEJOS RIVER	RIO GRANDE AT LOBATOS	ACCUMULATED TOTAL AT LOBATOS
	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	TRANS MOUNTAIN ^b DIVERSIONS ^a	OTHER ADJUSTMENTS ^a	NET ADJUSTMENTS	SUPPLY IN MONTH	ACCUMULATED TOTAL						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
					18.5					0.0		0.2							0.0			0.0		
JAN	2.8			2.8	18.6	0.1		0.1	2.9	2.9	11.7	0.2	0.0			0.0	11.7	11.7	3.0	12.4	15.4	15.4		
FEB	2.4			2.4	18.6	0.0		0.0	2.4	5.3	9.3	0.2	0.0			0.0	9.3	21.0	3.3	12.2	15.5	30.9		
MAR	4.3			4.3	18.7	0.1		0.1	4.4	9.7	14.4	0.2	0.0			0.0	14.4	35.4	5.3	16.9	22.2	53.1		
APR	11.2	7.5	2.2	20.9	18.4	-0.3		-0.3	20.6	30.3	37.1	0.2	0.0			0.0	37.1	72.5	2.9	3.8	6.7	59.8		
MAY	29.8	23.8	3.3	56.9	18.5	0.1	0.1	0.2	57.1	87.4	95.6	0.2	0.0			0.0	95.6	168.1	7.1	7.2	14.3	74.1		
JUN	77.0	20.2	0.4	97.6	24.1	5.6	0.2	5.8	103.4	190.8	183.8	0.2	0.0			0.0	183.8	351.9	13.1	20.6	33.7	107.8		
JUL	29.4	2.5	0.0	31.9	19.0	-5.1	0.1	-5.0	26.9	217.7	58.8	0.2	0.0	-0.7	0.3	-0.4	58.4	410.3	8.5	14.6	23.1	130.9		
AUG	11.3	1.6	0.1	13.0	16.4	-2.6	0.1	-2.5	10.5	228.2	22.8	0.2	0.0			0.0	22.8	433.1	2.7	6.4	9.1	140.0		
SEPT	7.2	1.9	0.1	9.2	17.8	1.4	0.1	1.5	10.7	238.9	17.2	0.2	0.0			0.0	17.2	450.3	1.8	3.1	4.9	144.9		
OCT	12.8	2.2	0.2	15.2	13.7	-4.1	0.1	-4.0	11.2	250.1	26.9	0.2	0.0			0.0	26.9	477.2	8.6	3.2	11.8	156.7		
NOV	7.4			7.4	11.7	-2.0	0.0	-2.0	5.4	255.5	15.5	0.2	0.0			0.0	15.5	492.7	9.0	18.4	27.4	184.1		
DEC	2.7			2.7	12.1	0.4	0.4	0.4	3.1	258.6	9.6	0.2	0.0			0.0	9.6	502.3	3.9	12.0	15.9	200.0		
YEAR	198.3	59.7	6.3	264.3		-6.4	0.7	-5.7	258.6		502.7		0.0	-0.7	0.3	-0.4	502.3		69.2	130.8	200.0			
SUMMARY OF DEBITS AND CREDITS																								
ITEM																								
DEBIT																								
CREDIT																								
BALANCE																								
C1 Balance at Beginning of Year																								
C2 Scheduled Delivery from Conejos River																								
C3 Scheduled Delivery from Rio Grande																								
C4 Actual Delivery at Lobatos plus 10,000 Acre Feet																								
C5 Unauthorized release of Credit Water summer, 2011 ^d																								
C6 Reduction of Credits o/c Evaporation ^e																								
C7 Relinquishment to Project Storage March 31, 2011																								
C8 Balance at End of Year																								
Cr. 2.2																								

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

^a Evaporation loss post-Compact reservoirs; as reported by the Engineer Adviser for Colorado.

^b 986 ac-ft minus 243 ac-ft pre-Compact; as reported by the Engineer Adviser for Colorado.

^c See Platoro Reservoir section in Engineer Advisers' Report in regards to change in storage.

^d As described in the November 10, 2022 Rio Grande Compact Commission Credit Water Agreement for Administration and Accounting at Elephant Butte Reservoir.

^e Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.

APPROVED: CWC Engineer Adviser for Colorado Date: 4/3/23

pp Engineer Adviser for New Mexico Date: 4/3/23

Updated 3/17/2023

RIO GRANDE COMPACT - DELIVERIES BY NEW MEXICO AT ELEPHANT BUTTE
YEAR 2011 (RECONCILED IN 2023)

Quantities in thousands of acre feet to nearest hundred

MONTH	OTOWI INDEX SUPPLY										ELEPHANT BUTTE EFFECTIVE SUPPLY				
	ADJUSTMENTS										STORAGE IN ELEPHANT BUTTE RESERVOIR		Recorded Flow Below Elephant Butte Dam	Effective Supply	
	RESERVOIRS: LOBATOS TO OTOWI					Trans-mountain Diversions	Net Adjustments	During Month	Accumulated Total	Total Water Stored in New Mexico Above San Marcial at End of Month ^{a,b}	End of Month ^a	Change Gain (+) Loss (-)			
	Recorded Flow at Otowi Bridge	Storage End of Month ^{a,b}	Change in Storage	Reservoir Evaporation	Other Adjustments										
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
										44.7	372.9				
JAN	39.7	44.5	-1.9	0.0		-2.1	-4.0	35.7	35.7	42.7	409.8	36.9	0.6	37.5	37.5
FEB	38.1	43.3	0.7	0.0		-2.6	-1.9	36.2	71.9	43.6	441.6	31.8	0.5	32.3	69.8
MAR	51.1	42.6	-0.7	0.2		-2.8	-3.3	47.8	119.7	42.6	404.5	-37.1	65.5	28.4	98.2
APR	58.1	53.9	11.3	0.4		-9.0	2.7	60.8	180.5	53.7	322.8	-81.7	94.0	12.3	110.5
MAY	77.4	98.3	44.4	0.5		-4.5	40.4	117.8	298.3	98.5	299.5	-23.3	38.6	15.3	125.8
JUN	92.9	91.4	-6.9	0.8		-5.1	-11.2	81.7	380.0	91.7	224.7	-74.8	95.5	20.7	146.5
JUL	70.1	64.5	-26.9	0.3		-7.2	-33.8	36.3	416.3	65.0	166.1	-58.6	66.3	7.7	154.2
AUG	53.3	36.5	-28.0	0.2		-4.9	-32.7	20.6	436.9	36.4	146.3	-19.8	30.2	10.4	164.6
SEPT	34.7	35.1	-1.4	0.2		-13.8	-15.0	19.7	456.6	34.9	145.7	-0.6	16.5	15.9	180.5
OCT	32.8	35.2	0.1	0.2		-3.6	-3.3	29.5	486.1	35.3	157.8	12.1	0.4	12.5	193.0
NOV	56.5	29.5	-5.7	0.2		-3.4	-8.9	47.6	533.7	29.6	191.2	33.4	0.1	33.5	226.5
DEC	50.3	20.3	-9.2	0.1		-3.0	-12.1	38.2	571.9	20.0	245.9	54.7	0.1	54.8	281.3
YEAR	655.0		-24.2	3.1		-62.0	-83.1	571.9				-127.0	408.3	281.3	
SUMMARY OF DEBITS AND CREDITS															
ITEM										DEBIT		CREDIT		BALANCE	
NM1 Balance at Beginning of Year														Cr. 164.7	
NM2 Scheduled Delivery at Elephant Butte										328.4				Dr. 163.7	
NM3 Actual Elephant Butte Effective Supply												281.3		Cr 117.6	
NM4 Reduction of Debits o/c Evaporation															
NM5 Reduction of Credits o/c Evaporation and Spill ^e										42.9				Cr. 74.7	
NM6 Unauthorized release of Credit Water summer, 2011 ^d										32.5				Cr. 42.2	
NM7															
NM8 Balance at End of Year														Cr. 42.2	
Remarks:															
^a Cols. 3, 11, and 12 do not include transmountain water.															
^b Storage in Abiquiu, El Vado, McClure and Nichols Reservoirs under the April 23, 2003 and the February 1, 2008 agreements for relinquishment of accrued credits aggregated 0.0 acre-feet in 2009.															
^c Storage of relinquished credit to date aggregated 154,224 acre-feet; balance remaining is 146,276 acre-feet.															
^d Elephant Butte Reservoir storage was below Credit Water Pool during the summer of 2011 due to Bureau of Reclamation's unauthorized release of Credit Water.															
^e As described in the November 10, 2022 Rio Grande Compact Commission Credit Water Agreement for Administration and Accounting at Elephant Butte Reservoir.															
^e Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.															

Remarks:
a Cols. 3, 11, and 12 do not include transmountain water.
b Storage in Abiquiu, El Vado, McClure and Nichols Reservoirs under the April 23, 2003 and the February 1, 2008 agreements for relinquishment of accrued credits aggregated 0.0 acre-feet in 2009.
c Storage of relinquished credit to date aggregated 154,224 acre-feet; balance remaining is 146,276 acre-feet.
d Elephant Butte Reservoir storage was below Credit Water Pool during the summer of 2011 due to Bureau of Reclamation's unauthorized release of Credit Water.
e As described in the November 10, 2022 Rio Grande Compact Commission Credit Water Agreement for Administration and Accounting at Elephant Butte Reservoir.
f Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.

APPROVED:
Engineer Adviser for Colorado

Date: 7/6/23 Engineer Adviser for New Mexico

Date: 4/3/23 Engineer Adviser for Texas

Date: 4-3-23

Updated
3/17/2023

RIO GRANDE COMPACT - RELEASE AND SPILL FROM PROJECT STORAGE
YEAR 2011 (RECONCILED IN 2023)

Quantities in thousands of acre feet to nearest hundred

MONTH	USABLE WATER IN STORAGE					Unfilled Capacity of Project Storage at End of Month	CREDIT WATER IN STORAGE ^e			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															
	Total Project Storage Capacity Available at End of Month ^a	Elephant Butte Reservoir	Caballo Reservoir	Total at End of Month	Colorado Credit Water		New Mexico Credit Water	Total at End of Month	Measured Flow at Gaging Station			Intervening Diversions to Canals	Total Release and Spill	SPILL FROM STORAGE				USABLE RELEASE									
														3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	2	2,225.0	b	205.5	22.0	b	227.5	1,997.5	b	2.7	b	164.7	b	167.4	394.9	11	10	11	12	13	14	15	16	17	18	19	0.0
JAN		2,225.0	242.4	23.6	266.0	1,959.0		1,959.0	2.7	2.7	164.7	167.4	433.4	0.1	0.0	0.1		433.4	0.1	0.0	0.1				0.1	0.1	
FEB		2,225.0	274.2	24.8	299.0	1,926.0		1,926.0	2.7	2.7	164.7	167.4	466.4	0.1	0.1	0.1		466.4	0.1	0.1	0.2				0.2	0.3	
MAR		2,225.0	238.2	34.1	272.3	1,952.7		1,952.7	1.6	1.6	164.7	166.3	438.6	47.7	0.1	0.1		438.6	47.7	0.1	47.8				47.8	48.1	
APR		2,200.0	156.5	63.2	219.7	1,980.3		1,980.3	1.6	1.6	164.7	166.3	386.0	54.8	0.1	0.1		386.0	54.8	0.1	54.9				54.9	103.0	
MAY		2,200.0	133.2	53.0	186.2	2,013.8		2,013.8	1.6	1.6	164.7	166.3	352.5	44.0	0.2	0.2		352.5	44.0	0.2	44.2				44.2	147.2	
JUN		2,200.0	58.4	37.5	95.9	2,104.1		2,104.1	1.6	1.6	164.7	166.3	262.2	103.7	0.4	0.4		262.2	103.7	0.4	104.1				104.1	251.3	
JUL		2,200.0	-0.2	32.2	32.0	2,168.0		2,168.0	1.6	1.6	164.7	166.3	198.3	69.7	0.4	0.4		198.3	69.7	0.4	70.1				70.1	321.4	
AUG		2,200.0	12.8	7.3	20.1	2,179.9		2,179.9	1.3	1.3	132.2	133.5	153.6	58.0	0.2	0.2		153.6	58.0	0.2	58.2				58.2	379.6	
SEPT		2,200.0	12.2	8.5	20.7	2,179.3		2,179.3	1.3	1.3	132.2	133.5	154.2	18.6	0.0	0.0		154.2	18.6	0.0	18.6				18.6	398.2	
OCT		2,225.0	24.3	10.1	34.4	2,190.6		2,190.6	1.3	1.3	132.2	133.5	167.9	0.1	0.0	0.1		167.9	0.1	0.0	0.1				0.1	398.3	
NOV		2,225.0	57.7	11.6	69.3	2,155.7		2,155.7	1.3	1.3	132.2	133.5	202.8	0.1	0.0	0.1		202.8	0.1	0.0	0.1				0.1	398.4	
DEC		2,225.0	112.4	13.6	126.0	2,099.0		2,099.0	1.3	1.3	132.2	133.5	259.5	0.1	0.0	0.1		259.5	0.1	0.0	0.1				0.1	398.5	
YEAR															397.0	1.5	398.5	0.0	0.0	0.0	398.5				398.5		
Remarks: Cols. 2,6 and 11 reflect implementation of revised area-capacity tables from Elephant Butte and Caballo Reservoirs, as adopted by the Rio Grande Compact Commission on March 31, 2009																											
a Project Storage Capacity is 2,200,030 acre-feet (April-September) and 2,225,030 acre-feet (October to March) as recognized by the September 9, 1998 Resolution of the Rio Grande Compact Commission 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 NIM1).																											
c Reduction due to unauthorized release as described in the Engineer Adviser Report for calendar year 2011.																											
d Negative Usable Water in Elephant Butte due to Bureau of Reclamation unauthorized release of Credit Water.																											
e Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.																											
TIME OF HYPOTHETICAL SPILL Did not occur																											
ACCURED DEPARTURE FROM NORMAL RELEASE																											
ITEM																											
P1																											
P2																											
P3																											
P4																											
P5																											
P6																											
P7																											
Cr. 1115.8																											
Cr. 717.3																											
Cr. 1507.3																											
Cr. 1265.8																											
Cr. 1265.8																											

APPROVED:

Engineer Adviser for Colorado _____ Date: 4/3/25 Engineer Adviser for New Mexico _____

Date: 4/3/23
Engineer Adviser for Texas

Date: 4-3-73

Updated
3/17/2023

RIO GRANDE COMPACT - DELIVERIES BY COLORADO AT STATE LINE
YEAR 2012 (RECONCILED IN 2023)

Quantities in thousands of acre feet to nearest hundred

MONTH	CONEJOS INDEX SUPPLY										RIO GRANDE INDEX SUPPLY										DELIVERIES																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	MEASURED FLOW			ADJUSTMENTS				SUPPLY			RECORDED FLOW			ADJUSTMENTS						SUPPLY		CONEJOS RIVER AT MOUTH NEAR LASAUCES	RIO GRANDE LESS CONEJOS RIVER	RIO GRANDE AT LOBATOS	ACCUMULATED TOTAL AT LOBATOS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	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	STORAGE AT END OF MONTH	CHANGE IN STORAGE	TRANS MOUNTAIN ^b DIVERSIONS	OTHER ADJUSTMENTS ^a	NET ADJUSTMENTS	SUPPLY IN MONTH	ACCUMULATED TOTAL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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APPROVED:
Engineer Adviser for Colorado

CNC

Date: 7/13/23 Engineer Adviser for New Mexico

PP

Date: 4/3/23 Engineer Adviser for Texas

SW

Date: 4/3-23

Updated
3/17/2023

RIO GRANDE COMPACT - DELIVERIES BY NEW MEXICO AT ELEPHANT BUTTE
YEAR 2012 (RECONCILED IN 2023)

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		Recorded Flow Below Elephant Butte Dam	During Month	Accumulated Total
	Recorded Flow at Otowi Bridge	RESERVOIRS: LOBATOS TO OTOWI		Trans-mountain Diversions	Net Adjustments	During Month	Accumulated Total									
		Storage End of Month ^{a,b}	Change in Storage					Reservoir Evaporation	Other Adjustments							
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		
SUMMARY OF DEBITS AND CREDITS																
ITEM																
DEBIT																
CREDIT																
BALANCE																
Remarks:																
^a Cols. 3, 11, and 12 do not include transmountain water.																
^b 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 Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.																
NM1 Balance at Beginning of Year																
NM2 Scheduled Delivery at Elephant Butte																
NM3 Actual Elephant Butte Effective Supply																
NM4 Reduction of Debits o/c Evaporation																
NM5 Reduction of Credits o/c Evaporation and Spill ^c																
NM6																
NM7																
NM8 Balance at End of Year																
Cr. 0.4																

Remarks:
a Cols. 3, 11, and 12 do not include transmountain water.
b 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 Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.

APPROVED:
Engineer Adviser for Colorado

Date: 2/2/23
Engineer Adviser for New Mexico

Date: 4/3/23
Engineer Adviser for Texas

Date: 4-3-23
Updated 3/17/2023

RIO GRANDE COMPACT - RELEASE AND SPILL FROM PROJECT STORAGE
YEAR 2012 (RECONCILED IN 2023)

Quantities in thousands of acre feet to nearest hundred																		
Rio Grande below Caballo Dam																		
MONTH	Total Project Storage Capacity Available at End of Month ^a	USABLE WATER IN STORAGE			Unfilled Capacity of Project Storage at End of Month	CREDIT WATER IN STORAGE ^c			Flood Water in Storage in Caballo Reservoir at End of Month	Total Water in Project Storage at End of Month	Measured Flow at Caballo Gaging Station	Intervening Diversions to Canals	Total Release and Spill	SPILL FROM STORAGE			USABLE RELEASE	
		Elephant Butte Reservoir	Caballo Reservoir	Total at End of Month		Colorado Credit Water	New Mexico Credit Water	Total at End of Month						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
	2,225.0	b 201.5	13.6	b 215.1	2,009.9	b 2.2	b 42.2	b 44.4		259.5								0.0
JAN	2,225.0	239.1	14.8	253.9	1,971.1	2.2	42.2	44.4		298.3	0.0	0.0	-				0.0	-
FEB	2,225.0	274.5	16.3	290.8	1,934.2	2.2	42.2	44.4		335.2	0.0	0.1	0.1				0.1	0.1
MAR	2,225.0	294.1	26.1	320.2	1,904.8	1.8	42.2	44.0		364.2	0.1	0.1	0.2				0.2	0.3
APR	2,200.0	281.2	23.1	304.3	1,895.7	1.8	42.2	44.0		348.3	62.1	0.1	62.2				62.2	62.5
MAY	2,200.0	275.8	24.0	299.8	1,900.2	1.8	42.2	44.0		343.8	18.7	0.1	18.8				18.8	81.3
JUN	2,200.0	177.2	20.7	197.9	2,002.1	1.8	42.2	44.0		241.9	102.7	0.2	102.9				102.9	184.2
JUL	2,200.0	89.1	20.7	109.8	2,090.2	1.8	42.2	44.0		153.8	94.6	0.1	94.7				94.7	278.9
AUG	2,200.0	24.3	12.7	37.0	2,163.0	1.8	42.2	44.0		81.0	79.0	0.2	79.2				79.2	358.1
SEPT	2,200.0	26.4	5.2	31.6	2,168.4	1.8	42.2	44.0		75.6	14.3	0.1	14.4				14.4	372.5
OCT	2,225.0	28.5	5.8	34.3	2,190.7	1.8	42.2	44.0		78.3	0.0	0.1	0.1				0.1	372.6
NOV	2,225.0	37.8	6.5	44.3	2,180.7	1.8	42.2	44.0		88.3	0.0	0.0	-				0.0	372.6
DEC	2,225.0	76.2	7.5	83.7	2,141.3	1.8	42.2	44.0		127.7	0.0	0.0	-				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 2,200,030 acre-feet (April to September) and 2,225,030 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 Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.																		
ACCRUED DEPARTURE FROM NORMAL RELEASE																		
ITEM																		
DEBIT																		
CREDIT																		
BALANCE																		
P1																		
Accrued Departure at Beginning of Year																		
P2																		
Actual Release during Year																		
372.6																		
Cr. 893.2																		
P3																		
Normal Release for Year																		
790.0																		
Cr. 1683.2																		
P4																		
Under Release in Excess of 150.0																		
267.4																		
Cr. 1415.8																		
P5																		
P6																		
P7																		
Accrued Departure at End of Year																		
Did not occur																		
Cr. 1415.8																		
TIME OF HYPOTHETICAL SPILL																		

APPROVED:
Engineer Adviser for Colorado

2WC

Date: 4/3/23

Engineer Adviser for New Mexico

PP

Date: 4/3/23

Engineer Adviser for Texas

SP

Date: 4-3-23

RIO GRANDE COMPACT - DELIVERIES BY COLORADO AT STATE LINE
YEAR 2013 (RECONCILED IN 2023)

Quantities in thousands of acre feet to nearest hundred

MONTH	CONEJOS INDEX SUPPLY										RIO GRANDE INDEX SUPPLY										DELIVERIES			
	MEASURED FLOW			ADJUSTMENTS					SUPPLY			RECORDED FLOW NEAR DEL NORTE	ADJUSTMENTS					SUPPLY		CONEJOS RIVER AT MOUTH NEAR LASAUCES	RIO GRANDE LESS CONEJOS RIVER	RIO GRANDE AT LOBATOS	ACCUMULATED TOTAL AT LOBATOS	
	CONEJOS AT MOGOTE	LOS PINOS NEAR ORTIZ	SAN ANTONIO AT ORTIZ	TOTAL	STORAGE AT END OF MONTH ^e	CHANGE IN STORAGE ^c	OTHER ADJUSTMENTS	NET ADJUSTMENTS	SUPPLY IN MONTH		ACCUMULATED TOTAL		TRANS MOUNTAIN ^b DIVERSIONS ^d	OTHER ADJUSTMENTS ^a	NET ADJUSTMENTS	SUPPLY IN MONTH	ACCUMULATED TOTAL							
									STORAGE AT END OF MONTH	CHANGE IN STORAGE														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
					5.8					0.0		0.2										0.0		
JAN	2.3			2.3	5.8	0.0		0.0	2.3	2.3	7.7	0.2	0.0			0.0	7.7	7.7	1.5	7.6	9.1	9.1		
FEB	2.1			2.1	5.8	0.0		0.0	2.1	4.4	7.2	0.2	0.0			0.0	7.2	14.9	2.2	8.5	10.7	19.8		
MAR	3.8			3.8	5.8	0.0		0.0	3.8	8.2	11.8	0.2	0.0			0.0	11.8	26.7	3.8	15.4	19.2	39.0		
APR	7.6	5.2	1.1	13.9	6.1	0.3		0.3	14.2	22.4	26.2	0.2	0.0			0.0	26.2	52.9	0.2	8.5	8.7	47.7		
MAY	39.8	13.3	0.8	53.9	6.5	0.4	0.1	0.5	54.4	76.8	120.4	0.2	0.0			0.0	120.4	173.3	0.2	5.1	5.3	53.0		
JUN	22.3	3.2	0.0	25.5	7.9	1.4	0.1	1.5	27.0	103.8	51.3	0.2	0.0			0.0	51.3	224.6	0.1	2.9	3.0	56.0		
JUL	8.4	1.0	0.1	9.5	5.8	-2.1	0.0	-2.1	7.4	111.2	21.0	0.2	0.0	-1.6	0.3	-1.3	19.7	244.3	0.0	1.8	1.8	57.8		
AUG	10.0	1.6	0.1	11.7	5.7	-0.1	0.0	-0.1	11.6	122.8	45.5	0.2	0.0			0.0	45.5	289.8	0.0	4.6	4.6	62.4		
SEPT	10.4	2.0	0.3	12.7	5.8	0.1	0.1	0.2	12.9	135.7	80.1	0.2	0.0			0.0	80.1	369.9	0.0	12.5	12.5	74.9		
OCT	7.8	1.7	0.2	9.7	5.4	-0.4	0.1	-0.3	9.4	145.1	54.1	0.2	0.0			0.0	54.1	424.0	0.0	15.7	15.7	90.6		
NOV	4.2			4.2	5.9	0.5	0.0	0.5	4.7	149.8	21.2	0.2	0.0			0.0	21.2	445.2	1.4	20.2	21.6	112.2		
DEC	2.8			2.8	6.3	0.4		0.4	3.2	153.0	13.1	0.2	0.0			0.0	13.1	458.3	3.9	13.5	17.4	129.6		
YEAR	121.5	28.0	2.6	152.1		0.5	0.4	0.9	153.0		459.6		0.0	-1.6	0.3	-1.3	458.3		13.3	116.3	129.6			
SUMMARY OF DEBITS AND CREDITS																								
ITEM																								
C1 Balance at Beginning of Year																								
C2 Scheduled Delivery from Conejos River																								
C3 Scheduled Delivery from Rio Grande																								
C4 Actual Delivery at Lobatos plus 10,000 Acre Feet																								
C5 Reduction of Debits o/c Evaporation																								
C6 Reduction of Credits o/c Evaporation ^d																								
C7 Relinquishment to project storage on May 31, 2013																								
C8 Balance at End of Year																								

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

^a Evaporation loss post-Compact reservoirs; as reported by the Engineer Adviser for Colorado.

^b 1,832 ac-ft minus 243 ac-ft pre-Compact; as reported by the Engineer Adviser for Colorado.

^c See Platoro Reservoir section in Engineer Advisers' Report in regards to change in storage.

^d Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.

^e Storage of relinquishment credit accrued in Platoro Reservoir during 2013. Storage of relinquished credit to date has totaled 533 acre-feet; balance remaining is 2,467 acre-feet.

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

^a Evaporation loss post-Compact reservoirs; as reported by the Engineer Adviser for Colorado.

^b 1,832 ac-ft minus 243 ac-ft pre-Compact; as reported by the Engineer Adviser for Colorado.

^c See Platoro Reservoir section in Engineer Advisers' Report in regards to change in storage.

^d Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.

^e Storage of relinquishment credit accrued in Platoro Reservoir during 2013. Storage of relinquished credit to date has totaled 533 acre-feet; balance remaining is 2,467 acre-feet.

APPROVED:

Engineer Adviser for Colorado

ENC

Date: 4/3/23 Engineer Adviser for New Mexico

PP

Date: 4/3/23 Engineer Adviser for Texas

BA

Date: 4-3-23

Updated
3/17/2023

RIO GRANDE COMPACT - DELIVERIES BY NEW MEXICO AT ELEPHANT BUTTE
YEAR 2013 (RECONCILED IN 2023)

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											STORAGE IN ELEPHANT BUTTE RESERVOIR		Recorded Flow Below Elephant Butte Dam	Effective Supply	
	RESERVOIRS: LOBATOS TO OTOWI					Trans-mountain Diversions	Net Adjustments	During Month	Accumulated Total							
	Recorded Flow at Otowi Bridge	Storage End of Month ^{a,b}	Change in Storage	Reservoir Evaporation	Other Adjustments ^d											
										2		3	4			5
1											11	12	13	14	15	16
			0.0								-1.4	120.2				
JAN	29.7	2.3	2.3	0.0		-3.4	-1.1	28.6	28.6		1.6	146.6	26.4	0.1	26.5	26.5
FEB	29.6	4.6	2.3	0.0		-1.9	0.4	30.0	58.6		3.2	171.3	24.7	0.7	25.4	51.9
MAR	40.6	9.5	4.9	0.0		-3.6	1.3	41.9	100.5		8.2	184.8	13.5	0.4	13.9	65.8
APR	54.9	12.9	3.4	0.1		-15.3	-11.8	43.1	143.6		12.5	188.6	3.8	0.0	3.8	69.6
MAY	68.7	17.6	4.7	0.1		-23.8	-19.0	49.7	193.3		17.5	160.3	-28.3	34.7	6.4	76.0
JUN	66.1	16.5	-1.1	0.0		-50.9	-52.0	14.1	207.4		16.2	48.1	-112.2	112.8	0.6	76.6
JUL	27.9	15.0	-1.5	0.0		-5.3	-6.8	21.1	228.5		14.7	42.8	-5.3	19.8	14.5	91.1
AUG	29.5	12.9	-2.1	0.2		-7.1	-9.0	20.5	249.0		12.9	59.9	17.1	0.0	17.1	108.2
SEPT	57.6	18.2	5.3	0.2		-2.7	2.8	60.4	309.4		44.1	132.4	72.5	0.1	72.6	180.8
OCT	48.9	13.0	-5.2	0.1		-3.1	-8.2	40.7	350.1		13.8	161.7	29.3	0.1	29.4	210.2
NOV	50.3	9.8	-3.2	0.1	2.7	-3.5	-3.9	46.4	396.5		10.1	208.3	46.6	0.0	46.6	256.8
DEC	42.8	0.1	-9.7	0.0	9.7	-1.8	-1.8	41.0	437.5		-0.1	261.6	53.3	0.0	53.3	310.1
YEAR	546.6		0.1	0.8		-122.4	-109.1	437.5					141.4	168.7	310.1	
SUMMARY OF DEBITS AND CREDITS																
ITEM										DEBIT		CREDIT		BALANCE		
NM1 Balance at Beginning of Year														Cr. 0.4		
NM2 Scheduled Delivery at Elephant Butte										249.8				Dr. 249.4		
NM3 Actual Elephant Butte Effective Supply												310.1		Cr. 60.7		
NM4 Reduction of Debits o/c Evaporation																
NM5 Reduction of Credits o/c Evaporation and Spill ^c										0.1				Cr. 60.6		
NM6																
NM7																
NM8 Balance at End of Year														Cr. 60.6		

Remarks:
^a Cols. 3, 11, and 12 do not include transmountain water.
^b No storage of relinquishment credit under previous relinquishment agreements occurred in El Vado Reservoir in 2013. Storage of relinquished credit to date has totaled 223,270 acre-feet; balance remaining is 157,230 acre-feet.
^c Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.
^d Adjustment for San Juan Chama exchange operation in November and December 2013 to account for native water that would have passed the Otowi gage had the exchange not occurred (ISC File Memo, 2/21/14).

Remarks:
a Cols. 3, 11, and 12 do not include transmountain water.
b No storage of relinquishment credit under previous relinquishment agreements occurred in El Vado Reservoir in 2013. Storage of relinquished credit to date has totaled 223,270 acre-feet; balance remaining is 157,230 acre-feet.
c Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.
d Adjustment for San Juan Chama exchange operation in November and December 2013 to account for native water that would have passed the Otowi gage had the exchange not occurred (ISC File Memo, 2/21/14).

APPROVED:  Date: 4/3/23 Engineer Adviser for New Mexico

 Date: 4-3-23 Engineer Adviser for Texas

RIO GRANDE COMPACT - RELEASE AND SPILL FROM PROJECT STORAGE
YEAR 2013 (RECONCILED IN 2023)

Quantities in thousands of acre feet to nearest hundred																		
MONTH	Total Project Storage Capacity Available at End of Month ^a	USABLE WATER IN STORAGE			Unfilled Capacity of Project Storage at End of Month	CREDIT WATER IN STORAGE ^c			Flood Water in Storage in Caballo Reservoir at End of Month	Total Water in Project in Storage at End of Month	Rio Grande below Caballo Dam							
		Elephant Butte Reservoir	Caballo Reservoir	Total at End of Month		Colorado Credit Water	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
	2,225.0	b 113.8	7.5	b 121.3	2,103.7	b 6.0	b 0.4	b 6.4		127.7								0.0
JAN	2,225.0	140.2	8.4	148.6	2,076.4	6.0	0.4	6.4		155.0	0.0	0.0	0.0				0.0	0.0
FEB	2,225.0	164.9	9.7	174.6	2,050.4	6.0	0.4	6.4		181.0	0.0	0.0	0.0				0.0	0.0
MAR	2,225.0	178.4	10.6	189.0	2,036.0	6.0	0.4	6.4		195.4	0.0	0.1	0.1				0.1	0.1
APR	2,200.0	182.2	10.2	192.4	2,007.6	6.0	0.4	6.4		198.8	0.0	0.1	0.1				0.1	0.2
MAY	2,200.0	156.9	36.1	193.0	2,007.0	3.0	0.4	3.4		196.4	0.0	0.1	0.1				0.1	0.3
JUN	2,200.0	44.7	21.2	65.9	2,134.1	3.0	0.4	3.4		69.3	127.0	0.1	127.1				127.1	127.4
JUL	2,200.0	39.4	8.6	48.0	2,152.0	3.0	0.4	3.4		51.4	41.1	0.2	41.3				41.3	168.7
AUG	2,200.0	56.5	11.8	68.3	2,131.7	3.0	0.4	3.4		71.7	0.1	0.1	0.2				0.2	168.9
SEPT	2,200.0	129.0	39.6	168.6	2,031.4	3.0	0.4	3.4		172.0	0.1	0.1	0.2				0.2	169.1
OCT	2,225.0	158.3	38.6	196.9	2,028.1	3.0	0.4	3.4		200.3	0.1	0.1	0.2				0.2	169.3
NOV	2,225.0	204.9	39.0	243.9	1,981.1	3.0	0.4	3.4		247.3	0.1	0.0	0.1				0.1	169.4
DEC	2,225.0	258.2	39.7	297.9	1,927.1	3.0	0.4	3.4		301.3	0.1	0.0	0.1				0.1	169.5
YEAR											168.6	0.9	169.5	0.0	0.0	0.0	169.5	
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 2,200,030 acre-feet (April to September) and 2,225,030 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 Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.																		
ACCURED DEPARTURE FROM NORMAL RELEASE																		
ITEM																		
P1 Accrued Departure at Beginning of Year																		
P2 Actual Release during Year																		
P3 Normal Release for Year																		
P4 Under Release in Excess of 150.0																		
P5																		
P6																		
P7 Accrued Departure at End of Year																		
TIME OF HYPOTHETICAL SPILL Did not occur																		
BALANCE																		
Cr. 1415.8																		
Cr. 1246.3																		
Cr. 2036.3																		
Cr. 1565.8																		
Cr. 1565.8																		

APPROVED: 
Engineer Adviser for Colorado

Date: 7/2/23
Engineer Adviser for New Mexico

Date: 4/3/23
Engineer Adviser for Texas

Date: 4-3-23

Updated
3/17/2023

RIO GRANDE COMPACT - DELIVERIES BY COLORADO AT STATE LINE
YEAR 2014 (RECONCILED IN 2023)

Quantities in thousands of acre feet to nearest hundred																										
CONEJOS INDEX SUPPLY											RIO GRANDE INDEX SUPPLY											DELIVERIES				
MONTH	MEASURED FLOW			ADJUSTMENTS					SUPPLY			RECORDED FLOW NEAR DEL NORTE	ADJUSTMENTS					SUPPLY		CONEJOS RIVER AT MOUTH NEAR LASAUCES	RIO GRANDE LESS CONEJOS RIVER	RIO GRANDE AT LOBATOS	ACCUMULATED TOTAL AT LOBATOS			
	CONEJOS AT MOGOTE	LOS PINOS NEAR ORTIZ	SAN ANTONIO AT ORTIZ	TOTAL	STORAGE AT END OF MONTH ^d	CHANGE IN STORAGE ^e	OTHER ADJUSTMENTS	NET ADJUSTMENTS	SUPPLY IN MONTH	ACCUMULATED TOTAL	CHARGE IN STORAGE		TRANSMOUNTAIN ^b	DIVERSIONS ^b	OTHER ADJUSTMENTS ^a	NET ADJUSTMENTS	SUPPLY IN MONTH	ACCUMULATED TOTAL								
1				5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23				
					6.3					0.0		0.2						0.0				0.0				
JAN	2.4			2.4	6.5	0.2		0.2	2.6	2.6	11.8	0.2	0.0			0.0	11.8	11.8	3.2	12.7	15.9	15.9				
FEB	2.5			2.5	6.7	0.2		0.2	2.7	5.3	12	0.2	0.0			0.0	12.0	23.8	4.2	14.6	18.8	34.7				
MAR	4.4			4.4	7.1	0.4		0.4	4.8	10.1	17.2	0.2	0.0			0.0	17.2	41.0	6.6	22.3	28.9	63.6				
APR	20.9	14.6	3.3	38.8	6.9	-0.2		-0.2	38.6	48.7	77.3	0.2	0.0			0.0	77.3	118.3	2.2	9.7	11.9	75.5				
MAY	51.2	20.4	1.5	73.1	10.6	3.7	0.1	3.8	76.9	125.6	168.9	0.2	0.0			0.0	168.9	287.2	3.5	14.6	18.1	93.6				
JUN	43.6	6.4	0.1	50.1	19.4	8.8	0.2	9.0	59.1	184.7	170.1	0.2	0.0			0.0	170.1	457.3	8.1	22.0	30.1	123.7				
JUL	16.5	1.6	0.1	18.2	15.5	-3.9	0.1	-3.8	14.4	199.1	43.2	0.2	0.0	-1.3	0.3	-1.0	42.2	499.5	4.7	15.6	20.3	144.0				
AUG	10.2	1.3	0.1	11.6	11.8	-3.7	0.0	-3.7	7.9	207.0	30.8	0.2	0.0			0.0	30.8	530.3	3.7	10.3	14.0	158.0				
SEPT	6.9	0.7	0.0	7.6	9.1	-2.7	0.0	-2.7	4.9	211.9	28.3	0.2	0.0			0.0	28.3	558.6	1.3	5.9	7.2	165.2				
OCT	5.8	1.1	0.1	7.0	9.0	-0.1	0.1	0.0	7.0	218.9	46.0	0.2	0.0			0.0	46.0	604.6	2.3	16.2	18.5	183.7				
NOV	4.7			4.7	8.1	-0.9	0.0	-0.9	3.8	222.7	20.4	0.2	0.0			0.0	20.4	625.0	4.1	22.7	26.8	210.5				
DEC	3.4			3.4	7.5	-0.6		-0.6	2.8	225.5	12.8	0.2	0.0			0.0	12.8	637.8	3.6	16.0	19.6	230.1				
YEAR	172.5	46.1	5.2	223.8		1.2	0.5	1.7	225.5		638.8		0.0	-1.3	0.3	-1.0	637.8		47.5	182.6	230.1					
Remarks: Cols. 6 and 13 do not include transmountain water.																										
a Evaporation loss post-Compact reservoirs; as reported by the Engineer Adviser for Colorado.																										
b 1,586 ac-ft minus 243 ac-ft pre-Compact; as reported by the Engineer Adviser for Colorado.																										
c Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.																										
d Storage of relinquishment credit accrued in Platoro Reservoir during 2014. Storage of relinquished credit to date has totaled 1,749 acre-feet; balance remaining is 1,251 acre-feet.																										
e See Platoro Reservoir section in Engineer Advisers' Report in regards to change in storage.																										
											SUMMARY OF DEBITS AND CREDITS															
											ITEM															
											C1 Balance at Beginning of Year															
											C2 Scheduled Delivery from Conejos River															
											C3 Scheduled Delivery from Rio Grande															
											C4 Actual Delivery at Lobatos plus 10,000 Acre Feet															
											C5 Reduction of Debits o/c Evaporation															
											C6 Reduction of Credits o/c Evaporation ^c															
											C7															
											C8 Balance at End of Year															
											CREDIT															
											BALANCE															
											Cr. 5.4															
											Dr. 54.9															
											Dr. 232.0															
											Cr. 8.1															
											240.1															
											1.3															
											Cr. 6.8															
											Cr. 6.8															

APPROVED:  Date: 4/3/23 Engineer Adviser for New Mexico

Engineer Adviser for Colorado  Date: 4/3/23 Engineer Adviser for Texas

Updated 3/17/2023  Date: 4/3/23

RIO GRANDE COMPACT - DELIVERIES BY NEW MEXICO AT ELEPHANT BUTTE
YEAR 2014 (RECONCILED IN 2023)

Quantities in thousands of acre feet to nearest hundred																
MONTH	OTOWI INDEX SUPPLY										ELEPHANT BUTTE EFFECTIVE SUPPLY					
	ADJUSTMENTS					INDEX SUPPLY					Total Water Stored in New Mexico Above San Marcial at End of Month ^{a,b}	STORAGE IN ELEPHANT BUTTE RESERVOIR		Recorded Flow Below Elephant Butte Dam	During Month	Accumulated Total
	RESERVOIRS: LOBATOS TO OTOWI			Trans-mountain Diversions	Net Adjustments	During Month	Accumulated Total	End of Month ^a	Change Gain (+) Loss (-)							
	Recorded Flow at Olowi Bridge	Storage End of Month ^{a,b}	Change in Storage							Reservoir Evaporation		Other Adjustments ^d				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
			0.1							-0.1	261.6					
JAN	38.1		3.3	0.0		-3.9	-0.6	37.5	37.5	3.8	294.9	33.3	0.0	33.3	33.3	
FEB	37.8		4.1	0.1		-3.2	1.0	38.8	76.3	7.4	323.3	28.4	0.0	28.4	61.7	
MAR	48.4		6.0	0.1		-3.2	2.9	51.3	127.6	13.1	344.5	21.2	0.0	21.2	82.9	
APR	57.4		21.0	0.1		-7.7	13.4	70.8	198.4	35.8	346.7	2.2	0.0	2.2	85.1	
MAY	91.5		13.7	0.3		-16.3	-2.3	89.2	287.6	49.1	337.9	-8.8	19.8	11.0	96.1	
JUN	80.7		-0.1	0.4		-17.6	-17.3	63.4	351.0	48.0	201.4	-136.5	148.0	11.5	107.6	
JUL	67.5		-2.6	0.3		-11.4	-13.7	53.8	404.8	48.2	109.7	-91.7	110.1	18.4	126.0	
AUG	55.5		-11.8	0.1		-6.1	-17.8	37.7	442.5	34.1	130.1	20.4	14.9	35.3	161.3	
SEPT	44.9		-12.1	0.1		-11.8	-23.8	21.1	463.6	21.9	148.4	18.3	0.4	18.7	180.0	
OCT	39.6		-1.8	0.1		-4.5	-6.2	33.4	497.0	20.1	160.0	11.6	0.0	11.6	191.6	
NOV	45.9		-12.3	0.1	11.4	-2.3	-3.1	42.8	539.8	6.9	200.5	40.5	0.1	40.6	232.2	
DEC	48.0		-5.4	0.1		-2.8	-8.1	39.9	579.7	1.4	252.8	52.3	0.1	52.4	284.6	
YEAR	655.3		2.0	1.8		-90.8	-75.6	579.7				-8.8	293.4	284.6		
SUMMARY OF DEBITS AND CREDITS																
ITEM																
DEBIT																
CREDIT																
BALANCE																
NM1																
Balance at Beginning of Year																
NM2																
Scheduled Delivery at Elephant Butte																
NM3																
Actual Elephant Butte Effective Supply																
NM4																
Reduction of Debits o/c Evaporation																
NM5																
Reduction of Credits o/c Evaporation and Spill ^c																
NM6																
NM7																
Balance at End of Year																
NM8																
Dr. 2.0																

Remarks:

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

b In 2014, 32,351 acre-feet of relinquishment credit under previous relinquishment agreements were stored in El Vado Reservoir. Storage of relinquished credit to date has totaled 255,621 acre-feet; balance remaining is 124,879 acre-feet.

c Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.

d Adjustment for San Juan Chama exchange operation in November 24th 2014 to account for native water that would have passed the Olowi gage had the exchange not occurred (ISC File Memo, 2/18/15).

Remarks:

- a Cols. 3, 11, and 12 do not include transmountain water.
b In 2014, 32,351 acre-feet of relinquishment credit under previous relinquishment agreements were stored in Elephant Butte Reservoir. Storage of relinquished credit to date has totaled 255,621 acre-feet; balance remaining is 124,879 acre-feet.
c Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.
d Adjustment for San Juan Chama exchange operation in November 24th 2014 to account for native water that would have passed the Olowi gage had the exchange not occurred (ISC File Memo, 2/18/15).

APPROVED: CNC Date: 4/3/23 Engineer Adviser for New Mexico PP Date: 4/3/23 Engineer Adviser for Texas PP Date: 4-3-23 Updated 3/17/2023

RIO GRANDE COMPACT - RELEASE AND SPILL FROM PROJECT STORAGE
YEAR 2014 (RECONCILED IN 2023)

Quantities in thousands of acre feet to nearest hundred																				
MONTH	Total Project Storage Capacity Available at End of Month ^a	USABLE WATER IN STORAGE			Unfilled Capacity of Project Storage at End of Month	CREDIT WATER IN STORAGE ^c			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		Colorado Credit Water	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	SPILL FROM STORAGE			Usable Water	Net During Month	Accumulated Total
															3	4	5			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
	2,225.0	^b 195.6	39.7	^b 235.3	1,989.7	^b 5.4	^b 60.6	^b 66.0		301.3	—	—	—	—	—	—	—	0.0		
JAN	2,225.0	228.9	40.2	269.1	1,955.9	5.4	60.6	66.0		335.1	0.1	0.0	0.1				0.1	0.1		
FEB	2,225.0	257.3	40.5	297.8	1,927.2	5.4	60.6	66.0		363.8	0.0	0.1	0.1				0.1	0.2		
MAR	2,225.0	278.5	39.9	318.4	1,906.6	5.4	60.6	66.0		384.4	0.0	0.1	0.1				0.1	0.3		
APR	2,200.0	280.7	38.7	319.4	1,880.6	5.4	60.6	66.0		385.4	0.1	0.2	0.3				0.3	0.6		
MAY	2,200.0	271.9	26.8	298.7	1,901.3	5.4	60.6	66.0		364.7	27.9	0.2	28.1				28.1	28.7		
JUN	2,200.0	135.4	30.6	166.0	2,034.0	5.4	60.6	66.0		232.0	136.9	0.2	137.1				137.1	165.8		
JUL	2,200.0	43.7	31.6	75.3	2,124.7	5.4	60.6	66.0		141.3	110.8	0.2	111.0				111.0	276.8		
AUG	2,200.0	64.1	22.3	86.4	2,113.6	5.4	60.6	66.0		152.4	29.4	0.0	29.4				29.4	306.2		
SEPT	2,200.0	82.4	31.1	113.5	2,086.5	5.4	60.6	66.0		179.5	0.3	0.0	0.3				0.3	306.5		
OCT	2,225.0	94.0	31.2	125.2	2,099.8	5.4	60.6	66.0		191.2	0.2	0.1	0.3				0.3	306.8		
NOV	2,225.0	134.5	31.7	166.2	2,058.8	5.4	60.6	66.0		232.2	0.1	0.0	0.1				0.1	306.9		
DEC	2,225.0	186.8	32.4	219.2	2,005.8	5.4	60.6	66.0		285.2	0.0	0.0	-				0.0	306.9		
YEAR	—	—	—	—	—	—	—	—	—	—	305.8	1.1	306.9	0.0	0.0	0.0	306.9	—		
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 2,200,030 acre-feet (April to September) and 2,225,030 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 Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.																				
TIME OF HYPOTHETICAL SPILL Did not occur																				

APPROVED:  Date: 4/3/23 Engineer Adviser for Colorado

 Date: 4/3/23 Engineer Adviser for New Mexico

 Date: 4-3-23 Engineer Adviser for Texas

Updated 3/17/2023

RIO GRANDE COMPACT - DELIVERIES BY COLORADO AT STATE LINE
YEAR 2015 (RECONCILED IN 2023)

Quantities in thousands of acre feet to nearest hundred

MONTH	CONEJOS INDEX SUPPLY										RIO GRANDE INDEX SUPPLY										DELIVERIES			
	MEASURED FLOW			TOTAL	ADJUSTMENTS				SUPPLY		RECORDED FLOW NEAR DEL NORTE	ADJUSTMENTS				SUPPLY		CONEJOS RIVER AT MOUTH NEAR LASAUCES	RIO GRANDE LESS CONEJOS RIVER	RIO GRANDE AT LOBATOS	ACCUMULATED TOTAL AT LOBATOS			
	CONEJOS AT MOGOTE	LOS PINOS NEAR ORTIZ	SAN ANTONIO AT ORTIZ		STORAGE AT END OF MONTH ^d	CHANGE IN STORAGE ^e	OTHER ADJUSTMENTS	NET ADJUSTMENTS	SUPPLY IN MONTH	ACCUMULATED TOTAL		STORAGE AT END OF MONTH	CHANGE IN STORAGE	TRANSMOUNTAIN ^b DIVERSIONS	OTHER ADJUSTMENTS ^a	ADJUSTMENTS NET	SUPPLY IN MONTH					ACCUMULATED TOTAL		
1					5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
						7.5					0.0		0.2										0.0	
JAN	2.5				2.5	7.6	0.1		0.1	2.6	2.6	11.8	0.2	0.0			0.0	11.8	11.8	2.8	13.1	15.9	15.9	
FEB	2.3				2.3	7.8	0.2		0.2	2.5	5.1	11.8	0.2	0.0			0.0	11.8	23.6	3.7	15.8	19.5	35.4	
MAR	6.8				6.8	8.9	1.1		1.1	7.9	13.0	30.7	0.2	0.0			0.0	30.7	54.3	11.0	30.4	41.4	76.8	
APR	12.2	11.0	3.2		26.4	9.0	0.1		0.1	26.5	39.5	50.0	0.2	0.0			0.0	50.0	104.3	3.6	12.1	15.7	92.5	
MAY	32.6	20.7	2.1		55.4	9.1	0.1	0.1	0.2	55.6	95.1	119.2	0.2	0.0			0.0	119.2	223.5	2.6	9.8	12.4	104.9	
JUN	68.9	15.6	0.4		84.9	23.5	14.4	0.1	14.5	99.4	194.5	236.2	0.2	0.0			0.0	236.2	459.7	17.1	26.1	43.2	148.1	
JUL	24.0	3.4	0.3		27.7	20.2	-3.3	0.0	-3.3	24.4	218.9	96.1	0.2	0.0	-1.6	0.2	-1.4	94.7	554.4	11.3	30.5	41.8	189.9	
AUG	11.3	1.6	0.1		13.0	14.1	-6.1	0.1	-6.0	7.0	225.9	32.5	0.2	0.0			0.0	32.5	586.9	2.0	7.8	9.8	199.7	
SEPT	6.2	1.0	0.0		7.2	12.5	-1.6	0.1	-1.5	5.7	231.6	21.7	0.2	0.0			0.0	21.7	608.6	0.0	5.6	5.6	205.3	
OCT	5.5	1.2	0.1		6.8	11.5	-1.0	0.1	-0.9	5.9	237.5	26.2	0.2	0.0			0.0	26.2	634.8	0.0	5.3	5.3	210.6	
NOV	3.9				3.9	11.3	-0.2	0.0	-0.2	3.7	241.2	16.6	0.2	0.0			0.0	16.6	651.4	3.1	18.1	21.2	231.8	
DEC	3.8				3.8	10.1	-1.2	0.0	-1.2	2.6	243.8	12.1	0.2	0.0			0.0	12.1	663.5	4.4	14.2	18.6	250.4	
YEAR	180.0	54.5	6.2		240.7		2.6	0.5	3.1	243.8		664.9		0.0	-1.6	0.2	-1.4	663.5		61.6	188.8	250.4		
SUMMARY OF DEBITS AND CREDITS																								
ITEM																								
C1 Balance at Beginning of Year																								
C2 Scheduled Delivery from Conejos River 71.3																								
C3 Scheduled Delivery from Rio Grande 187.9																								
C4 Actual Delivery at Lobatos plus 10,000 Acre Feet 260.4																								
C5 Reduction of Debits o/c Evaporation																								
C6 Reduction of Credits o/c Evaporation ^c 1.3																								
C7																								
C8 Balance at End of Year																								
Cr. 6.8																								
Dr. 64.5																								
Dr. 252.4																								
Cr. 8.0																								
Cr. 6.7																								
Cr. 6.7																								

Remarks: Cols. 6 and 13 do not include transmountain water.
^a Evaporation loss post-Compact reservoirs; as reported by the Engineer Adviser for Colorado.
^b 1,813 ac-ft minus 243 ac-ft pre-Compact; as reported by the Engineer Adviser for Colorado.
^c Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.
^d No storage of relinquishment credit accrued in Platoro Reservoir during 2015. Storage of relinquished credit to date has totaled 1,749 acre-feet; balance remaining is 1,251 acre-feet.
^e See Platoro Reservoir section in Engineer Advisers' Report in regards to change in storage.

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

^a Evaporation loss post-Compact reservoirs; as reported by the Engineer Adviser for Colorado.

^b 1,813 ac-ft minus 243 ac-ft pre-Compact; as reported by the Engineer Adviser for Colorado.

^c Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.

^d No storage of relinquishment credit accrued in Platoro Reservoir during 2015. Storage of relinquished credit to date has totaled 1,749 acre-feet; balance remaining is 1,251 acre-feet.

^e See Platoro Reservoir section in Engineer Advisers' Report in regards to change in storage.

APPROVED:

Engineer Adviser for Colorado

CVC

Date: 4/14/23

Engineer Adviser for New Mexico

JP

Date: 4/13/23

Engineer Adviser for Texas

JP

Date: 4-13-23

Updated
3/17/2023

RIO GRANDE COMPACT - DELIVERIES BY NEW MEXICO AT ELEPHANT BUTTE
YEAR 2015 (RECONCILED IN 2023)

Quantities in thousands of acre feet to nearest hundred

OTOWI INDEX SUPPLY										ELEPHANT BUTTE EFFECTIVE SUPPLY						
MONTH	ADJUSTMENTS										Total Water Stored in New Mexico Above San Marcial at End of Month ^{a,b}	STORAGE IN ELEPHANT BUTTE RESERVOIR		Recorded Flow Below Elephant Butte Dam	During Month	Effective Supply
	Recorded Flow at Otowi Bridge	RESERVOIRS: LOBATOS TO OTOWI				Trans-mountain Diversions	Other Adjustments	Net Adjustments	During Month	Accumulated Total						
		Storage End of Month ^{a,b,d}	Change in Storage	Reservoir Evaporation	Reservoir Evaporation											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
			2.1							1.4	252.8					
JAN	38.5		6.1	4.0	0.0		-2.7	1.3	39.8	6.1	287.5	34.7	0.0	34.7	34.7	
FEB	41.4		11.8	5.7	0.0		-1.1	4.6	46.0	11.7	325.2	37.7	0.1	37.8	72.5	
MAR	76.9		30.5	18.7	0.1		-1.8	17.0	93.9	30.6	364.9	39.7	0.1	39.8	112.3	
APR	71.3		54.0	23.5	0.3		-2.9	20.9	92.2	54.2	389.8	24.9	0.1	25.0	137.3	
MAY	117.4		105.8	51.8	0.3		-3.4	48.7	166.1	105.2	396.1	6.3	51.2	57.5	194.8	
JUN	126.1		115.0	9.2	0.5		-4.4	5.3	131.4	115.6	338.7	-57.4	112.2	54.8	249.6	
JUL	90.3		113.3	-1.7	0.4		-7.6	-8.9	81.4	114.4	279.8	-58.9	114.7	55.8	305.4	
AUG	68.3		95.8	-17.5	0.4		-13.6	-30.7	37.6	96.8	182.2	-97.6	113.5	15.9	321.3	
SEPT	45.0		72.5	-23.3	0.3		-3.0	-26.0	19.0	72.5	165.2	-17.0	20.7	3.7	325.0	
OCT	36.5		65.5	-7.0	0.2		-1.6	-8.4	28.1	65.9	179.9	14.7	0.1	14.8	339.8	
NOV	69.1		48.7	-16.8	0.1		-11.6	-28.3	40.8	48.6	232.4	52.5	0.0	52.5	392.3	
DEC	82.0		12.4	-36.3	0.1		-6.5	-42.7	39.3	12.8	322.5	90.1	0.1	90.2	482.5	
YEAR	862.8			10.3	2.7		-60.2	-47.2	815.6			69.7	412.8	482.5		
SUMMARY OF DEBITS AND CREDITS																
ITEM																
DEBIT																
CREDIT																
BALANCE																
Remarks:																
^a Cols. 3, 11, and 12 do not include transmountain water.																
^b In 2015, 8,416 acre-feet of relinquishment credit under previous relinquishment agreements were stored in El Vado Reservoir. Storage of relinquished credit to date has totaled 264,037 acre-feet; balance remaining is 116,463 acre-feet.																
^c Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.																
^d Storage in April, May, and June includes water stored for El Vado deviation resolution.																
NM1																
Balance at Beginning of Year																
NM2																
Scheduled Delivery at Elephant Butte																
NM3																
Actual Elephant Butte Effective Supply																
NM4																
Reduction of Debits o/c Evaporation																
NM5																
Reduction of Credits o/c Evaporation and Spill ^c																
NM6																
NM7																
NM8																
Balance at End of Year																
Dr. 1.6																

APPROVED:
Engineer Adviser for Colorado,

Date: 4/3/23 Engineer Adviser for New Mexico

Date: 4/3/23 Engineer Adviser for Texas

Date: 4-3-23 Updated 3/17/2023

RIO GRANDE COMPACT - RELEASE AND SPILL FROM PROJECT STORAGE
YEAR 2015 (RECONCILED IN 2023)

Quantities in thousands of acre feet to nearest hundred																		
MONTH	Total Project Storage Capacity Available at End of Month ^a	USABLE WATER IN STORAGE			Unfilled Capacity of Project Storage at End of Month	CREDIT WATER IN STORAGE ^c			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					USABLE RELEASE		
		Elephant Butte Reservoir	Caballo Reservoir	Total at End of Month		Colorado Credit Water	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
	2,225.0	b 188.5	32.4	b 220.9	2,004.1	b 6.8	b 0.0	b 6.8		227.7								0.0
JAN	2,225.0	280.7	33.8	314.5	1,910.5	6.8	0.0	6.8		321.3	0.0	0.0	0.0				0.0	0.0
FEB	2,225.0	318.4	35.3	353.7	1,871.3	6.8	0.0	6.8		360.5	0.0	0.2	0.2				0.2	0.2
MAR	2,225.0	358.1	36.1	394.2	1,830.8	6.8	0.0	6.8		401.0	0.1	0.0	0.1				0.1	0.3
APR	2,200.0	383.0	35.3	418.3	1,781.7	6.8	0.0	6.8		425.1	0.1	0.1	0.2				0.2	0.5
MAY	2,200.0	389.3	44.3	433.6	1,766.4	6.8	0.0	6.8		440.4	34.3	0.2	34.5				34.5	35.0
JUN	2,200.0	331.9	17.3	349.2	1,850.8	6.8	0.0	6.8		356.0	141.6	0.2	141.8				141.8	176.8
JUL	2,200.0	273.0	16.8	289.8	1,910.2	6.8	0.0	6.8		296.6	118.8	0.1	118.9				118.9	295.7
AUG	2,200.0	175.4	45.6	221.0	1,979.0	6.8	0.0	6.8		227.8	90.3	0.1	90.4				90.4	386.1
SEPT	2,200.0	158.4	23.8	182.2	2,017.8	6.8	0.0	6.8		189.0	49.6	0.1	49.7				49.7	435.8
OCT	2,225.0	173.1	25.1	198.2	2,026.8	6.8	0.0	6.8		205.0	0.1	0.0	0.1				0.1	435.9
NOV	2,225.0	225.6	26.3	251.9	1,973.1	6.8	0.0	6.8		258.7	0.0	0.0	0.0				0.0	435.9
DEC	2,225.0	315.7	27.7	343.4	1,881.6	6.8	0.0	6.8		350.2	0.0	0.0	0.0				0.0	435.9
YEAR											434.9	1.0	435.9	0.0	0.0	0.0	435.9	
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 2,200,030 acre-feet (April to September) and 2,225,030 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 Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.																		
ACCURED DEPARTURE FROM NORMAL RELEASE																		
ITEM																		
P1 Accured Departure at Beginning of Year																		
P2 Actual Release during Year																		
P3 Normal Release for Year																		
P4 Under Release in Excess of 150.0																		
P5																		
P6																		
P7 Accured Departure at End of Year																		
TIME OF HYPOTHETICAL SPILL Did not occur																		
BALANCE																		
Cr.1715.8																		
Cr. 1279.9																		
Cr. 2069.9																		
Cr.1865.8																		
Cr.1865.8																		

APPROVED:
Engineer Adviser for Colorado

Date: 4/13/23 Engineer Adviser for New Mexico

Date: 4/3/23 Engineer Adviser for Texas

Date: 4-3-23

Updated
3/17/2023

RIO GRANDE COMPACT - DELIVERIES BY COLORADO AT STATE LINE
YEAR 2016 (RECONCILED IN 2023)

Quantities in thousands of acre feet to nearest hundred

MONTH	CONEJOS INDEX SUPPLY										RIO GRANDE INDEX SUPPLY										DELIVERIES			
	MEASURED FLOW			ADJUSTMENTS					SUPPLY			RECORDED FLOW NEAR DEL NORTE	ADJUSTMENTS					SUPPLY		CONEJOS RIVER AT MOUTH NEAR LASAUCES	RIO GRANDE LESS CONEJOS RIVER	RIO GRANDE AT LOBATOS	ACCUMULATED TOTAL AT LOBATOS	
	CONEJOS AT MOGOTE	LOS PINOS NEAR ORTIZ	SAN ANTONIO AT ORTIZ	TOTAL	STORAGE AT END OF MONTH ^d	CHANGE IN STORAGE ^e	OTHER ADJUSTMENTS	NET ADJUSTMENTS	SUPPLY															
									IN MONTH	ACCUMULATED TOTAL	STORAGE AT END OF MONTH		CHANGE IN STORAGE	TRANS-MOUNTAIN ^b	OTHER ADJUSTMENTS ^a	NET ADJUSTMENTS	IN MONTH	ACCUMULATED TOTAL						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
												0.2											0.0	
JAN	3.0			3.0	9.9	-0.2		-0.2	2.8	2.8	11	0.2	0.0			0.0	11.0	11.0	3.8	12.2	16.0	16.0		
FEB	3.9			3.9	10.0	0.1		0.1	4.0	6.8	14.6	0.2	0.0			0.0	14.6	25.6	4.6	16.7	21.3	37.3		
MAR	6.3			6.3	10.9	0.9		0.9	7.2	14.0	24.1	0.2	0.0			0.0	24.1	49.7	8.9	29.1	38.0	75.3		
APR	15.1	11.6	3.2	29.9	10.9	0.0		0.0	29.9	43.9	61.2	0.2	0.0			0.0	61.2	110.9	8.9	13.9	22.8	98.1		
MAY	53.8	29.5	3.9	87.2	11.4	0.5	0.1	0.6	87.8	131.7	185.8	0.2	0.0			0.0	185.8	296.7	21.8	23.3	45.1	143.2		
JUN	71.0	14.0	0.3	85.3	25.7	14.3	0.2	14.5	99.8	231.5	209.8	0.2	0.0			0.0	209.8	506.5	27.8	42.8	70.6	213.8		
JUL	18.9	2.2	0.1	21.2	19.7	-6.0	0.2	-5.8	15.4	246.9	48.4	0.2	0.0	-2.9	0.2	-2.7	45.7	552.2	4.3	15.1	19.4	233.2		
AUG	10.9	1.8	0.2	12.9	17.8	-1.9	0.0	-1.9	11.0	257.9	33.7	0.2	0.0			0.0	33.7	585.9	0.2	3.9	4.1	237.3		
SEPT	10.7	1.2	0.0	11.9	14.9	-2.9	0.0	-2.9	9.0	266.9	26.9	0.2	0.0			0.0	26.9	612.8	0.3	2.2	2.5	239.8		
OCT	6.4	1.1	0.1	7.6	13.5	-1.4	0.0	-1.4	6.2	273.1	24.9	0.2	0.0			0.0	24.9	637.7	0.0	3.7	3.7	243.5		
NOV	4.5			4.5	12.0	-1.5	0.0	-1.5	3.0	276.1	15.1	0.2	0.0			0.0	15.1	652.8	3.4	10.4	13.8	257.3		
DEC	4.1			4.1	11.5	-0.5	0.0	-0.5	3.6	279.7	12.0	0.2	0.0			0.0	12.0	664.8	3.9	14.7	18.6	275.9		
YEAR	208.6	61.4	7.8	277.8		1.4	0.5	1.9	279.7		667.5		0.0	-2.9	0.2	-2.7	664.8		87.9	188.0	275.9			
SUMMARY OF DEBITS AND CREDITS																								
ITEM																								
DEBIT																								
CREDIT																								
BALANCE																								
C1 Balance at Beginning of Year																								
C2 Scheduled Delivery from Conejos River																								
C3 Scheduled Delivery from Rio Grande																								
C4 Actual Delivery at Lobatos plus 10,000 Acre Feet																								
C5 Reduction of Debits o/c Evaporation																								
C6 Reduction of Credits o/c Evaporation ^c																								
C7 Accrued credit relinquished to project storage on May 31, 2013																								
C8 Balance at End of Year																								

Remarks: Cols. 6 and 13 do not include transmountain water.
^a Evaporation loss post-Compact reservoirs; as reported by the Engineer Adviser for Colorado.
^b 1,813 ac-ft minus 243 ac-ft pre-Compact; as reported by the Engineer Adviser for Colorado.
^c Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.
^d No storage of relinquishment credit accrued in Platoro Reservoir during 2015. Storage of relinquished credit to date has totaled 1,749 acre-feet; balance remaining is 1,251 acre-feet.
^e See Platoro Reservoir section in Engineer Advisers' Report in regards to change in storage.

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

^a Evaporation loss post-Compact reservoirs; as reported by the Engineer Adviser for Colorado.

^b 1,813 ac-ft minus 243 ac-ft pre-Compact; as reported by the Engineer Adviser for Colorado.

^c Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.

^d No storage of relinquishment credit accrued in Platoro Reservoir during 2015. Storage of relinquished credit to date has totaled 1,749 acre-feet; balance remaining is 1,251 acre-feet.

^e See Platoro Reservoir section in Engineer Advisers' Report in regards to change in storage.

APPROVED:

Engineer Adviser for Colorado

CNC

Date: 7/19/23

Engineer Adviser for New Mexico

PP

Date: 4/3/23

Engineer Adviser for Texas

PP

Date: 4-3-23

Updated
3/17/2023

RIO GRANDE COMPACT - DELIVERIES BY NEW MEXICO AT ELEPHANT BUTTE
YEAR 2016 (RECONCILED IN 2023)

Quantities in thousands of acre feet to nearest hundred

OTOWI INDEX SUPPLY										ELEPHANT BUTTE EFFECTIVE SUPPLY						
MONTH	ADJUSTMENTS								INDEX SUPPLY		Total Water Stored in New Mexico Above San Marcial at End of Month ^{a,b}	STORAGE IN ELEPHANT BUTTE RESERVOIR		Recorded Flow Below Elephant Butte Dam ^d	Effective Supply	
	Recorded Flow at Otowi Bridge	RESERVOIRS: LOBATOS TO OTOWI				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	Other Adjustments											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
			12.4							12.3	322.5					
JAN	41.8		14.6	2.2	0.0	-2.5	-0.3	41.5	41.5	15.0	361.1	38.6	0.0	38.6	38.6	
FEB	49.6		19.1	4.5	0.0	-2.8	1.7	51.3	92.8	18.6	401.9	40.8	0.1	40.9	79.5	
MAR	68.1		35.0	15.9	0.1	-3	13.0	81.1	173.9	35.7	407.2	5.3	32.4	37.7	117.2	
APR	67.3		74.8	39.8	0.3	-3.6	36.5	103.8	277.7	76.1	334.9	-72.3	100.2	27.9	145.1	
MAY	139.5		107.6	32.8	0.5	-3.5	29.8	169.3	447.0	111.2	310.5	-24.4	83.5	59.1	204.2	
JUN	152.2		81.1	-26.5	0.6	-4.4	-30.3	121.9	568.9	83.0	298.2	-12.3	104.1	91.8	296.0	
JUL	74.0		48.9	-32.2	0.4	-12.5	-44.3	29.7	598.6	50.1	189.5	-108.7	117.2	8.5	304.5	
AUG	55.6		32.9	-16.0	0.1	-7.7	-23.6	32.0	630.6	33.7	132.2	-57.3	76.1	18.8	323.3	
SEPT	43.2		14.6	-18.3	0.1	-6.1	-24.3	18.9	649.5	15.6	132.0	-0.2	9.5	9.3	332.6	
OCT	30.1		13.1	-1.5	0.0	-8.9	-10.4	19.7	669.2	14.1	128.7	-3.3	9.3	6.0	338.6	
NOV	42.1		5.2	-7.9	0.2	-2.8	-10.5	31.6	700.8	6.3	160.7	32.0	0.0	32.0	370.6	
DEC	48.6		0.2	-5.0	0.3	-3.1	-7.8	40.8	741.6	0.8	202.5	41.8	0.0	41.8	412.4	
YEAR	812.1			-12.2	2.6	-60.9	-70.5	741.6				-120.0	532.4	412.4		
SUMMARY OF DEBITS AND CREDITS																
ITEM										DEBIT		CREDIT		BALANCE		
NM1										Balance at Beginning of Year				Dr. 1.6		
NM2										Scheduled Delivery at Elephant Butte		433.0		Dr. 434.6		
NM3										Actual Elephant Butte Effective Supply				Dr. 22.2		
NM4										Reduction of Debits o/c Evaporation						
NM5										Reduction of Credits o/c Evaporation and Spill ^c		0.0		Dr. 22.2		
NM6																
NM7																
NM8										Balance at End of Year				Dr. 22.2		
Remarks:																
^a Cols. 3, 11, and 12 do not include transmountain water.																
^b In 2015, 8,416 acre-feet of relinquishment credit under previous relinquishment agreements were stored in El Vado Reservoir. Storage of relinquished credit to date has totaled 264,037 acre-feet; balance remaining is 116,463 acre-feet.																
^c Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.																
^d Gage record reflects improved precision during 2015. A low bias in gaged flow during certain months due to algae growth as identified and addressed for 2015. This has occurred for an undetermined amount of time. New Mexico will continue to coordinate with USGS to provide a more accurate gage record in the future.																

APPROVED:
Engineer Adviser for Colorado

 Date: 4/13/23 Engineer Adviser for New Mexico

 Date: 4/3/23 Engineer Adviser for Texas

Date: 4-3-23
Updated 3/17/2023

RIO GRANDE COMPACT - RELEASE AND SPILL FROM PROJECT STORAGE
YEAR 2016 (RECONCILED IN 2023)

Quantities in thousands of acre feet to nearest hundred

MONTH	Total Project Storage Capacity Available at End of Month ^a	USABLE WATER IN STORAGE			Unfilled Capacity of Project Storage at End of Month	CREDIT WATER IN STORAGE ^c			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		Colorado Credit Water	New Mexico Credit Water	Total at End of Month			Measured Flow at 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
	2,225.0	b 315.8	27.7	b 343.5	1,881.5	b 6.7	b 0.0	b 6.7		350.2								
JAN	2,225.0	354.4	29.2	383.6	1,841.4	6.7	0.0	6.7		390.3	0.0	0.0	0.0				0.0	0.0
FEB	2,225.0	395.2	30.8	426.0	1,799.0	6.7	0.0	6.7		432.7	0.0	0.0	0.0				0.0	0.0
MAR	2,225.0	400.5	39.8	440.3	1,784.7	6.7	0.0	6.7		447.0	19.7	0.1	19.8				19.8	19.8
APR	2,200.0	328.2	63.1	391.3	1,808.7	6.7	0.0	6.7		398.0	72.7	0.1	72.8				72.8	92.6
MAY	2,200.0	303.8	73.5	377.3	1,822.7	6.7	0.0	6.7		384.0	65.9	0.1	66.0				66.0	158.6
JUN	2,200.0	291.5	50.8	342.3	1,857.7	6.7	0.0	6.7		349.0	127.5	0.1	127.6				127.6	286.2
JUL	2,200.0	182.8	28.7	211.5	1,988.5	6.7	0.0	6.7		218.2	140.2	0.1	140.3				140.3	426.5
AUG	2,200.0	125.5	21.6	147.1	2,052.9	6.7	0.0	6.7		153.8	87.4	0.1	87.5				87.5	514.0
SEPT	2,200.0	125.3	4.4	129.7	2,070.3	6.7	0.0	6.7		136.4	31.7	0.1	31.8				31.8	545.8
OCT	2,225.0	122.0	16.2	138.2	2,086.8	6.7	0.0	6.7		144.9	0.2	0.1	0.3				0.3	546.1
NOV	2,225.0	154.0	19.1	173.1	2,051.9	6.7	0.0	6.7		179.8	0.1	0.1	0.2				0.2	546.3
DEC	2,225.0	195.8	21.0	216.8	2,008.2	6.7	0.0	6.7		223.5	0.1	0.0	0.1				0.1	546.4
YEAR											545.5	0.9	546.4	0.0	0.0	0.0	546.4	
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 2,200,030 acre-feet (April to September) and 2,225,030 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 Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.																		
ACCRUED DEPARTURE FROM NORMAL RELEASE																		
ITEM																		
DEBIT																		
CREDIT																		
BALANCE																		
P1																		
P2																		
P3																		
P4																		
P5																		
P6																		
P7																		
TIME OF HYPOTHETICAL SPILL Did not occur																		

APPROVED:

Engineer Adviser for Colorado

ENC

Date: 7/3/23

Engineer Adviser for New Mexico

PP

Date: 4/3/23

Engineer Adviser for Texas

SW

Date: 4-3-23

Updated
3/17/2023

RIO GRANDE COMPACT - DELIVERIES BY COLORADO AT STATE LINE
YEAR 2017 (RECONCILED IN 2023)

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 RIVER AT MOUTH NEAR LASAUCES	RIO GRANDE LESS CONEJOS RIVER	RIO GRANDE AT LOBATOS	ACCUMULATED TOTAL AT LOBATOS	
	CONEJOS AT MOGOTE	LOS PINOS NEAR LOS ORTIZ	SAN ANTONIO AT LOS ORTIZ	TOTAL	STORAGE AT END OF MONTH ^d	CHANGE IN STORAGE ^e	OTHER ADJUSTMENTS	NET ADJUSTMENTS	SUPPLY IN MONTH	ACCUMULATED TOTAL	RECORDED FLOW NEAR DEL NORTE	STORAGE AT END OF MONTH	CHANGE IN STORAGE	TRANS MOUNTAIN ^b	DIVERSIONS ^b	OTHER ADJUSTMENTS ^a	NET ADJUSTMENTS	SUPPLY IN MONTH	ACCUMULATED TOTAL					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
												0.2											0.0	
JAN	3.9			3.9	11.7	0.2		0.2	4.1	4.1	11.9	0.2	0.0			0.0	11.9	11.9	4.0	14.2	18.2	18.2	0.0	
FEB	3.7			3.7	11.7	0.0		0.0	3.7	7.8	12.1	0.2	0.0			0.0	12.1	24.0	6.5	19.4	25.9	44.1		
MAR	14.4			14.4	11.3	-0.4		-0.4	14.0	21.8	33.3	0.2	0.0			0.0	33.3	57.3	21.7	31.8	53.5	97.6		
APR	30.1	24.6	11.0	65.7	14.0	2.7		2.7	68.4	90.2	96.0	0.2	0.0			0.0	96.0	153.3	32.2	23.2	55.4	153.0		
MAY	71.9	51.7	11.2	134.8	16.7	2.7	0.1	2.8	137.6	227.8	174.3	0.2	0.0			0.0	174.3	327.6	56.4	31.9	88.3	241.3		
JUN	75.9	26.0	1.3	103.2	35.5	18.8	0.2	19.0	122.2	350.0	181.1	0.2	0.0	-2.3	0.2	0.0	181.1	508.7	46.7	26.8	73.5	314.8		
JUL	31.5	4.4	0.2	36.1	29.1	-6.4	0.1	-6.3	29.8	379.8	55.7	0.2	0.0			-2.1	53.6	562.3	7.5	11.0	18.5	333.3		
AUG	18.9	1.8	0.1	20.8	26.2	-2.9	0.0	-2.9	17.9	397.7	42.1	0.2	0.0			0.0	42.1	604.4	5.8	5.2	11.0	344.3		
SEPT	13.5	1.2	0.1	14.8	21.9	-4.3	0.0	-4.3	10.5	408.2	24.7	0.2	0.0			0.0	24.7	629.1	3.1	2.2	5.3	349.6		
OCT	17.2	3.4	0.3	20.9	21.6	-0.3	0.1	-0.2	20.7	428.9	32.0	0.2	0.0			0.0	32.0	661.1	8.6	5.3	13.9	363.5		
NOV	8.0			8.0	20.1	-1.5	0.1	-1.4	6.6	435.5	15.9	0.2	0.0			0.0	15.9	677.0	8.8	12.7	21.5	385.0		
DEC	5.4			5.4	18.7	-1.4	0.0	-1.4	4.0	439.5	11.2	0.2	0.0			0.0	11.2	688.2	5.9	14.5	20.4	405.4		
YEAR	294.4	113.1	24.2	431.7		7.2	0.6	7.8	439.5		690.3		0.0	-2.3	0.2	-2.1	688.2		207.2	198.2	405.4			
SUMMARY OF DEBITS AND CREDITS																								
ITEM																								
C1 Balance at Beginning of Year																								
C2 Scheduled Delivery from Conejos River																								
C3 Scheduled Delivery from Rio Grande																								
C4 Actual Delivery at Lobatos plus 10,000 Acre Feet																								
C5 Reduction of Debits a/c Evaporation																								
C6 Reduction of Credits a/c Evaporation ^c																								
C7																								
C8 Balance at End of Year																								

Remarks: Cols. 6 and 13 do not include transmountain water.
^a Evaporation loss post-Compact reservoirs: as reported by the Engineer Adviser for Colorado.
^b 2,575 ac-ft minus 243 ac-ft pre-Compact; as reported by Engineer Adviser for Colorado.
^c Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.
^d No relinquishment credit stored in 2017. Storage of relinquished credit to date has totaled 2,068 acre-feet; balance remaining is 932 acre-feet.
^e See Platoro Reservoir section in Engineer Advisers' Report in regards to change in storage.

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

^a Evaporation loss post-Compact reservoirs: as reported by the Engineer Adviser for Colorado.

^b 2,575 ac-ft minus 243 ac-ft pre-Compact; as reported by Engineer Adviser for Colorado.

^c Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.

^d No relinquishment credit stored in 2017. Storage of relinquished credit to date has totaled 2,068 acre-feet; balance remaining is 932 acre-feet.

^e See Platoro Reservoir section in Engineer Advisers' Report in regards to change in storage.

APPROVED:
Engineer Adviser for Colorado

CWC

Date: 7/13/23 Engineer Adviser for New Mexico

PP

Date: 4/3/23

Engineer Adviser for Texas

BM

Date: 4-3-23

Updated
3/17/2023

RIO GRANDE COMPACT - DELIVERIES BY NEW MEXICO AT ELEPHANT BUTTE
YEAR 2017 (RECONCILED IN 2023)

Quantities in thousands of acre feet to nearest hundred

MONTH	OTOWI INDEX SUPPLY										ELEPHANT BUTTE EFFECTIVE SUPPLY					
	ADJUSTMENTS										STORAGE IN ELEPHANT BUTTE RESERVOIR		Recorded Flow Below Elephant Butte Dam ^c	Effective Supply		
	RESERVOIRS: LOBATOS TO OTOWI					Trans-mountain Diversions	Net Adjustments	During Month	Accumulated Total		End of Month ^{a,b}	Change Gain (+) Loss (-)		During Month	Accumulated Total	
	Recorded Flow at Otowi Bridge	Storage End of Month ^a	Change in Storage	Reservoir Evaporation	Other Adjustments											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
		0.3								0.8	202.5					
JAN	44.9	4.3	4.0	0.3		-3.7	0.6	45.5	45.5	4.3	251.0	48.5	0.0	48.5	48.5	
FEB	50.0	14.4	10.1	0.1		-2.7	7.5	57.5	103.0	14.7	295.3	44.3	0.0	44.3	92.8	
MAR	132.5	26.9	12.5	0.2		-8.8	3.9	136.4	239.4	28.2	307.4	12.1	60.3	72.4	165.2	
APR	223.8	45.9	19.0	0.3		-1.5	17.8	241.6	481.0	46.9	391.9	84.5	78.7	163.2	328.4	
MAY	278.8	113.2	67.3	0.5		-3.6	64.2	343.0	824.0	115.4	500.4	108.5	96.0	204.5	532.9	
JUN	153.7	139.7	26.5	1.1		-2.2	25.4	179.1	1003.1	141.4	469.2	-31.2	133.3	102.1	635.0	
JUL	68.0	128.4	-11.3	0.5		-13.2	-24.0	44.0	1047.1	131.5	366.2	-103.0	113.3	10.3	645.3	
AUG	54.0	118.9	-9.5	0.4		-7.0	-16.1	37.9	1085.0	120.6	284.5	-81.7	94.2	12.5	657.8	
SEPT	56.5	94.2	-24.7	0.4		-8.4	-32.7	23.8	1108.8	96.2	226.5	-58.0	68.9	10.9	668.7	
OCT	71.3	77.8	-16.4	0.4		-2.6	-18.6	52.7	1161.5	79.7	297.2	70.7	4.2	74.9	743.6	
NOV	79.3	55.4	-22.4	0.1		-10.2	-32.5	46.8	1208.3	56.8	354.7	57.5	0.1	57.6	801.2	
DEC	73.9	39.8	-15.6	0.1		-12.2	-27.7	46.2	1254.5	41.3	425.1	70.4	0.1	70.5	871.7	
YEAR	1286.7		39.5	4.4		-76.1	-32.2	1254.5				222.6	649.1	871.7		
SUMMARY OF DEBITS AND CREDITS																
ITEM										DEBIT		CREDIT		BALANCE		
NM1 Balance at Beginning of Year														Dr. 22.2		
NM2 Scheduled Delivery at Elephant Butte										852.9				Dr. 875.1		
NM3 Actual Elephant Butte Effective Supply												871.7		Dr. 3.4		
NM4 Reduction of Debits a/c Evaporation ^d												0.7		Dr. 2.7		
NM5 Reduction of Credits a/c Evaporation and Spill										0.0				Dr. 2.7		
NM6																
NM7																
NM8 Balance at End of Year														Dr. 2.7		

Remarks: Cols. 3, 11, and 12 do not include transmountain water.

In 2017, no relinquishment credit under previous relinquishment^a agreements was stored in New Mexico reservoirs. Storage of relinquished credit to date has totaled 288,281 acre-feet; balance remaining is 92,219 acre-feet.

Based on end of year surveys, Elephant Butte lake elevation corrected by +0.23 feet, effective December 20, 2017.

Gage record reflects improved precision since 2016. A low bias in gaged flow during certain months due to algae growth was identified and addressed for 2016 forward. The low bias occurred for an undetermined amount of time. New Mexico will continue to coordinate with USGS to provide a more accurate gage record in the future.

Evaporation of Debit Water as described in the Engineer Adviser Report for calendar year 2022.

Remarks: Cols. 3, 11, and 12 do not include transmountain water.
a In 2017, no relinquishment credit under previous relinquishment agreements was stored in New Mexico reservoirs.
b Storage of relinquished credit to date has totaled 288,281 acre-feet; balance remaining is 92,219 acre-feet.
c Based on end of year surveys, Elephant Butte lake elevation corrected by +0.23 feet, effective December 20, 2017.
d Gage record reflects improved precision since 2016. A low bias in gaged flow during certain months due to algae growth was identified and addressed for 2016 forward. The low bias occurred for an undetermined amount of time. New Mexico will continue to coordinate with USGS to provide a more accurate gage record in the future.
e Evaporation of Debit Water as described in the Engineer Adviser Report for calendar year 2022.

APPROVED:
Engineer Adviser for Colorado

Date: 4/13/23
Engineer Adviser for New Mexico

Date: 4/3/23
Engineer Adviser for Texas

Date: 4-2-23
Updated 3/17/2023

RIO GRANDE COMPACT - RELEASE AND SPILL FROM PROJECT STORAGE
YEAR 2017 (RECONCILED IN 2023)

Quantities in thousands of acre feet to nearest hundred

Rio Grande below Caballo Dam																			
MONTH	Total Project Storage Capacity Available at End of Month ^a	USABLE WATER IN STORAGE			Unfilled Capacity of Project Storage at End of Month	CREDIT WATER IN STORAGE ^c			Flood Water in Storage in Caballo Reservoir at End of Month	Total Water in Project Storage at End of Month	Measured Flow at Caballo Gaging Station	Intervening Diversions to Canals	Total Release and Spill	SPILL FROM STORAGE			Usable Water	Net During Month	Accumulated Total
		Elephant Butte Reservoir	Caballo Reservoir	Total at End of Month		Colorado Credit Water	New Mexico Credit Water	Total at End of Month						Caballo Flood Water	Credit Water				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
						b 7.3	b 0.0	b 7.3											
JAN	2,225.0	243.7	25.6	269.3	1,955.7	7.3	0.0	7.3		276.6	0.1	0.0	0.1				0.1	0.1	
FEB	2,225.0	288.0	29.6	317.6	1,907.4	7.3	0.0	7.3		324.9	0.0	0.0	0.0				0.0	0.1	
MAR	2,225.0	300.1	78.3	378.4	1,846.6	7.3	0.0	7.3		385.7	2.6	0.1	2.7				2.7	2.8	
APR	2,200.0	384.6	72.0	456.6	1,743.4	7.3	0.0	7.3		463.9	80.9	0.1	81.0				81.0	83.8	
MAY	2,200.0	493.1	67.1	560.2	1,639.8	7.3	0.0	7.3		567.5	95.4	0.2	95.6				95.6	179.4	
JUN	2,200.0	461.9	70.9	532.8	1,667.2	7.3	0.0	7.3		540.1	127.1	0.2	127.3				127.3	306.7	
JUL	2,200.0	358.9	68.5	427.4	1,772.6	7.3	0.0	7.3		434.7	113.9	0.1	114.0				114.0	420.7	
AUG	2,200.0	277.2	62.2	339.4	1,860.6	7.3	0.0	7.3		346.7	98.3	0.1	98.4				98.4	519.1	
SEPT	2,200.0	219.2	32.5	251.7	1,948.3	7.3	0.0	7.3		259.0	99.5	0.1	99.6				99.6	618.7	
OCT	2,225.0	289.9	35.6	325.5	1,899.5	7.3	0.0	7.3		332.8	5.0	0.0	5.0				5.0	623.7	
NOV	2,225.0	347.4	36.3	383.7	1,841.3	7.3	0.0	7.3		391.0	0.2	0.0	0.2				0.2	623.9	
DEC	2,225.0	417.8	37.1	454.9	1,770.1	7.3	0.0	7.3		462.2	0.1	0.0	0.1				0.1	624.0	
YEAR											623.1	0.9	624.0	0.0	0.0	0.0	624.0		
Remarks: Cols. 2, 6 and 11 reflect implementation of revised area-capacity tables from Elephant Butte and Caballo Reservoirs, effective Jan 1, 2009.																			
ITEM																			
P1 Accrued Departure at Beginning of Year																			
P2 Actual Release during Year																			
P3 Normal Release for Year																			
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: 4/3/23 *CWC* Engineer Adviser for New Mexico

Date: 4/3/23 *SA* Engineer Adviser for Texas

Date: 4-3-23

Updated
3/17/2023

RIO GRANDE COMPACT - DELIVERIES BY COLORADO AT STATE LINE
YEAR 2018 (RECONCILED IN 2023)

Quantities in thousands of acre feet to nearest hundred

MONTH	CONEJOS INDEX SUPPLY										RIO GRANDE INDEX SUPPLY										DELIVERIES			
	MEASURED FLOW			ADJUSTMENTS				SUPPLY			RECORDED FLOW NEAR DEL NORTE	ADJUSTMENTS					SUPPLY		CONEJOS RIVER AT MOUTH NEAR LASAUCES	RIO GRANDE LESS CONEJOS RIVER	RIO GRANDE AT LOBATOS	ACCUMULATED TOTAL AT LOBATOS		
	CONEJOS AT MOGOTE	LOS PINOS NEAR SAN ANTONIO	SAN ANTONIO AT ORTIZ	TOTAL	STORAGE AT END OF MONTH ^c	CHANGE IN STORAGE ^d	OTHER ADJUSTMENTS	NET ADJUSTMENTS	SUPPLY IN MONTH	ACCUMULATED TOTAL		TRANS MOUNTAIN ^b	DIVERSIONS ^b	OTHER ADJUSTMENTS ^a	NET ADJUSTMENTS	SUPPLY IN MONTH	ACCUMULATED TOTAL							
1		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
						18.7					0.0		0.2										0.0	
JAN		3.7			3.7	18.6	-0.1		-0.1	3.6	3.6	10.5	0.3	0.1			0.1	10.6	10.6	3.9	13.5	17.4	17.4	
FEB		3.1			3.1	18.6	0.0		0.0	3.1	6.7	10.2	0.3	0.0			0.0	10.2	20.8	4.0	15.1	19.1	36.5	
MAR		5.6			5.6	18.7	0.1		0.1	5.7	12.4	15.7	0.5	0.2			0.2	15.9	36.7	3.9	16.2	20.1	56.6	
APR		23.1	14.8	2.7	40.6	19.4	0.7		0.7	41.3	53.7	48.5	0.5	0.0			0.0	48.5	85.2	2.3	4.0	6.3	62.9	
MAY		52.2	11.8	0.5	64.5	19.2	-0.2	0.2	0.0	64.5	118.2	96.0	0.5	0.0			0.0	96.0	181.2	1.4	6.6	8.0	70.9	
JUN		18.2	1.9	0.0	20.1	17.1	-2.1	0.2	-1.9	18.2	136.4	26.8	0.5	0.0	-3.1	0.3	-2.8	10.5	218.5	0.0	0.9	0.9	76.0	
JUL		7.3	1.0	0.0	8.3	14.9	-2.2	0.1	-2.1	6.2	142.6	13.3	0.5	0.0			0.0	13.4	231.9	0.0	0.6	0.6	76.6	
AUG		3.4	0.7	0.0	4.1	14.1	-0.8	0.0	-0.8	3.3	145.9	13.4	0.5	0.0			0.0	13.4	231.9	0.0	0.6	0.6	76.6	
SEPT		2.3	0.7	0.0	3.0	13.8	-0.3	0.1	-0.2	2.8	148.7	14.0	0.5	0.0			0.0	14.0	245.9	0.0	0.6	0.6	77.2	
OCT		4.3	1.6	0.1	6.0	14.1	0.3	0.0	0.3	6.3	155.0	13.4	0.5	0.0			0.0	13.4	259.3	0.0	1.0	1.0	78.2	
NOV		3.4			3.4	13.8	-0.3	0.0	-0.3	3.1	158.1	10.2	0.5	0.0			0.0	10.2	269.5	0.1	2.0	2.1	80.3	
DEC		2.6			2.6	13.5	-0.3	0.0	-0.3	2.3	160.4	8.2	0.5	0.0			0.0	8.2	277.7	1.5	7.4	8.9	89.2	
YEAR		129.2	32.5	3.3	165.0		-5.2	0.6	-4.6	160.4		280.2		0.3	-3.1	0.3	-2.5	277.7		17.4	71.8	89.2		
SUMMARY OF DEBITS AND CREDITS																								
ITEM																								
C1 Balance at Beginning of Year																								
C2 Scheduled Delivery from Conejos River																								
C3 Scheduled Delivery from Rio Grande																								
C4 Actual Delivery at Lobatos plus 10,000 Acre Feet																								
C5 Reduction of Debits a/c Evaporation																								
C6 Reduction of Credits a/c Evaporation																								
C7																								
C8 Balance at End of Year																								
Cr. 3.0																								

Remarks: Cols. 6 and 13 do not include transmountain water.
^a Evaporation loss post-Compact reservoirs; as reported by the Engineer Adviser for Colorado.
^b 3,301 ac-ft minus 243 ac-ft pre-Compact; as reported by the Engineer Adviser for Colorado.
^c No relinquishment credit stored in 2018. Storage of relinquished credit to date has totaled 2,068 acre-feet; balance remaining is 932 acre-feet.
^d See Platoro Reservoir section in Engineer Advisers' Report in regards to change in storage.
^e Values reflect corrected storage amounts, updated at 2023 Engineer Adviser meeting.

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

^a Evaporation loss post-Compact reservoirs; as reported by the Engineer Adviser for Colorado.

^b 3,301 ac-ft minus 243 ac-ft pre-Compact; as reported by the Engineer Adviser for Colorado.

^c No relinquishment credit stored in 2018. Storage of relinquished credit to date has totaled 2,068 acre-feet; balance remaining is 932 acre-feet.

^d See Platoro Reservoir section in Engineer Advisers' Report in regards to change in storage.

^e Values reflect corrected storage amounts, updated at 2023 Engineer Adviser meeting.

APPROVED:
Engineer Adviser for Colorado

CHC Date: 4/3/23 Engineer Adviser for New Mexico

PP Date: 4/3/23 Engineer Adviser for Texas

Date: 4-3-23

Updated
3/17/2023

RIO GRANDE COMPACT - DELIVERIES BY NEW MEXICO AT ELEPHANT BUTTE
YEAR 2018 (RECONCILED IN 2023)

Quantities in thousands of acre feet to nearest hundred

MONTH	OTOWI INDEX SUPPLY										ELEPHANT BUTTE EFFECTIVE SUPPLY					
	ADJUSTMENTS										STORAGE IN ELEPHANT BUTTE RESERVOIR		Recorded Flow Below Elephant Butte Dam ^b	During Month	Accumulated Total	
	RESERVOIRS: LOBATOS TO OTOWI					Trans-mountain Diversions ^d	Net Adjustments	During Month	Accumulated Total							
	Recorded Flow at Otowi Bridge	Storage End of Month ^a	Change in Storage	Reservoir Evaporation	Other Adjustments											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
			39.8							41.3	425.1					
JAN	41.1		41.9	2.1	0.1		-3.5	39.8	39.8	43.3	458.0	32.9	0.1	33.0	33.0	
FEB	38.2		45.2	3.3	0.1		-1.7	39.9	79.7	46.7	483.0	25.0	7.5	32.5	65.5	
MAR	41.6		48.3	3.1	0.2		-2.2	42.7	122.4	49.3	434.9	-48.1	66.6	18.5	84.0	
APR	48.9		58.5	10.2	0.4		-6.0	53.5	175.9	59.9	394.3	-40.6	48.6	8.0	92.0	
MAY	59.4		34.1	-24.4	0.3		-9.1	26.2	202.1	34.9	337.9	-56.4	59.8	3.4	95.4	
JUN	60.9		0.0	-34.1	0.0		-19.0	7.8	209.9	1.4	227.7	-110.2	110.7	0.5	95.9	
JUL	52.4		0.0	0.0	-0.2		-41.3	11.1	221.0	0.6	128.9	-98.8	107.8	9.0	104.9	
AUG	48.7		0.0	0.0	-0.3		-35.2	13.2	234.2	0.8	85.4	-43.5	57.0	13.5	118.4	
SEPT	33.7		0.0	0.0	-0.3		-22.3	11.1	245.3	0.8	58.7	-26.7	35.7	9.0	127.4	
OCT	30.6		0.5	0.5	0.2		-13.6	17.7	263.0	1.5	72.5	13.8	0.6	14.4	141.8	
NOV	23.1		0.8	0.3	0.0		-2.6	20.8	283.8	1.6	89.4	16.9	0.0	16.9	158.7	
DEC	31.7		0.2	-0.6	0.1		-2.6	28.6	312.4	-0.1	114.9	25.5	0.0	25.5	184.2	
YEAR	510.3			-39.6	0.6		-158.9	312.4				-310.2	494.4	184.2		
SUMMARY OF DEBITS AND CREDITS																
ITEM																
BALANCE																
NM1 Balance at Beginning of Year																
NM2 Scheduled Delivery at Elephant Butte																
NM3 Actual Elephant Butte Effective Supply																
NM4 Reduction of Debits a/c Evaporation ^c																
NM5 Reduction of Credits a/c Evaporation and Spill																
NM6																
NM7																
NM8 Balance at End of Year																
BALANCE																
Dr. 2.7																
Dr. 180.8																
Cr. 3.4																
0.0																
Cr. 3.4																

Remarks: Cols. 3, 11, and 12 do not include transmountain water.
^a In 2018, 47 acre-feet of relinquishment credit under previous relinquishment agreements was stored in New Mexico reservoirs. Storage of relinquished credit to date has totaled 288,328 acre-feet; balance remaining is 92,172 acre-feet.
^b Gage record reflects improved precision since 2016. A low bias in gaged flow during certain months due to algae growth was identified and addressed for 2016 forward. The low bias occurred for an undetermined amount of time. New Mexico will continue to coordinate with USGS to provide a more accurate gage record in the future.
^c Evaporation of Debit Water as described in the Engineer Adviser Report for calendar year 2022. For 2018, values round to zero.
^d At the request of the New Mexico Engineer Adviser, in 2018 the San Juan-Chama Project water (SUCP) at Otowi has been reduced to account for depletions and associated tranist losses of SUCP that occurred on the Rio Chama below Abiquiu during the months of June through October. See Table 8, Bureau of Reclamation 2018 Water Accounting Report.

Remarks: Cols. 3, 11, and 12 do not include transmountain water.

^a In 2018, 47 acre-feet of relinquishment credit under previous relinquishment agreements was stored in New Mexico reservoirs. Storage of relinquished credit to date has totaled 288,328 acre-feet; balance remaining is 92,172 acre-feet.

^b Gage record reflects improved precision since 2016. A low bias in gaged flow during certain months due to algae growth was identified and addressed for 2016 forward. The low bias occurred for an undetermined amount of time.

^c New Mexico will continue to coordinate with USGS to provide a more accurate gage record in the future.

^d Evaporation of Debit Water as described in the Engineer Adviser Report for calendar year 2022. For 2018, values round to zero.

^e At the request of the New Mexico Engineer Adviser, in 2018 the San Juan-Chama Project water (SJCP) at Otowi has been reduced to account for depletions and associated transit losses of SJCP that occurred on the Rio Chama below Abiquiu during the months of June through October. See Table 8, Bureau of Reclamation 2018 Water Accounting Report.

APPROVED:
Engineer Adviser for Colorado

Date: 4/13/23
Engineer Adviser for New Mexico

Date: 4/13/23
Engineer Adviser for Texas

Date: 4-3-23

Updated
3/17/2023

RIO GRANDE COMPACT - RELEASE AND SPILL FROM PROJECT STORAGE
YEAR 2018 (RECONCILED IN 2023)

Quantities in thousands of acre feet to nearest hundred

MONTH	Total Project Storage Capacity Available at End of Month ^a	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		Colorado Credit Water	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
						b 0.0	b 0.0	b 0.0										
JAN	2,225.0	458.0	37.7	495.7	1,729.3	0.0	0.0	0.0		495.7	0.1	0.0	0.1				0.1	0.1
FEB	2,225.0	483.0	44.5	527.5	1,697.5	0.0	0.0	0.0		527.5	0.0	0.1	0.1				0.1	0.2
MAR	2,225.0	434.9	57.9	492.8	1,732.2	0.0	0.0	0.0		492.8	47.8	0.1	47.9				47.9	48.1
APR	2,200.0	394.3	46.1	440.4	1,759.6	0.0	0.0	0.0		440.4	56.7	0.2	56.9				56.9	105.0
MAY	2,200.0	337.9	38.7	376.6	1,823.4	0.0	0.0	0.0		376.6	63.0	0.2	63.2				63.2	168.2
JUN	2,200.0	227.7	34.0	261.7	1,938.3	0.0	0.0	0.0		261.7	115.2	0.3	115.5				115.5	283.7
JUL	2,200.0	128.9	36.5	165.4	2,034.6	0.0	0.0	0.0		165.4	106.2	0.1	106.3				106.3	390.0
AUG	2,200.0	85.4	29.8	115.2	2,084.8	0.0	0.0	0.0		115.2	59.8	0.2	60.0				60.0	450.0
SEPT	2,200.0	58.7	23.9	82.6	2,117.4	0.0	0.0	0.0		82.6	42.7	0.2	42.9				42.9	492.9
OCT	2,225.0	72.5	25.8	98.3	2,126.7	0.0	0.0	0.0		98.3	0.0	0.0	-				0.0	492.9
NOV	2,225.0	89.4	25.9	115.3	2,109.7	0.0	0.0	0.0		115.3	0.0	0.0	-				0.0	492.9
DEC	2,225.0	114.9	26.7	141.6	2,083.4	0.0	0.0	0.0		141.6	0.1	0.0	0.1				0.1	493.0
YEAR											491.6	1.4	493.0	0.0	0.0	0.0	493.0	
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 2,200,030 acre-feet (April to September) and 2,225,030 acre-feet (October to March), as adopted by the Rio Grande Compact Commission on March 31, 2009, which includes 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).																		
ACCRUED DEPARTURE FROM NORMAL RELEASE																		
ITEM																		
DEBIT																		
CREDIT																		
BALANCE																		
P1																		
P2																		
P3																		
P4																		
P5																		
P6																		
P7																		
Accrued Departure at End of Year																		
TIME OF HYPOTHETICAL SPILL Did not occur																		

APPROVED:

Engineer Adviser for Colorado

CNC

Date: 4/3/23 Engineer Adviser for New Mexico

PP

Date: 4/3/23 Engineer Adviser for Texas

SW

Date: 4-3-23

Updated
3/17/2023

RIO GRANDE COMPACT - DELIVERIES BY NEW MEXICO AT ELEPHANT BUTTE
YEAR 2019 (RECONCILED IN 2023)

Quantities in thousands of acre feet to nearest hundred

MONTH	OTOWI INDEX SUPPLY										ELEPHANT BUTTE EFFECTIVE SUPPLY					
	ADJUSTMENTS										STORAGE IN ELEPHANT BUTTE RESERVOIR		Recorded Flow Below Elephant Butte Dam ^b		Effective Supply	
	RESERVOIRS: LOBATOS TO OTOWI										End of Month ^a	Change Gain (+) Loss (-)	Recorded Flow Below Elephant Butte Dam ^b	During Month	Accumulated Total	
	Recorded Flow at Otowi Bridge	Storage End of Month ^a	Change in Storage	Reservoir Evaporation	Other Adjustments	Trans-mountain Diversions	Net Adjustments	During Month	Accumulated Total	Total Water Stored in New Mexico Above San Marcial at End of Month ^a						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
		0.2								-0.1	114.9					
JAN	34.5	2.7	2.5	0.0		-7.0	-4.5	30.0	30.0	3.7	143.4	28.5	0.0	28.5	28.5	
FEB	37.1	7.0	4.3	0.0		-3.2	1.1	38.2	68.2	8.6	170.8	27.4	0.0	27.4	55.9	
MAR	81.0	18.1	11.1	0.1		-8.5	2.7	83.7	151.9	20.0	214.4	43.6	2.8	46.4	102.3	
APR	155.9	40.3	22.2	0.2		-4.8	17.6	173.5	325.4	49.6	310.5	96.1	0.0	96.1	198.4	
MAY	288.2	80.2	39.9	0.7		0.0	40.6	328.8	654.2	82.3	482.5	172.0	41.6	213.6	412.0	
JUN	319.1	111.0	30.8	0.9		0.0	31.7	350.8	1005.0	113.9	550.3	67.8	132.1	199.9	611.9	
JUL	174.6	101.9	-9.1	0.5		-4.3	-12.9	161.7	1166.7	104.7	542.3	-8.0	132.3	124.3	736.2	
AUG	78.1	102.5	0.6	0.5		-7.4	-6.3	71.8	1238.5	104.0	458.0	-84.3	120.8	36.5	772.7	
SEPT	50.3	91.3	-11.2	0.4		-10.3	-21.1	29.2	1267.7	92.1	427.5	-30.5	36.0	5.5	778.2	
OCT	58.8	58.7	-32.6	0.4		-5.2	-37.4	21.4	1289.1	59.5	435.1	7.6	6.3	13.9	792.1	
NOV	85.1	6.4	-52.3	0.1		-3.3	-55.5	29.6	1318.7	7.3	500.1	65.0	0.1	65.1	857.2	
DEC	52.1	0.9	-5.5	0.2		-4.5	-9.8	42.3	1361.0	1.5	557.1	57.0	0.0	57.0	914.2	
YEAR	1414.8		0.7	4.0		-58.5	-53.8	1361.0				442.2	472.0	914.2		
Remarks: Cols. 3, 11, and 12 do not include transmountain water.																
^a In 2019, 400 acre-feet of relinquishment credit under previous relinquishment agreements was stored in New Mexico reservoirs. Storage of relinquished credit to date has totaled 288,728 acre-feet; balance remaining is 91,772 acre-feet.																
^b Gage record reflects improved precision since 2016. A low bias in gaged flow during certain months due to algae growth was identified and addressed for 2016 forward. New Mexico will continue to coordinate with USGS to provide a more accurate gage record in the future.																
^c Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.																
SUMMARY OF DEBITS AND CREDITS																
										ITEM		DEBIT	CREDIT	BALANCE		
										NM1	Balance at Beginning of Year			Cr. 3.4		
										NM2	Scheduled Delivery at Elephant Butte		957.4	Dr. 954		
										NM3	Actual Elephant Butte Effective Supply			Dr. 39.8		
										NM4	Reduction of Debits a/c Evaporation					
										NM5	Reduction of Credits a/c Evaporation and Spill ^c		0.7	Dr. 40.5		
										NM6						
										NM7						
										NM8	Balance at End of Year			Dr. 40.5		

APPROVED:

Engineer Adviser for Colorado

CAC

Date: 4/9/23 Engineer Adviser for New Mexico

PP

Date: 4/3/23 Engineer Adviser for Texas

SW

Date: 4-3-23

Updated
3/17/2023

RIO GRANDE COMPACT - RELEASE AND SPILL FROM PROJECT STORAGE
YEAR 2019 (RECONCILED IN 2023)

Quantities in thousands of acre feet to nearest hundred

MONTH	Total Project Storage Capacity Available at End of Month ^a	USABLE WATER IN STORAGE			Unfilled Capacity of Project Storage at End of Month	CREDIT WATER IN STORAGE ^c			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		Colorado Credit Water	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		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
						b 3.0	b 3.4	b 6.4										
JAN	2,225.0	137.0	27.4	164.4	2,060.6	3.0	3.4	6.4		170.8	0.0	0.1	0.1				0.1	0.1
FEB	2,225.0	164.4	27.7	192.1	2,032.9	3.0	3.4	6.4		198.5	0.0	0.1	0.1				0.1	0.2
MAR	2,225.0	208.0	31.1	239.1	1,985.9	3.0	3.4	6.4		245.5	0.1	0.1	0.2				0.2	0.4
APR	2,200.0	304.1	30.7	334.8	1,865.2	3.0	3.4	6.4		341.2	0.1	0.1	0.2				0.2	0.6
MAY	2,200.0	476.1	55.7	531.8	1,668.2	3.0	3.4	6.4		538.2	7.0	0.1	7.1				7.1	7.7
JUN	2,200.0	543.9	47.8	591.7	1,608.3	3.0	3.4	6.4		598.1	137.1	0.1	137.2				137.2	144.9
JUL	2,200.0	535.9	41.4	577.3	1,622.7	3.0	3.4	6.4		583.7	135.4	0.1	135.5				135.5	280.4
AUG	2,200.0	451.6	47.6	499.2	1,700.8	3.0	3.4	6.4		505.6	112.5	0.1	112.6				112.6	393.0
SEPT	2,200.0	421.1	32.6	453.7	1,746.3	3.0	3.4	6.4		460.1	50.9	0.1	51.0				51.0	444.0
OCT	2,225.0	428.7	29.7	458.4	1,766.6	3.0	3.4	6.4		464.8	10.8	0.0	10.8				10.8	454.8
NOV	2,225.0	493.7	32.1	525.8	1,699.2	3.0	3.4	6.4		532.2	0.1	0.0	0.1				0.1	454.9
DEC	2,225.0	550.7	33.9	584.6	1,640.4	3.0	3.4	6.4		591.0	0.0	0.0	0.0				0.0	454.9
YEAR											454.0	0.9	454.9	0.0	0.0	0.0	454.9	
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 2,200,030 acre-feet (April to September) and 2,225,030 acre-feet (October to March), as adopted by the Rio Grande Compact Commission on March 31, 2009, which includes 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 Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.																		
ACCUMULATED DEPARTURE FROM NORMAL RELEASE																		
ITEM																		
DEBIT																		
CREDIT																		
BALANCE																		
P1																		
P2																		
P3																		
P4																		
P5																		
P6																		
P7																		
Accrued Departure at End of Year																		
TIME OF HYPOTHETICAL SPILL Did not occur																		

APPROVED:
Engineer Adviser for Colorado

Date: 4/3/23  Engineer Adviser for Colorado

Date: 4/3/23  Engineer Adviser for Texas

Date: 4-3-23

Updated
3/17/2023

RIO GRANDE COMPACT - DELIVERIES BY COLORADO AT STATE LINE
YEAR 2020 (RECONCILED IN 2023)

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 RIVER AT MOUTH NEAR LASAUCES	RIO GRANDE LESS CONEJOS RIVER	RIO GRANDE AT LOBATOS	ACCUMULATED LOBATOS		
	CONEJOS AT MOGOTE	LOS PINOS NEAR ORTIZ	SAN ANTONIO AT ORTIZ	TOTAL	STORAGE AT END OF MONTH ^d	CHANGE IN STORAGE	OTHER ADJUSTMENTS	NET ADJUSTMENTS	SUPPLY IN MONTH	ACCUMULATED TOTAL	RECORDED FLOW NEAR DEL NORTE	STORAGE AT END OF MONTH	CHANGE IN STORAGE	TRANS-MOUNTAIN ^b	DIVERSIONS ^b	OTHER ADJUSTMENTS ^a	NET ADJUSTMENTS	SUPPLY IN MONTH					ACCUMULATED TOTAL	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
												0.5										0.0		
JAN	3.4			3.4	12.4	-0.1		-0.1	3.3	3.3	9.8	0.5	0.0			0.0	9.8	9.8	3.6	11.2	14.8	14.8		
FEB	2.7			2.7	12.2	-0.2		-0.2	2.5	5.8	10.4	0.5	0.0			0.0	10.4	20.2	4.0	14.1	18.1	32.9		
MAR	4.1			4.1	12.4	0.2		0.2	4.3	10.1	16.1	0.5	0.0			0.0	16.1	36.3	5.4	18.7	24.1	57.0		
APR	10.5	7.5	1.4	19.4	12.5	0.1		0.1	19.5	29.6	35.2	0.5	0.0			0.0	35.2	71.5	2.8	5.5	8.3	65.3		
MAY	57.0	17.9	1.0	75.9	13.6	1.1	0.1	1.2	77.1	106.7	145.4	0.5	0.0			0.0	145.4	216.9	2.7	9.9	12.6	77.9		
JUN	24.2	2.5	0.1	26.8	13.1	-0.5	0.2	-0.3	26.5	133.2	77.2	0.5	0.0			0.0	77.2	294.1	0.3	7.4	7.7	85.6		
JUL	10.9	1.0	0.0	11.9	9.9	-3.2	0.1	-3.1	8.8	142.0	23.4	0.5	0.0	-1.1	0.3	-0.8	22.6	316.7	0.0	2.2	2.2	87.8		
AUG	5.9	0.7	0.0	6.6	8.6	-1.3	0.1	-1.2	5.4	147.4	13.4	0.5	0.0			0.0	13.4	330.1	0.0	1.0	1.0	88.8		
SEPT	5.9	1.2	0.0	7.1	8.4	-0.2	0.1	-0.1	7.0	154.4	13.2	0.5	0.0			0.0	13.2	343.3	0.0	0.5	0.5	89.3		
OCT	3.9	0.8	0.1	4.8	7.8	-0.6	0.1	-0.5	4.3	158.7	11.8	0.5	0.0			0.0	11.8	355.1	0.0	1.0	1.0	90.3		
NOV	4.9			4.9	8.1	0.3	0.0	0.3	5.2	163.9	12.0	0.5	0.0			0.0	12.0	367.1	3.1	5.7	8.8	99.1		
DEC	3.4			3.4	8.3	0.2	0.0	0.2	3.6	167.5	9.3	0.5	0.0			0.0	9.3	376.4	2.9	9.7	12.6	111.7		
YEAR	136.8	31.6	2.6	171.0		-4.2	0.7	-3.5	167.5		377.2		0.0	-1.1	0.3	-0.8	376.4		24.8	86.9	111.7			
SUMMARY OF DEBITS AND CREDITS																								
										ITEM										DEBIT		CREDIT		BALANCE
										C1 Balance at Beginning of Year														Cr. 0.7
										C2 Scheduled Delivery from Conejos River										28.8				Dr. 28.1
										C3 Scheduled Delivery from Rio Grande										92.3				Dr. 120.4
										C4 Actual Delivery at Lobatos plus 10,000 Acre Feet												121.7		Cr. 1.3
										C5 Reduction of Debits a/c Evaporation														
										C6 Reduction of Credits a/c Evaporation ^c										0.2				Cr. 1.1
										C7														
										C8 Balance at End of Year														Cr. 1.1

Remarks: Cols. 6 and 13 do not include transmountain water.
^a Evaporation loss post-Compact reservoirs; as reported by the Engineer Adviser for Colorado.
^b 1,383 ac-ft minus 243 ac-ft pre-Compact; as reported by the Engineer Adviser for Colorado.
^c Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.
^d 488 ac-ft of relinquishment credit stored in 2020. Storage of relinquished credit to date has totaled 2,556 acre-feet; balance remaining is 444 acre-feet.

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

^a Evaporation loss post-Compact reservoirs; as reported by the Engineer Adviser for Colorado.

APPROVED:
Engineer Adviser for Colorado

CRC

Date: 7/12/23 Engineer Adviser for New Mexico

PP

Date: 4/3/23 Engineer Adviser for Texas

PP

Date: 4-3-23

Updated
3/17/2023

RIO GRANDE COMPACT - DELIVERIES BY NEW MEXICO AT ELEPHANT BUTTE
YEAR 2020 (RECONCILED IN 2023)

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	ELEPHANT BUTTE EFFECTIVE SUPPLY				
	ADJUSTMENTS											STORAGE IN ELEPHANT BUTTE RESERVOIR		Recorded Flow Below Elephant Butte Dam ^b	Effective Supply	
	RESERVOIRS: LOBATOS TO OTOWI					Trans-mountain Diversions	Net Adjustments	During Month	End of Month ^a			During Month	Accumulated Total			
	Recorded Flow at Otowi Bridge	Storage End of Month ^a	Change in Storage	Reservoir Evaporation	Other Adjustments											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
		0.9								1.5	557.1					
JAN	41.1	4.7	3.8	0.0		-3.4	0.4	41.5	41.5	3.7	577.2	20.1	0.0	20.1	20.1	
FEB	43.4	8.5	3.8	0.0		-2.4	1.4	44.8	86.3	9.8	609.3	32.1	1.0	33.1	53.2	
MAR	53.2	15.0	6.5	0.1		-2.6	4.0	57.2	143.5	15.4	552.7	-56.6	94.8	38.2	91.4	
APR	49.8	36.0	21.0	0.2		-8.7	12.5	62.3	205.8	38.3	500.3	-52.4	65.8	13.4	104.8	
MAY	63.1	60.8	24.8	0.5		-7.5	17.8	80.9	286.7	63.6	402.0	-98.3	102.7	4.4	109.2	
JUN	64.2	54.6	-6.2	0.4		-34.6	-40.4	23.8	310.5	57.2	285.7	-116.3	118.5	2.2	111.4	
JUL	51.1	44.2	-10.4	0.3		-27.2	-37.3	13.8	324.3	46.6	175.6	-110.1	123.2	13.1	124.5	
AUG	47.4	14.2	-30.0	0.1		-6.5	-36.4	11.0	335.3	16.3	108.4	-67.2	75.2	8.0	132.5	
SEPT	35.0	3.8	-10.4	0.1		-11.0	-21.3	13.7	349.0	5.5	82.6	-25.8	31.6	5.8	138.3	
OCT	19.2	3.7	-0.1	0.1		-3.9	-3.9	15.3	364.3	5.6	87.3	4.7	0.1	4.8	143.1	
NOV	27.9	3.6	-0.1	0.1		-0.2	-0.2	27.7	392.0	5.8	100.0	12.7	0.0	12.7	155.8	
DEC	31.6	3.4	-0.2	0.1		-0.6	-0.7	30.9	422.9	4.6	127.1	27.1	0.0	27.1	182.9	
YEAR	527.0		2.5	2.0		-108.6	-104.1	422.9				-430.0	612.9	182.9		
SUMMARY OF DEBITS AND CREDITS																
ITEM																
DEBIT																
CREDIT																
BALANCE																
NM1																
Balance at Beginning of Year																
NM2																
Scheduled Delivery at Elephant Butte																
NM3																
Actual Elephant Butte Effective Supply																
NM4																
Reduction of Debits a/c Evaporation ^c																
NM5																
Reduction of Credits a/c Evaporation and Spill																
NM6																
NM7																
NM8																
Balance at End of Year																
Dr. 98.1																

Remarks: Cols. 3, 11, and 12 do not include transmountain water. Column 12 reflects implementation of revised area-capacity tables for Elephant Butte Reservoir, effective Jan. 1, 2020.

^a In 2020, no relinquishment credit under previous relinquishment agreements was stored in New Mexico reservoirs. Storage of relinquished credit to date has totaled 288,728 acre-feet; balance remaining is 91,772 acre-feet.

^b Gage record reflects improved precision since 2016. A low bias in gaged flow during certain months due to algae growth was identified and addressed for 2016 forward. New Mexico will continue to coordinate with USGS to provide a more accurate gage record in the future.

^c Evaporation of Debit Water as described in the Engineer Adviser Report for calendar year 2022

Remarks: Cols. 3, 11, and 12 do not include transmountain water. Column 12 reflects implementation of revised area-capacity tables for Elephant Butte Reservoir, effective Jan. 1, 2020.

^a In 2020, no relinquishment credit under previous relinquishment agreements was stored in New Mexico reservoirs. Storage of relinquished credit to date has totaled 288,728 acre-feet; balance remaining is 91,772 acre-feet.

^b Gage record reflects improved precision since 2016. A low bias in gaged flow during certain months due to algae growth was identified and addressed for 2016 forward. New Mexico will continue to coordinate with USGS to provide a more accurate gage record in the future.

^c Evaporation of Debit Water as described in the Engineer Adviser Report for calendar year 2022

APPROVED:

Engineer Adviser for Colorado



Date:

4/3/23

Engineer Adviser for New Mexico



Date:

4/3/23

Engineer Adviser for Texas



Date:

4-3-23

Updated
3/17/2023

RIO GRANDE COMPACT - RELEASE AND SPILL FROM PROJECT STORAGE
YEAR 2020 (RECONCILED IN 2023)

Quantities in thousands of acre feet to nearest hundred

MONTH	Total Project Storage Capacity Available at End of Month ^a	USABLE WATER IN STORAGE			Unfilled Capacity of Project Storage at End of Month	CREDIT WATER IN STORAGE ^c			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		Colorado Credit Water	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 Water	Net During Month	Accumulated Total
														3	4	5			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
JAN	2,210.4	576.5	34.3	610.8	1,599.6	b 0.7	b 0.0	b 0.7		611.5	0.0	0.0	-				0.0	-	
FEB	2,210.4	608.6	36.4	645.0	1,565.4	0.7	0.0	0.7		645.7	0.0	0.0	-				0.0	-	
MAR	2,210.4	552.0	78.8	630.8	1,579.6	0.7	0.0	0.7		631.5	42.1	0.2	42.3				42.3	42.3	
APR	2,185.4	499.6	73.5	573.1	1,612.3	0.7	0.0	0.7		573.8	66.0	0.1	66.1				66.1	108.4	
MAY	2,185.4	401.3	77.4	478.7	1,706.7	0.7	0.0	0.7		479.4	90.7	0.1	90.8				90.8	199.2	
JUN	2,185.4	285.0	63.0	348.0	1,837.4	0.7	0.0	0.7		348.7	130.8	0.2	131.0				131.0	330.2	
JUL	2,185.4	174.9	59.6	234.5	1,950.9	0.7	0.0	0.7		235.2	125.3	0.2	125.5				125.5	455.7	
AUG	2,185.4	107.7	32.8	140.5	2,044.9	0.7	0.0	0.7		141.2	101.0	0.2	101.2				101.2	556.9	
SEPT	2,185.4	81.9	27.8	109.7	2,075.7	0.7	0.0	0.7		110.4	37.1	0.1	37.2				37.2	594.1	
OCT	2,210.4	86.6	28.4	115.0	2,095.4	0.7	0.0	0.7		115.7	0.1	0.0	0.1				0.1	594.2	
NOV	2,210.4	99.3	28.8	128.1	2,082.3	0.7	0.0	0.7		128.8	0.0	0.0	-				0.0	594.2	
DEC	2,210.4	126.4	29.4	155.8	2,054.6	0.7	0.0	0.7		156.5	0.0	0.0	-				0.0	594.2	
YEAR											593.1	1.1	594.2	0.0	0.0	0.0	594.2		
Remarks: Cols. 2, 6 and 11 reflect implementation of revised area-capacity tables from Elephant Butte (2017 and 2019) and Caballo (2017) Reservoirs, effective for Compact accounting purposes Jan 1, 2020.																			
^a Total Project Storage Capacity is 2,185,400 acre-feet (April through September) and 2,210,400 acre-feet (October through March) which accounts for flood control storage reservation at Caballo Reservoir of 100,000 acre-feet and at Elephant Butte Reservoir of 50,000 acre-feet from April through September and 25,000 acre-feet from October through March. Total capacity of Elephant Butte Reservoir for spill purposes is 1,960,900 acre-feet (April through September) and 1,985,900 acre-feet (October through March).																			
^b Balance at Beginning of Year (C1 and NM1).																			
^c Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.																			
ACCURED DEPARTURE FROM NORMAL RELEASE																			
ITEM																			
P1	Accrued Departure at Beginning of Year										DEBIT		CREDIT		BALANCE				
P2	Actual Release during Year										594.2				Cr. 2465.8				
P3	Normal Release for Year												790.0		Cr. 1871.6				
P4	Under Release in Excess of 150.0										45.8				Cr. 2661.6				
P5															Cr. 2615.8				
P6																			
P7	Accrued Departure at End of Year														Cr. 2615.8				
TIME OF HYPOTHETICAL SPILL Did not occur																			

APPROVED:
Engineer Adviser for Colorado

Engineer Adviser for New Mexico

Engineer Adviser for Texas

Updated
3/17/2023

RIO GRANDE COMPACT - DELIVERIES BY COLORADO AT STATE LINE
YEAR 2021 (RECONCILED IN 2023)

Quantities in thousands of acre feet to nearest hundred

MONTH	CONEJOS INDEX SUPPLY										RIO GRANDE INDEX SUPPLY										DELIVERIES			
	MEASURED FLOW				ADJUSTMENTS						ADJUSTMENTS						SUPPLY				CONJOS RIVER AT MOUTH NEAR LASAUCES	RIO GRANDE LESS CONJOS RIVER	RIO GRANDE AT LOBATOS	ACCUMULATED TOTAL AT LOBATOS
	CONEJOS AT MOGOTE	LOS PINOS NEAR ORTIZ	SAN ANTONIO AT ORTIZ	TOTAL	STORAGE AT END OF MONTH ^d	CHANGE IN STORAGE	OTHER ADJUSTMENTS	NET ADJUSTMENTS	SUPPLY IN MONTH	ACCUMULATED TOTAL	RECORDED FLOW NEAR DEL NORTE	STORAGE AT END OF MONTH	CHANGE IN STORAGE	TRANSOUNTAIN ^b DIVERSIONS ^a	OTHER ADJUSTMENTS ^a	NET ADJUSTMENTS	SUPPLY IN MONTH	ACCUMULATED TOTAL						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
					8.3					0.0		0.5										0.0		
JAN	2.3			2.3	8.3	0.0		0.0	2.3	2.3	8.3	0.5	0.0			0.0	8.3	8.3	2.7	10.1	12.8	12.8		
FEB	2.7			2.7	8.4	0.1		0.1	2.8	5.1	8.5	0.5	0.0			0.0	8.5	16.8	3.7	11.1	14.8	27.6		
MAR	4.7			4.7	8.5	0.1		0.1	4.8	9.9	13.3	0.5	0.0			0.0	13.3	30.1	5.9	15.0	20.9	48.5		
APR	18.5	11.4	3.8	33.7	8.9	0.4		0.4	34.1	44.0	40.3	0.5	0.0			0.0	40.3	70.4	5.1	6.5	11.6	60.1		
MAY	62.6	27.4	2.5	92.5	11.3	2.4	0.1	2.5	95.0	139.0	144.3	0.5	0.0			0.0	144.3	214.7	12.4	12.0	24.4	84.5		
JUN	41.1	6.7	0.2	48.0	15.7	4.4	0.1	4.5	52.5	191.5	123.3	0.5	0.0			0.0	123.3	338.0	7.8	15.2	23.0	107.5		
JUL	15.4	1.5	0.0	16.9	12.5	-3.2	0.0	-3.2	13.7	205.2	36.3	0.4	-0.1	-1.8	0.2	-1.7	34.6	372.6	3.3	4.6	7.9	115.4		
AUG	9.5	1.1	0.0	10.6	9.5	-3.0	0.1	-2.9	7.7	212.9	23.6	0.2	-0.2			-0.2	23.4	396.0	1.9	4.8	6.7	122.1		
SEPT	3.4	0.6	0.0	4.0	8.7	-0.8	0.1	-0.7	3.3	216.2	13.3	0.2	0.0			0.0	13.3	409.3	0.3	3.8	4.1	126.2		
OCT	4.7	1.1	0.1	5.9	8.6	-0.1	0.1	0.0	5.9	222.1	16.9	0.2	0.0			0.0	16.9	426.2	0.6	4.8	5.4	131.6		
NOV	2.9			2.9	8.6	0.0	0.0	0.0	2.9	225.0	11.1	0.2	0.0			0.0	11.1	437.3	2.1	12.6	14.7	146.3		
DEC	2.7			2.7	8.8	0.2	0.0	0.2	2.9	227.9	9.4	0.2	0.0			0.0	9.4	446.7	2.0	9.8	11.8	158.1		
YEAR	170.5	49.8	6.6	226.9		0.5	0.5	1.0	227.9		448.6		-0.3	-1.8	0.2	-1.9	446.7		47.8	110.3	158.1			
SUMMARY OF DEBITS AND CREDITS																								
ITEM																								
C1 Balance at Beginning of Year																								
C2 Scheduled Delivery from Conejos River																								
C3 Scheduled Delivery from Rio Grande																								
C4 Actual Delivery at Lobatos plus 10,000 Acre Feet																								
C5 Reduction of Debits a/c Evaporation ^c																								
C6 Reduction of Credits a/c Evaporation ^c																								
C7																								
C8 Balance at End of Year																								
Dr. 4.0																								

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

^a Evaporation loss post-Compact reservoirs; as reported by the Engineer Adviser for Colorado.

^b 2,047 ac-ft minus 243 ac-ft pre-Compact; as reported by the Engineer Adviser for Colorado.

^c Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022.

^d 329 ac-ft relinquishment credit stored in 2021. Storage of relinquished credit to date has totaled 2,885 acre-feet; balance remaining is 115 acre-feet.

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

^a Evaporation loss post-Compact reservoirs: as reported by the Engineer Adviser for Colorado.

b 2 047 ac-ft minus 243 ac-ft pre-Compact: as reported by the Engineer Adviser for Colorado.

C Evaporation of Credit Water as described in the Engineer Adviser Report for calendar year 2022

d 329 ac-ft relinquishment credit stored in 2021. Storage of relinquished credit to date has totaled 2,885 acre-feet; balance remaining is 115 acre-feet.

APPROVED:

Engineer Adviser for Colorado

22

Date: 4/3/23



Date: 4/3/23

Engineer Adviser for Texas



Date: 4-3-23

Updated
3/17/2023

RIO GRANDE COMPACT - DELIVERIES BY NEW MEXICO AT ELEPHANT BUTTE
YEAR 2021 (RECONCILED IN 2023)

Quantities in thousands of acre feet to nearest hundred

MONTH	OTOWI INDEX SUPPLY										ELEPHANT BUTTE EFFECTIVE SUPPLY							
	ADJUSTMENTS										Total Water Stored in New Mexico Above San Marcial at End of Month ^a			STORAGE IN ELEPHANT BUTTE RESERVOIR		Recorded Flow Below Elephant Butte Dam	Effective Supply	
	RESERVOIRS: LOBATOS TO OTOWI				Trans-mountain Diversions	Net Adjustments	During Month	Accumulated Total	End of Month ^a	Change Gain (+) Loss (-)				During Month	Accumulated Total			
	Recorded Flow at Otowi Bridge	Storage End of Month ^a	Change in Storage	Reservoir Evaporation							Other Adjustments	8	9			10	11	12
1			3.4			7	8	9	10	11	12	13	14	15	16			
JAN	34.3		2.9	-0.5	0.0	-2.4	-2.9	31.4	31.4	3.0	127.1							
FEB	32.4		5.9	3.0	0.0	-1.0	2.0	34.4	65.8	6.2	182.1	28.9	0.0	28.9	28.9			
MAR	40.7		11.6	5.7	0.0	-2.0	3.7	44.4	110.2	11.7	210.3	26.1	0.0	26.1	55.0			
APR	70.6		15.8	4.2	0.1	-5.0	-0.7	69.9	180.1	15.9	223.2	28.2	0.1	28.3	83.3			
MAY	112.5		15.5	-0.3	0.1	-2.8	-3.0	109.5	289.6	15.4	232.7	12.9	0.1	13.0	96.3			
JUN	65.3		14.8	-0.7	0.1	-13.1	-13.7	51.6	341.2	15.1	137.4	9.5	26.9	36.4	132.7			
JUL	37.7		15.3	0.5	0.2	-2.6	-1.9	35.8	377.0	15.8	119.3	-95.3	110.8	15.5	148.2			
AUG	34.4		14.6	-0.7	-0.1	-6.5	-7.3	27.1	404.1	14.6	102.9	-18.1	43.8	25.7	173.9			
SEPT	19.6		14.3	-0.3	0.0	-6.8	-7.1	12.5	416.6	14.7	109.0	-16.4	34.8	18.4	192.3			
OCT	22.9		14.5	0.2	0.1	-1.7	-1.4	21.5	438.1	14.8	115.0	6.1	0.0	6.1	198.4			
NOV	32.0		12.3	-2.2	0.1	-1.4	-3.5	28.5	466.6	12.3	133.7	6.0	0.1	6.1	204.5			
DEC	50.2		0.0	-12.3	0.1	-2.3	-14.5	35.7	502.3	0.2	166.9	18.7	0.1	18.8	223.3			
YEAR	552.6			-3.4	0.7	-47.6	-50.3	502.3	502.3			33.2	0.1	33.3	256.6			
												39.8	216.8	256.6				
SUMMARY OF DEBITS AND CREDITS																		

APPROVED:

Engineer Adviser for Colorado

CRC

Date: 4/3/23 Engineer Adviser for New Mexico

PP

Date: 4/3/23 Engineer Adviser for Texas

SW

Date: 4-3-23

Updated
3/17/2023

BUDGET FOR FISCAL YEAR ENDING JUNE 30, 2022 (FY-2022)

Item	Total Cost	Borne by United States	Borne by		
			Colorado	New Mexico	Texas
GAGING STATIONS					
In Colorado	\$91,131		\$91,131		
In New Mexico, above Caballo Reservoir	\$86,274	\$61,040		\$25,234	
In New Mexico, Caballo Reservoir and below	\$21,870	\$4,374			\$17,496
Subtotal	\$199,275	\$65,414	\$91,131	\$25,234	\$17,496
ADMINISTRATION					
U.S.G.S. Technical Services	\$21,654	\$6,426	\$5,076	\$5,076	\$5,076
Other expenses ¹	\$3,000		\$1,000	\$1,000	\$1,000
Subtotal	\$24,027	\$6,426	\$6,076	\$6,076	\$6,076
GRAND TOTAL	\$223,929	\$71,840	\$97,207	\$31,310	\$23,572
EQUAL SHARES			\$51,342	\$51,342	\$51,342

¹Includes estimated cost of court reporter.

BUDGET FOR FISCAL YEAR ENDING JUNE 30, 2024 (FY-2024)

Item	Total Cost	Borne by United States	Borne by		
			Colorado	New Mexico	Texas
GAGING STATIONS					
In Colorado	\$97,389		\$97,389		
In New Mexico, above Caballo Reservoir	\$86,274	\$61,040		\$25,234	
In New Mexico, Caballo Reservoir and below	\$30,011	\$7,316			\$29,265
Subtotal	\$220,244	\$68,356	\$97,389	\$25,234	\$29,265
ADMINISTRATION					
U.S.G.S. Technical Services	\$22,581	\$6,426	\$5,385	\$5,385	\$5,385
Other expenses ¹	\$3,000		\$1,000	\$1,000	\$1,000
Subtotal	\$25,581	\$6,426	\$6,385	\$6,385	\$6,385
GRAND TOTAL	\$245,825	\$74,782	\$103,774	\$31,619	\$35,650
EQUAL SHARES			\$57,014	\$57,014	\$57,014

¹Includes estimated cost of court reporter.



United States Department of the Interior

U.S. GEOLOGICAL SURVEY

New Mexico Water Science Center

DUNS 025287520

6700 Edith Blvd. NE Bldg. B

Albuquerque, NM 87113

April 18, 2023

Mr. Kevin Rein
Rio Grande Compact Commissioner for Colorado
1313 Sherman Street, Room 821
Denver, CO 80203

Mr. Robert S. Skov
Rio Grande Compact Commissioner for Texas
401 E. Franklin Avenue, Suite 560
El Paso, TX 79901-1212

Mr. Mike Hamman
Rio Grande Compact Commissioner for New Mexico
P.O. Box 25102
Santa Fe, NM 87504-5102

Mr. Hal Simpson
Federal Commissioner for Rio Grande Compact Commission
5967 S. Birch Way
Centennial, CO 80121

Dear Compact Commission:

Enclosed are five copies of the Joint Funding Agreement (JFA), 23RGJFA12, for the period July 1, 2023 to June 30, 2024, 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 \$22,581 of which the U.S. Geological Survey portion will be \$6,426 and the State of Colorado, the State of New Mexico, and the State of Texas will each provide \$5,385.

If you concur, please sign and return all copies 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.

If you have any questions concerning the work on this project, please call Mr. Jeff Cordova at (505) 830-7985. Administrative questions should be addressed to Mrs. Esther Torrez at (505) 418-6073.

Sincerely,

Peter Cinotto
Acting Director

OPA Approval: 2022RG-12317
Agreement No: 23RGJFA12
Customer No:
6000001029/6000001775/6000000631
Project No: RG00GVC
Tax ID: 84-0644739 (CO)
85-6000565 (NM)
74-1694284 (TX)
Fixed-price agreement

**COOPERATIVE AGREEMENT
FOR
INVESTIGATION OF WATER RESOURCES**

THIS AGREEMENT, entered into this 1st day of July, 2023 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, 2023 to June 30, 2024, the following amounts:

(a)	U.S. Geological Survey	\$6,426
(b)	State of Colorado	\$5,385
(c)	State of New Mexico	\$5,385
(d)	State of Texas	\$5,385

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, 2024, 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, 2024, 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.

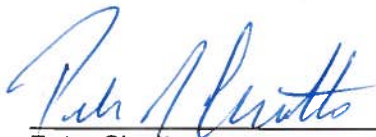
7. The maps, records or reports resulting from this program shall be made available to the public as promptly as possible. The maps, records or reports normally will be published by the party of the first part. However, the parties of the second part reserve the right to publish the results of this program, and if already published by the party of the first part shall, upon request, be furnished by the party of the first part, at cost, impressions suitable for purposes of reproduction similar to that for which the original copy was prepared. The maps, records or reports published by either party shall contain a statement of the cooperative relations between the parties. The parties acknowledge that scientific information and data developed as a result of the Scope of Work (SOW) are subject to applicable USGS review, approval, and release requirements, which are available on the USGS Fundamental Science Practices website (<https://www.usgs.gov/office-of-science-quality-and-integrity/fundamental-science-practices>).

8. 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.

9. Billing for this agreement will be rendered semi-annually in January 2024 and July 2024. 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.)

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

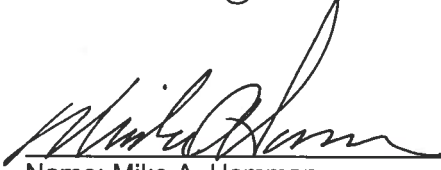
UNITED STATES GEOLOGICAL SURVEY



Peter Cinotto 4/18/2023
Acting Director, New Mexico Water Science Center
6700 Edith Blvd. NE Bldg. B
Albuquerque, NM 87113
Phone: 502-475-4113
Email: pcinotto@usgs.gov

RIO GRANDE COMPACT COMMISSION


Name: Kevin Rein _____ Date _____
Commissioner for Colorado
1313 Sherman Street, Room 821
Denver, CO 80203
Phone: 303-866-3441
Email: kevin.rein@state.co.us


Name: Mike A. Hamman _____ Date 4/21/23
Commissioner for New Mexico
P.O. Box 25102
Santa Fe, NM 87504-5102
Phone: 505-827-6091
Email: mike.hamman@ose.nm.gov


Name: Robert S. Skov _____ Date 4/21/23
Commissioner for Texas
401 E. Franklin Avenue, Suite 560
El Paso, TX 79901-1212
Phone: 915-526-2869
Email: bobby@texasrgcc.com


Name: Hal Simpson _____ Date _____
Federal Commissioner for Rio Grande Compact Commission
5967 S. Birch Way
Centennial, CO 80121
Phone: 303-916-1093
Email: halsimpson28@msn.com

Statement of Work for 23RGJFA12

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 OF THE RIO GRANDE COMPACT COMMISSION

Honoring Rolf Schmidt-Petersen

April 21, 2023

WHEREAS, *Rolf Schmidt-Petersen has served the State of New Mexico as a water professional for over 33 years, including 24 years as an employee of the State of New Mexico, nine years as the New Mexico Engineer Adviser to the Rio Grande Compact and four years as the Director of the New Mexico Interstate Steam Commission; and*

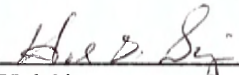
WHEREAS, *during that time Rolf Schmidt-Petersen worked tirelessly to protect New Mexico's compact entitlements to the waters of the Rio Grande and showed tremendous dedication and support to the Rio Grande Compact Commission in his knowledge of the Compact and of the Rio Grande Basin in its entirety; and*

WHEREAS, *because of his professional and knowledgeable conduct, his fellow Commissioners, their advisers and staff have developed great respect, admiration and appreciation for Rolf Schmidt-Petersen; and*

NOW, THEREFORE, BE IT RESOLVED, *that the Rio Grande Compact Commission, at its 84th annual meeting held in Santa Fe, New Mexico on April 21, 2023, does hereby express the gratitude and appreciation of the Commission and its staff for the untiring service and counsel rendered by Rolf Schmidt-Petersen; and*

BE IT FURTHER RESOLVED, *that the Rio Grande Compact Commission, its advisers and staff sincerely wish Rolf Schmidt-Petersen and his wife Kim the best of all health, happiness and prosperity in all their future endeavors; and*

BE IT FURTHER RESOLVED, *that the New Mexico Engineer Adviser of the Rio Grande Compact Commission is hereby directed to furnish copies of this unanimously adopted Resolution to Rolf Schmidt-Petersen and the Governor of the State of New Mexico, and to cause said resolution to be included in the Minutes of the 84th annual meeting of the Rio Grande Compact Commission.*


Hal Simpson, P.E.
Chairman and Commissioner
for the United States of America


Kevin G. Rein, P.E.
Commissioner for Colorado


Mike A. Hamman, P.E.
Commissioner for New Mexico


Robert S. Skov
Commissioner for Texas

Resolution of the Rio Grande Compact Commission Honoring Michael Sullivan

April 21, 2023

WHEREAS, Michael "Mike" Sullivan, P.E., served the people of the State of Colorado and the Rio Grande Basin as an employee of the Colorado Division of Water Resources for 29 years, as Colorado's Engineer Adviser to the Rio Grande Compact Commission for 3 years, and as Colorado's Deputy Rio Grande Compact Commissioner and Deputy Colorado State Engineer for 15 years; and

WHEREAS, during that time Mr. Sullivan did faithfully serve the interests of the citizens of Colorado and of the Rio Grande Basin in his actions; and

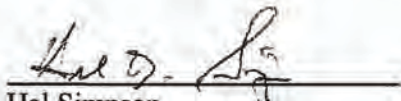
WHEREAS, in all his associations with this Commission, he did faithfully and fairly discharge his appointed duties; and

WHEREAS, as a result of his professional conduct in addressing numerous matters regarding administration and management of the Rio Grande Compact, his fellow Commissioners, their advisers and staff developed great respect, admiration, and appreciation of Mr. Sullivan during his tenure;

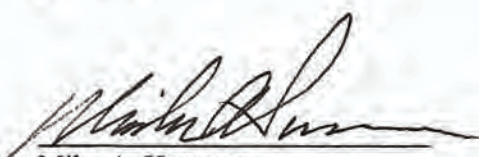
NOW, THEREFORE, BE IT RESOLVED, that the Rio Grande Compact Commission, at its 84th Annual Meeting held in Santa Fe, New Mexico on April 21, 2023, does hereby express its gratitude and appreciation for the untiring service and counsel rendered by Mike Sullivan, P.E., in addressing the many technical, legal, and political water resource problems that have been confronted during his service to the Rio Grande Compact Commission.

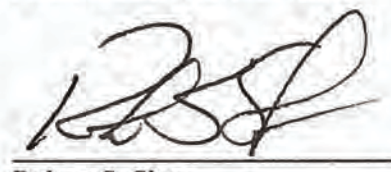
BE IT FURTHER RESOLVED, that the Rio Grande Compact Commission, its advisers and staff sincerely wish Mike Sullivan, his wife Sandie, and their family the best of health, happiness and prosperity in their future endeavors, and

BE IT FURTHER RESOLVED, that the Colorado Engineer Adviser of the Rio Grande Compact Commission is hereby directed to furnish copies of this unanimously adopted resolution to Mike Sullivan, P.E., and to cause said resolution to be included in the Minutes of the 84th Annual Meeting of the Rio Grande Compact Commission.


Hal Simpson
Federal Chairman


Kevin G. Rein
Commissioner for Colorado


Mike A. Hamman
Commissioner for New Mexico


Robert S. Skov
Commissioner for Texas

2022 Water Resources Data

WATER RESOURCES DATA ACKNOWLEDGMENTS

This report was prepared by the U.S. Geological Survey, technical adviser 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	Jumper Creek Reservoir	Mill Creek Reservoir
Rito Hondo Reservoir	Big Meadows Reservoir	Fuchs Reservoir
Hermit Lakes Reservoir No. 3	Alberta Park Reservoir	Platoro Reservoir
Troutvale No. 2 Reservoir	Shaw Lake Enlargement	Trujillo Meadows Reservoir

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

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

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

Azotea Tunnel at Outlet, near Chama, N. Mex.	Willow Creek below Heron Dam, N. Mex.
Willow Creek above Heron Res., near Los Ojos, N. Mex.	Storage in El Vado Reservoir near Tierra Amarilla, N. Mex.
Storage in Heron Reservoir near Los Ojos, 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.	Santa Fe River near Santa Fe, N. Mex.
Rio Grande at Otowi Bridge, near San Ildefonso, N. Mex.	Storage in Nichols Reservoir near Santa Fe, N. Mex.
Storage in McClure 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 Outlet 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 Bureau of Indian Affairs, Albuquerque, N. Mex., provided 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 with satellite telemetry, lat 37°41'19.0", long 106°27'35.5", in NW1/4 NW 1/4 sec. 29, T. 40 N., R. 5 E., on right bank, 40 ft downstream from county highway bridge, 6.0 mi west of Del Norte, and 5.0 mi upstream from Pinos Creek. Datum of gage is 7,980.25 ft above National Geodetic Vertical Datum of 1929. Prior to May 16, 1908, nonrecording gage at site 4 mi downstream at different datum. Records are equivalent.

Drainage area. -- 1,320 sq mi, approximately.

Average discharge. -- 133 years (1890-2022), 882 ft³/s (639,100 acre-ft per year).

Extremes. -- 1889-2022: Maximum discharge, 18,000 ft³/s Oct. 5, 1911 (gage height, 6.80 ft), from rating curve extended above 12,900 ft³/s; minimum daily, 74 ft³/s Nov. 16, 1956.

Remarks. -- Records good except for estimated for estimated daily discharges, which are poor. Natural flow of stream affected by storage reservoirs, transmountain diversions from Colorado River Basin, diversions for irrigation and municipal use, groundwater withdrawals, return flows from irrigated areas, and flows from sewage-treatment plants. Flow regulated by four reservoirs, total capacity 126,100 acre-ft, and by several smaller ones.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	4,350	195	100	140	8,628
February	3,561	145	90	127	7,063
March	7,085	531	140	229	14,053
April	31,869	2,360	345	1,062	63,212
May	73,450	3,610	1,340	2,369	145,688
June	21,683	1,200	387	723	43,008
July	18,946	1,410	384	611	37,579
August	24,109	1,350	519	778	47,820
September	11,048	583	272	368	21,914
October	13,342	735	326	430	26,464
November	8,236	388	165	275	16,336
December	5,760	205	165	186	11,425
Calendar year 2022	223,439	3,610	90	608	443,191

Conejos River below Platoro Reservoir, Colo.

Location. -- Water-stage recorder with satellite telemetry and concrete control, lat 37°21'17.65", long 106°32'39", in SW 1/4 NW 1/4 sec. 22, T. 36 N., R. 4 E., on left bank 1,100 ft downstream from valvehouse for Platoro Reservoir, and 0.7 mi northwest of Platoro. Datum of gage is 9,866.60 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation).

Drainage area. -- 40 sq mi, approximately.

Average discharge. -- 70 years (1952-2022), 91 ft³/s (65,630 acre-ft per year).

Extremes. -- 1952-2022: 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 fair except for the periods Nov. 19 to Apr. 15, and estimated daily discharges, which are poor.

Flow completely regulated by Platoro Reservoir (0.2 mi upstream) since Nov. 7, 1951.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	284	9	9	9	563
February	258	9	9	9	512
March	296	12	9	10	588
April	3,188	283	31	106	6,323
May	8,809	440	131	284	17,473
June	6,985	346	101	233	13,855
July	3,840	199	78	124	7,617
August	3,028	157	64	98	6,006
September	2,544	122	31	85	5,046
October	2,128	126	29	69	4,221
November	1,153	46	30	38	2,287
December	660	32	8	21	1,310
Calendar year 2022	33,174	440	8	90	65,800

STREAMFLOW

Conejos River near Mogote, Colo

Location. -- Water-stage recorder with satellite telemetry, 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, and 10 mi west of Antonito. Datum of gage is 8,269.39 ft above National Geodetic Vertical Datum of 1929.

Drainage area. -- 282 sq mi.

Average discharge. -- 112 years (1904, 1912-2022), 315 ft³/s (228,200 acre-ft per year).

Extremes. -- 1903-1905, 1911-2022: Maximum discharge, 9,000 ft³/s Oct. 5, 1911 (gage height, 8.50 ft), from rating curve extended above 3,100 ft³/s; minimum daily determined, 10 ft³/s July 18, 1904, also occurred Aug. 19, 2002.

Remarks. -- Records good except for estimated daily discharges, which are poor. Natural flow of stream affected by diversions for irrigation and return flows from irrigated areas. Some regulation by Platoro Reservoir (about 59 mi upstream) since Nov. 7, 1951.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	1,366	54	37	44	2,709
February	1,203	50	33	43	2,386
March	2,862	214	42	92	5,677
April	12,213	885	169	407	24,224
May	34,431	1,680	658	1,111	68,294
June	13,363	709	246	445	26,506
July	9,614	583	226	310	19,069
August	9,481	610	184	306	18,806
September	5,098	245	110	170	10,112
October	5,416	283	115	175	10,743
November	2,978	125	72	99	5,907
December	2,008	88	46	65	3,983
Calendar year 2022	100,033	1,680	33	272	198,415

San Antonio River at Ortiz, Colo

Location. -- Water-stage recorder with satellite telemetry, lat 36°59'35", long 106°02'17", in New Mexico in NE 1/4 SE 1/4, 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 above National Geodetic Vertical Datum of 1929.

Drainage area. -- 110 sq mi, approximately.

Average discharge. -- 82 years (1941-2022), 23 ft³/s (16,940 acre-ft per year).

Extremes. -- 1920, 1925-2022: Maximum discharge, 1,750 ft³/s Apr. 15, 1937 (gage height, 5.38 ft), from rating curve extended above 1,100 ft³/s; no flow at times.

Remarks. -- Records fair except for flows below 1 ft³/s, and estimated daily discharges, which are poor. Natural flow of stream affected by diversions for irrigation and return flows 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	100	4	3	3	199
February	84	4	2	3	166
March	224	28	3	7	444
April	2,516	189	26	84	4,990
May	787	80	4	25	1,562
June	82	25	0	3	162
July	421	108	1	14	836
August	1,012	253	5	33	2,007
September	130	11	2	4	258
October	127	6	3	4	252
November	88	5	2	3	175
December	74	4	2	2	147
Calendar year 2022	5,645	253	0	15	11,197

STREAMFLOW

Conejos River near Mogote, Colo

Location. -- Water-stage recorder with satellite telemetry, 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, and 10 mi west of Antonito. Datum of gage is 8,269.39 ft above National Geodetic Vertical Datum of 1929.

Drainage area. -- 282 sq mi.

Average discharge. -- 112 years (1904, 1912-2022), 315 ft³/s (228,200 acre-ft per year).

Extremes. -- 1903-1905, 1911-2022: Maximum discharge, 9,000 ft³/s Oct. 5, 1911 (gage height, 8.50 ft), from rating curve extended above 3,100 ft³/s; minimum daily determined, 10 ft³/s July 18, 1904, also occurred Aug. 19, 2002.

Remarks. -- Records good except for estimated daily discharges, which are poor. Natural flow of stream affected by diversions for irrigation and return flows from irrigated areas. Some regulation by Platoro Reservoir (about 59 mi upstream) since Nov. 7, 1951.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	1,366	54	37	44	2,709
February	1,203	50	33	43	2,386
March	2,862	214	42	92	5,677
April	12,213	885	169	407	24,224
May	34,431	1,680	658	1,111	68,294
June	13,363	709	246	445	26,506
July	9,614	583	226	310	19,069
August	9,481	610	184	306	18,806
September	5,098	245	110	170	10,112
October	5,416	283	115	175	10,743
November	2,978	125	72	99	5,907
December	2,008	88	46	65	3,983
Calendar year 2022	100,033	1,680	33	272	198,415

San Antonio River at Ortiz, Colo

Location. -- Water-stage recorder with satellite telemetry, lat 36°59'35", long 106°02'17", in New Mexico in NE 1/4 SE 1/4, 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 above National Geodetic Vertical Datum of 1929.

Drainage area. -- 110 sq mi, approximately.

Average discharge. -- 82 years (1941-2022), 23 ft³/s (16,940 acre-ft per year).

Extremes. -- 1920, 1925-2022: Maximum discharge, 1,750 ft³/s Apr. 15, 1937 (gage height, 5.38 ft), from rating curve extended above 1,100 ft³/s; no flow at times.

Remarks. -- Records fair except for flows below 1 ft³/s, and estimated daily discharges, which are poor. Natural flow of stream affected by diversions for irrigation and return flows 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	100	4	3	3	199
February	84	4	2	3	166
March	224	28	3	7	444
April	2,516	189	26	84	4,990
May	787	80	4	25	1,562
June	82	25	0	3	162
July	421	108	1	14	836
August	1,012	253	5	33	2,007
September	130	11	2	4	258
October	127	6	3	4	252
November	88	5	2	3	175
December	74	4	2	2	147
Calendar year 2022	5,645	253	0	15	11,197

STREAMFLOW

Rio Grande near Lobatos, Colo

Location. -- Water-stage recorder with satellite telemetry, lat 37°04'43", long 105°45'25", in NE 1/4 NW 1/4 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 National Geodetic Vertical Datum of 1929.

Drainage area. -- 7,700 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley).

Average discharge. -- 31 years (1900-1930), 846 ft³/s (612,900 acre-ft per year); 92 years (1931-2022) 419 ft³/s (303,600 acre-ft per year).

Extremes. -- 1899-2022: Maximum discharge observed, 13,200 ft³/s June 8, 1905 (gage height, 9.1 ft); from rating curve extended above 8,000 ft³/s; no flow at times in 1950-51, 1956.

Remarks. -- Records good except for flows below 20 ft³/s, which are fair, and estimated daily discharges, which are poor.

Natural flow of stream affected by storage reservoirs, transmountain diversions, diversions for irrigation and municipal use, groundwater withdrawals, return flows from irrigated areas, and flows from sewage-treatment plants.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	6,425	235	150	207	12,744
February	5,870	250	115	210	11,643
March	10,591	622	250	342	21,007
April	8,558	585	126	285	16,975
May	17,569	1,060	237	567	34,848
June	4,653	261	47	155	9,229
July	4,261	440	77	137	8,452
August	8,516	528	191	275	16,891
September	4,784	259	104	159	9,489
October	5,977	395	130	193	11,855
November	9,318	441	152	311	18,482
December	9,198	440	180	297	18,244
Calendar year 2021	95,720	1,060	47	261	189,861

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 downstream.

Drainage area. -- 112 sq mi.

Average discharge. -- 7 years (1963-1969), 11.5 ft³/s (8,330 acre-ft per year) prior to completion of Azotea tunnel; 52 years (1970-2022) 131 ft³/s (95,020 acre-ft per year) subsequent to completion of Azotea tunnel.

Extremes. -- 1963-2022: Maximum discharge, 1,610 ft³/s Mar. 12, 1985 (gage height, 6.65 ft); 2003-2021: Maximum daily discharge, 1,030 ft³/s Apr. 4, 2005; no flow at times.

Remarks. -- 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
February	0	0	0	0	0
March	1,109	222	0	36	2,200
April	9,252	635	110	308	18,351
May	14,939	764	127	482	29,632
June	3,302	272	29	110	6,550
July	2,297	352	2	74	4,557
August	2,415	339	12	78	4,790
September	428	129	0	14	849
October	1,083	172	0	35	2,148
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 2021	34,826	764	0	95	69,077

STREAMFLOW

Rio Grande near Lobatos, Colo

Location. -- Water-stage recorder with satellite telemetry, lat 37°04'43", long 105°45'25", in NE 1/4 NW 1/4 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 National Geodetic Vertical Datum of 1929.

Drainage area. -- 7,700 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley).

Average discharge. -- 31 years (1900-1930), 846 ft³/s (612,900 acre-ft per year); 92 years (1931-2022) 419 ft³/s (303,600 acre-ft per year).

Extremes. -- 1899-2022: Maximum discharge observed, 13,200 ft³/s June 8, 1905 (gage height, 9.1 ft); from rating curve extended above 8,000 ft³/s; no flow at times in 1950-51, 1956.

Remarks. -- Records good except for flows below 20 ft³/s, which are fair, and estimated daily discharges, which are poor.

Natural flow of stream affected by storage reservoirs, transmountain diversions, diversions for irrigation and municipal use, groundwater withdrawals, return flows from irrigated areas, and flows from sewage-treatment plants.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	6,425	235	150	207	12,744
February	5,870	250	115	210	11,643
March	10,591	622	250	342	21,007
April	8,558	585	126	285	16,975
May	17,569	1,060	237	567	34,848
June	4,653	261	47	155	9,229
July	4,261	440	77	137	8,452
August	8,516	528	191	275	16,891
September	4,784	259	104	159	9,489
October	5,977	395	130	193	11,855
November	9,318	441	152	311	18,482
December	9,198	440	180	297	18,244
Calendar year 2021	95,720	1,060	47	261	189,861

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 downstream.

Drainage area. -- 112 sq mi.

Average discharge. -- 7 years (1963-1969), 11.5 ft³/s (8,330 acre-ft per year) prior to completion of Azotea tunnel; 52 years (1970-2022) 131 ft³/s (95,020 acre-ft per year) subsequent to completion of Azotea tunnel.

Extremes. -- 1963-2022: Maximum discharge, 1,610 ft³/s Mar. 12, 1985 (gage height, 6.65 ft); 2003-2021: Maximum daily discharge, 1,030 ft³/s Apr. 4, 2005; no flow at times.

Remarks. -- 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
February	0	0	0	0	0
March	1,109	222	0	36	2,200
April	9,252	635	110	308	18,351
May	14,939	764	127	482	29,632
June	3,302	272	29	110	6,550
July	2,297	352	2	74	4,557
August	2,415	339	12	78	4,790
September	428	129	0	14	849
October	1,083	172	0	35	2,148
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 2021	34,826	764	0	95	69,077

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 at different datum. October 1935 to September 1938, at site 1.1 mi upstream at datum 30.34 ft higher.

Drainage area. -- 877 sq mi of which about 100 sq mi is probably noncontributing.

Average discharge. -- 4 years (1914, 1921-1923), 448 ft³/s (324,600 acre-ft per year), prior to completion of El Vado Dam; 35 years (1936-1970), 373 ft³/s (270,200 acre-feet per year), prior to release of transmountain water; 52 years (1971-2022) 448 ft³/s (324,300 acre-feet per year).

Extremes. -- 1914-1916, 1920-1924, 1936-2022; Maximum discharge observed, 9,000 ft³/s May 22, 1920 (gage height, 12 ft); no flow Mar. 25, 26, 31, 1955.

Remarks. -- Records good except for estimated discharges, which are fair. Flow regulated by El Vado Reservoir since 1935. Flow affected by release of transmountain water from Heron Reservoir since May 1971. Diversions for irrigation of about 10,600 acres upstream from station.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	3,019	100	94	97	5,988
February	2,649	97	92	95	5,254
March	2,615	94	26	84	5,186
April	21,726	1,850	94	724	43,093
May	29,470	1,850	227	951	58,454
June	9,863	636	134	329	19,563
July	9,990	782	71	322	19,814
August	11,025	777	132	356	21,868
September	13,245	612	107	442	26,271
October	3,458	185	101	112	6,859
November	3,373	174	101	112	6,690
December	3,256	120	102	105	6,458
Calendar year 2022	113,688	1,850	26	311	225,500

Rio Chama below Abiquiu Dam, N. Mex.

Location. -- Water-stage recorder with satellite telemetry, lat 36°14'14", long 106°25'02.7", 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 (1962-1970), 384 ft³/s (278,200 acre-ft per year), prior to release of transmountain water; 52 years (1971-2022), 492 ft³/s (356,200 acre-feet per year).

Extremes. -- 1961-2022; 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 except for estimated discharges, which are poor. Flow regulated by El Vado and Abiquiu reservoirs since Feb. 1963. Since May 1971, flow affected by release of transmountain water from Heron Reservoir. Diversions for irrigation of about 17,600 acres upstream from station.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	1,716	64	24	55	3,404
February	1,679	64	47	60	3,330
March	2,703	356	44	87	5,361
April	22,962	1,790	144	765	45,545
May	24,371	1,790	391	786	48,340
June	10,232	546	50	341	20,294
July	5,482	673	93	177	10,873
August	9,919	749	119	320	19,674
September	4,408	482	82	147	8,742
October	3,993	239	94	129	7,921
November	10,581	559	117	353	20,987
December	7,908	552	99	255	15,685
Calendar year 2022	105,953	1,790	24	290	210,157

STREAMFLOW

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

Location. -- Water-stage recorder with satellite telemetry, lat 35°50'46", long 105°54'35", 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. -- 44 years (1979-2022), 12.3 ft³/s (8,910 acre-feet per year).

Extremes. -- 1979-2022; Maximum discharge, 312 ft³/s June 9, 1979 at site 1,100 ft downstream; no flow December 31, 1993.

Remarks. -- Records fair except for estimated discharges, which are poor. 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	28	2	0	1	55
February	82	3	2	3	162
March	94	6	1	3	186
April	289	28	5	10	572
May	555	35	4	18	1,101
June	127	9	3	4	252
July	539	26	10	17	1,070
August	905	68	13	29	1,795
September	795	46	17	26	1,576
October	455	17	9	15	902
November	296	11	8	10	587
December	220	15	0	7	436
Calendar year 2022	4,384	68	0	12	8,696

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 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 5,491.66 ft above North American Vertical Datum of 1988, from global navigation satellite system survey. 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. -- 123 years (1896-1905, 1910-2022), 1,460 ft³/s (1,058,000 acre-feet per year).

Extremes. -- 1895-1905, 1910-2022; Maximum discharge, 24,400 ft³/s May 23, 1920 (gage height, 14.1 ft); minimum daily, 195 ft³/s Aug. 4, 1977.

Remarks. -- Records good except for estimated discharges, which are poor. Considerable regulation by Heron, El Vado, and Abiquiu reservoirs on Rio Chama. Flow affected by release of transmountain water from Heron Reservoir since May 1971. Diversions upstream from station for irrigation of about 620,000 acres in Colorado and 75,000 acres in New Mexico.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	16,979	596	460	548	33,678
February	14,711	568	396	525	29,179
March	21,267	1,070	544	686	42,183
April	43,708	2,630	757	1,457	86,695
May	48,278	2,570	791	1,557	95,759
June	19,674	779	377	656	39,023
July	18,240	1,200	352	588	36,179
August	33,941	1,700	582	1,095	67,322
September	17,313	928	383	577	34,340
October	22,353	1,110	459	721	44,337
November	31,419	1,440	700	1,047	62,320
December	29,628	1,480	596	956	58,767
Calendar year 2022	317,511	2,630	352	868	629,783

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 Santa Fe National Forest, on left bank 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. -- 110 years (1913-2022), 7.7 ft³/s (5,600 acre-feet per year).

Extremes. -- 1913-2022; Maximum discharge, 1,500 ft³/s Aug. 14, 1921 (gage height, 5.17 ft); from rating curve extended above 150 ft³/s; no flow at times.

Remarks. -- Records good. Flow regulated by McClure Reservoir, completed in 1926, raised in 1935, 1947 and again in 1989.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	46	2	1	1	92
February	32	1	1	1	63
March	40	2	1	1	79
April	143	7	1	5	283
May	265	10	7	9	525
June	140	6	4	5	278
July	162	8	1	5	321
August	285	11	7	9	566
September	286	11	9	10	567
October	144	9	1	5	285
November	180	7	2	6	357
December	184	6	5	6	365
Calendar year 2021	1,906	11	1	5	3,781

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 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 5,229.01 ft above North American Vertical Datum of 1988. 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. -- 52 years (1971-2022), 1,239 ft³/s (898,000 acre-feet per year).

Extremes. -- 1971-2022; 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 ft³/s; minimum discharge 0.51 ft³/s Aug. 3-5, 1977, Aug. 27-28, 1978.

Remarks. -- Records good except for estimated discharges, which are poor. Discharges include flow of Santa Fe River, which is intercepted by Cochiti Dam and released through the combined outlet works. Flow regulated by Cochiti Dam since Nov. 12, 1973. Diversions upstream from station for irrigation of about 620,000 acres in Colorado and about 81,000 acres in New Mexico. Cochiti Eastside Main canal, on left bank, and Sili Main canal, on right bank, head at Cochiti Dam and bypass gage for irrigation of about 6,000 acres downstream from station.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in acre-feet
January	16,540	576	410	534	32,807
February	14,551	575	435	520	28,862
March	20,254	896	534	653	40,174
April	39,585	2,480	637	1,320	78,517
May	47,700	2,490	625	1,539	94,613
June	15,137	640	333	505	30,024
July	13,816	976	181	446	27,404
August	36,407	1,910	502	1,174	72,213
September	15,760	886	292	525	31,260
October	18,342	744	451	592	36,381
November	29,123	1,420	634	971	57,765
December	28,594	1,360	426	922	56,716
Calendar year 2022	295,809	2,490	181	808	586,737

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 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. -- 52 years (1971-2022), 4.8 ft³/s (3,455 acre-feet per year).

Extremes. -- 1970-2022; Maximum discharge, 3,460 ft³/s Aug. 24, 1997 (gage height, 5.57 ft); no flow many days each year.

Remarks. -- Records fair. Flow regulated by Galisteo Reservoir 0.4 mi upstream. 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
February	0	0	0	0	0
March	0	0	0	0	0
April	0	0	0	0	0
May	0	0	0	0	0
June	0	0	0	0	0
July	410	215	0	13	813
August	167	84	0	5	332
September	69	68	0	2	137
October	35	26	0	1	70
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 2022	682	215	0	2	1,352

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.

Elevation 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. -- 13 years (2010-2022), 32.2 ft³/s (23,320 acre-feet per year).

Extremes. -- 2010-2022; Maximum discharge, 1,420 cfs Jul. 27, 2013 (gage height, 4.82); no flow many days each year.

Remarks. -- Records fair except for estimated discharges, which are poor. 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	164	14	0	5	325
February	181	17	0	6	360
March	594	79	4	19	1,179
April	1,748	123	34	58	3,467
May	254	35	0	8	504
June	1,056	746	0	35	2,094
July	1,050	287	0	34	2,082
August	1,745	394	1	56	3,462
September	474	189	0	16	940
October	1,372	105	0	44	2,721
November	502	33	0	17	996
December	453	26	0	15	899
Calendar year 2022	9,594	746	0	26	19,029

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 Pedro Armendariz Grant, on left bank 1.0 mi downstream from dam, 1.5 mi upstream from Cuchillo Negro River. Datum of gage is 4,243.22 ft above North American Vertical Datum of 1988. Prior to Mar. 24, 1980, at datum 1.0 ft higher. Prior to April 24, 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. -- 108 years (1915-2022), 949 ft³/s (687,800 acre-feet per year).

Extremes. -- 1915-2022; Maximum daily discharge, 8,220 ft³/s May 22, 1942; no flow at times.

Remarks. -- Records good except for estimated discharges, which are poor. 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	12	1	0	0	25
February	8	2	0	0	16
March	3	0	0	0	7
April	50	30	0	2	99
May	18,954	704	4	611	37,595
June	60,140	2,100	1,550	2,005	119,288
July	46,052	1,950	985	1,486	91,344
August	16,804	1,200	0	542	33,330
September	8	1	0	0	17
October	24	2	0	1	48
November	18	1	0	1	35
December	10	0	0	0	19
Calendar year 2022	142,083	2,100	0	387	281,822

Rio Grande below Caballo Dam, N. Mex.

Location. -- Water-stage recorder, lat 32°53'05.68", long 107°17'33.71", on left bank 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 4,133.19 ft above North American Vertical Datum of 1988. 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. -- 85 years (1938-2022), 874 ft³/s (633,400 acre-feet per year).

Extremes. -- 1938-2021; 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	25	1	1	1	49
February	31	1	1	1	61
March	43	2	1	1	86
April	51	2		2	102
May	57	2	2	2	114
June	68,439	2,831	1,457	2,281	135,750
July	47,177	2,112	944	1,522	93,576
August	19,682	1,220	1	635	39,040
September	23	1	1	1	45
October	25	1	1	1	49
November	25	1	1	1	50
December	28	1	1	1	55
Calendar year 2022	135,608	2,831	2	371	268,978

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 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. -- 52 years (1971-2022), 4.8 ft³/s (3,455 acre-feet per year).

Extremes. -- 1970-2022; Maximum discharge, 3,460 ft³/s Aug. 24, 1997 (gage height, 5.57 ft); no flow many days each year.

Remarks. -- Records fair. Flow regulated by Galisteo Reservoir 0.4 mi upstream. 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
February	0	0	0	0	0
March	0	0	0	0	0
April	0	0	0	0	0
May	0	0	0	0	0
June	0	0	0	0	0
July	410	215	0	13	813
August	167	84	0	5	332
September	69	68	0	2	137
October	35	26	0	1	70
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 2022	682	215	0	2	1,352

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.

Elevation 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. -- 13 years (2010-2022), 32.2 ft³/s (23,320 acre-feet per year).

Extremes. -- 2010-2022; Maximum discharge, 1,420 cfs Jul. 27, 2013 (gage height, 4.82); no flow many days each year.

Remarks. -- Records fair except for estimated discharges, which are poor. 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	164	14	0	5	325
February	181	17	0	6	360
March	594	79	4	19	1,179
April	1,748	123	34	58	3,467
May	254	35	0	8	504
June	1,056	746	0	35	2,094
July	1,050	287	0	34	2,082
August	1,745	394	1	56	3,462
September	474	189	0	16	940
October	1,372	105	0	44	2,721
November	502	33	0	17	996
December	453	26	0	15	899
Calendar year 2022	9,594	746	0	26	19,029

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 2022

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 2022

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Cal. Yr.
Gage height	0	0	0	0	0	0	0	6.5	11.2	0	0	0	-
Contents	0	0	0	0	0	0	0	20	70	0	0	0	-
Change	0	0	0	0	0	0	0	20	50	-70	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 2022

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 2022

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 2022

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 2022

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 2022

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

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 2022

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 2022

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 2022

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Cal. Yr.
Gage height	13.9	15.4	17.2	17.2	17.2	17.2	17.2	17.2	8.3	7.5	10.0	12.1	-
Contents	165	198	237	237	237	237	237	237	69	58	94	130	-
Change	+37	+33	+39	0	0	0	0	0	-168	-11	+36	+36	+2

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, 2021	9,972.23	14,309	-
January 31, 2022	9,972.05	14,222	-87
February 28	9,971.94	14,167	-55
March 31	9,972.29	14,339	+172
April 30	9,972.60	14,489	+150
May 31	9,992.80	26,056	+11,567
June 30	9,986.54	22,122	-3,934
July 31	9,984.82	21,091	-1,031
August 31	9,982.69	19,858	-1,233
September 30	9,977.47	16,982	-2,876
October 31	9,974.95	15,670	-1,312
November 30	9,972.56	14,470	-1,200
December 31, 2022	9,971.40	13,902	-568
Calendar year 2022	-	-	-407

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 2022

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Cal. Yr.
Gage height	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	-
Contents	869	869	869	869	869	869	869	869	869	869	869	869	-
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)

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, 2021	7,077.69	40,239	-
January 31, 2022	7,077.75	40,304	+65
February 28	7,077.84	40,403	+99
March 31	7,080.62	43,522	+3,119
April 30	7,092.20	58,601	+15,079
May 31	7,107.28	84,751	+26,150
June 30	7,103.95	78,209	-6,542
July 31	7,100.37	71,708	-6,501
August 31	7,097.84	67,404	-4,304
September 30	7,083.19	46,560	-20,844
October 31	7,083.52	46,962	+402
November 30	7,080.74	43,660	-3,302
December 31, 2022	7,078.56	41,195	-2,465
Calendar year 2022	-	-	+956

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, 2021	6,809.75	16,101	-	16,101
January 31, 2022	6,804.53	12,302	-3,799	10,204
February 28	6,799.71	9,230	-3,072	5,038
March 31	6,801.20	10,142	+912	1,015
April 30	6,813.29	19,000	+8,858	779
May 31	6,785.50	2,093	-16,907	758
June 30	6,784.21	1,642	-451	728
July 31	6,785.61	2,134	+492	617
August 31	6,784.33	1,682	-452	0
September 30	6,784.84	1,856	+174	0
October 31	6,785.90	2,243	+387	0
November 30	6,786.25	2,378	-135	1,258
December 31, 2021	6,785.95	2,262	-116	2,277
Calendar year 2022	-	-	-13,839	-

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, 2021	6,187.06	77,904	-	77,904
January 31, 2022	6,188.30	78,275	+371	78,895
February 28	6,189.45	81,248	+2,973	80,819
March 31	6,189.93	82,510	+1,262	79,856
April 30	6,189.32	80,907	-1,603	76,282
May 31	6,183.10	91,153	+10,246	71,109
June 30	6,192.26	88,809	-2,344	68,932
July 31	6,195.38	97,695	+8,886	76,591
August 31	6,198.00	105,524	+7,829	85,928
September 30	6,203.58	123,197	+17,673	104,156
October 31	6,203.37	122,505	-692	103,236
November 30	6,198.97	108,503	-14,002	100,789
December 31, 2022	6,196.20	100,112	-8,391	99,422
Calendar year 2022	-	-	+22,208	-

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, 2021	6,823.57	1,566	-
January 31, 2022	6,825.98	1,694	+125
February 28	6,825.69	1,678	-16
March 31	6,826.61	1,729	+51
April 30	6,825.67	1,677	-52
May 31	6,818.00	1,289	-388
June 30	6,823.85	1,580	+291
July 31	6,827.02	1,753	+173
August 31	6,826.88	1,745	-8
September 30	6,826.88	1,703	-42
October 31	6,825.86	1,687	-16
November 30	6,825.60	1,673	14
December 31, 2022	6,825.29	1,657	-16
Calendar year 2022	-	-	+91

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 7,800 ft above North American Vertical Datum of 1988 (levels by City of Santa Fe). 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 accommodate 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, 2021	7,828.50	279	-	7	272
January 31, 2022	7,828.39	277	-2	5	272
February 28	7,828.86	286	+9	1	285
March 31	7,833.39	381	+254	39	342
April 30	7,842.97	635	-246	211	424
May 31	7,833.75	389	+192	71	317
June 30	7,841.17	581	+460	193	388
July 31	7,853.91	1,041	+393	535	506
August 31	7,862.04	1,434	-200	792	547
September 30	7,858.01	1,234	+212	706	528
October 31	7,862.26	1,446	-114	789	545
November 30	7,860.09	1,332	-208	775	535
December 31, 2022	7,855.77	1,124	+845	614	510
Calendar year 2022	-		+845		

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 7,400 ft above North American Vertical Datum of 1988 (levels by City of Santa Fe). 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, 2021	7,479.73	473	-	12	461
January 31, 2022	7,479.52	468	-5	8	460
February 28	7,478.68	449	-19	2	447
March 31	7,478.02	434	-15	44	390
April 30	7,479.30	463	-29	154	309
May 31	7,481.08	508	+45	93	415
June 30	7,481.33	515	+7	171	344
July 31	7,479.39	465	-50	239	226
August 31	7,480.26	486	+21	269	185
September 30	7,479.96	478	-8	273	204
October 31	7,480.71	498	+20	272	188
November 30	7,480.48	492	-6	286	197
December 31, 2022	7,840.37	489	-3	267	222
Calendar year 2022	-		+16		

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 106°18'58", in NW1/4SW1/4 sec. 16, T. 16 N., R. 6 E., in Pueblo de Cochiti Grant, on Rio Grande. Completed in 1975; 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, 2021	5,343.93	41,500	-	41,028
January 31, 2022	5,342.62	41,031	-469	41,128
February 28	5,343.43	41,850	+819	42,000
March 31	5,344.54	43,050	+1,200	42,206
April 30	5,343.94	42,391	-659	41,808
May 31	5,343.16	41,571	-820	41,308
June 30	5,343.69	42,123	+552	41,044
July 31	5,343.91	42,539	+416	40,706
August 31	5,343.02	41,429	-1,110	40,483
September 30	5,342.61	41,020	-409	40,266
October 31	5,343.06	41,469	+449	40,309
November 30	5,341.97	40,409	-1,060	40,172
December 31, 2022	5,342.17	40,597	+188	40,234
Calendar year 2022	-	-	-903	-

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 2022

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	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 106°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 1979.

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

Date	Elevation	Contents	Change in contents	Transmountain water
December 31, 2021	5,133.00	0	-	0
January 31, 2022	5,133.00	0	0	0
February 28	5,133.00	0	0	0
March 31	5,133.00	0	0	0
April 30	5,133.00	0	0	0
May 31	5,133.00	0	0	0
June 30	5,133.00	0	0	0
July 31	5,133.00	0	0	0
August 31	5,133.00	0	0	0
September 30	5,133.00	0	0	0
October 31	5,133.00	0	0	0
November 30	5,133.00	0	0	0
December 31, 2022	5,133.00	0	0	0
Calendar year 2022	-	-	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 2022

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 2022.

STORAGE IN RESERVOIRS

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

Elephant Butte Reservoir. – Water-stage recorder, lat 33°09'15", long 107°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, 2021	4,308.55	167,756	-	852
January 31, 2022	4,312.39	195,471	+27,715	847
February 28	4,315.27	217,959	+22,488	840
March 31	4,317.87	239,614	+21,655	2,129
April 30	4,319.80	256,538	+16,924	2,015
May 31	4,319.48	253,682	-2856	1,106
June 30	4,306.48	153,836	-99,846	1,084
July 31	4,293.32	82,719	-71,117	1,056
August 31	4,296.02	94,986	+12,267	1,038
September 30	4,298.94	109,492	+14,506	1,017
October 31	4,304.32	140,077	+30,585	1,009
November 30	4,310.15	179,013	+39,936	999
December 31, 2022	4,316.26	226,050	+47,037	994
Calendar year 2022	-	-	+58,294	-

Caballo Reservoir. – Water-stage recorder, lat 32°53'47", long 107°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, 2021	4,134.29	15,055	-
January 31, 2022	4,134.62	15,718	+663
February 28	4,134.74	15,963	+245
March 31	4,134.72	15,922	-41
April 30	4,134.38	15,235	-687
May 31	4,144.91	43,807	+28,572
June 30	4,138.13	23,596	-20,211
July 31	4,136.10	18,864	-4,732
August 31	4,141.86	33,721	+14,857
September 30	4,142.42	35,439	+1,718
October 31	4,146.41	49,465	+14,026
November 30	4,146.43	49,544	+79
December 31, 2022	4,146.77	50,902	+1,358
Calendar year 2022	-	-	+35,847

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, 2021	182,811	-
January 31, 2022	211,189	+28,378
February 28	233,922	+22,733
March 31	255,536	+21,614
April 30	271,773	+16,237
May 31	297,489	+25,716
June 30	177,432	-120,057
July 31	101,583	-75,849
August 31	128,707	+27,124
September 30	144,931	+16,224
October 31	189,542	+44,611
November 30	228,557	+39,015
December 31, 2022	276,952	+48,395
Calendar year 2022	-	+94,141

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-Loehr 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 1938, 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, 2022

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	2,172
April	0	0	0	0	0	4	17,079
May	11	478	42	80	11	155	29,871
June	14	65	87	55	14	30	6,550
July	5	96	27	71	5	24	4,556
August	58	0	36	121	58	21	4,707
September	27	0	11	63	27	5	848
October	6	0	0	64	6	10	2,151
November	0	0	0	0	0	0	0
December	0	0	0	0	0	0	0
Calendar year	121	639	203	454	121	249	67,934

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 ft.

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. Mex. 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 ft.

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 ft.

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 ft.

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 ft.

EVAPORATION AND PRECIPITATION

Evaporation and precipitation, in inches
2022

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug	Sept.	Oct.	Nov.	Dec.	Annual
Alamosa Airport	Evap.	-	-	-	-	-	-	-	-	-	-	-	-	-
	Precip.	0.34	0.36	0.44	0.44	0.39	1.27	1.62	3.80	0.53	0.42	0.34	0.02	9.97
Platoro Dam	Evap.	-	-	-	-	5.05	8.34	6.74	5.19	4.20	1.10	-	-	-
	Precip.	-	-	-	-	0.38	2.75	5.51	3.67	2.12	1.42	-	-	-
Heron Dam	Evap.	-	-	-	6.35	9.98	8.71	7.51	6.26	6.15	3.75	-	-	-
	Precip.	1.44	0.51	1.14	0.38	0.00	2.97	2.61	3.33	1.85	1.69	0.38	0.89	17.19
El Vado Dam	Evap.	-	-	-	6.55	9.78	9.02	8.27	6.52	6.19	4.1	-	-	-
	Precip.	1.30	0.35	0.99	0.25	0.00	2.70	2.55	4.43	1.95	0.82	0.16	0.49	15.99
Abiquiu Dam	Evap.	2.48	3.64	6.13	8.33	13.02	10.72	7.01	6.64	5.44	3.92	3.72	2.17	73.22
	Precip.	0.40	0.32	0.08	0.04	0.00	1.45	1.92	2.94	1.68	0.93	0.39	0.25	10.40
Nambe Canyon Dam	Evap.	-	-	-	8.70	13.92	14.18	12.46	10.45	6.81	3.34	-	-	-
	Precip.	0.80	0.00	0.00	0.03	0.00	3.75	4.37	4.31	1.70	2.19	0.51	0.11	17.77
Cochiti Dam	Evap.	2.79	4.20	7.05	8.21	10.64	9.42	9.73	7.43	7.31	4.19	3.47	2.7	77.14
	Precip.	0.60	0.67	1.01	0.00	0.02	3.16	1.56	1.73	0.09	2.53	0.02	0.25	11.64
Jemez Canyon Dam	Evap.	3.10	4.48	7.75	9.18	12.71	14.33	13.64	11.78	9.60	5.89	4.20	3.10	99.76
	Precip.	0.52	0.15	0.36	0.07	0.00	1.70	1.04	2.74	0.70	2.19	0.03	0.30	9.80
Elephant Butte Dam	Evap.	4.05	6.25	10.77	15.58	19.59	17.35	15.79	11.95	12.24	7.56	7.15	4.26	132.54
	Precip.	0.14	0.00	0.00	0.00	0.00	1.76	1.18	2.94	0.52	2.26	0.04	0.54	9.38
Caballo Dam	Evap.	4.62	5.91	9.84	14.70	-*	14.75	16.03	-*	10.07	6.89	-*	3.44	-
	Precip.	0.00	0.00	0.19	0.00	-*	2.09	3.13	-*	0.97	2.38	0.04	0.51	-
State University	Evap.	3.87	4.47	7.28	10.70	14.69	12.89	12.66	9.15	8.83	5.18	4.64	3.35	97.71
	Precip.	0.60	0.18	0.36	0.00	0.00	1.40	1.58	1.77	0.86	1.56	0.02	0.49	8.82

*At Caballo Dam, not all data were reported for thmonths of May, August and November

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
For the State of New Mexico
For the State of Texas

M. C. Hinderlider
Thomas M. McClure
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

RIO GRANDE COMPACT

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

RESOLUTION

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.

(1) GAGING STATIONS /1, /2

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 station on the Rio Grande below Caballo Reservoir 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 compact stream gaging station shall be sufficient to obtain stream flow records at least equal in accuracy to those classified as "good" by the U.S. Geological Survey. The stream flow records for each compact stream gaging station shall be reviewed annually by the U.S. Geological Survey to ensure accuracy. 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.

/2 Amended at Seventy-Seventh Annual Meeting, March 31, 2016.

RULES AND REGULATIONS

(2) 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.

(3) 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.

(4) 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

(5) 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.

(6) 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.

(7) 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.

(8) 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

(9) 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.

(10) SECRETARY /8, /9, /10

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 in writing within thirty days after the end of each quarter 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 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.

(11) COSTS /1, /2, /3

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.

/10 Amended at Seventy-Seventh Annual Meeting, March 31, 2016.

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

/2 Amended March 31, 2009.

/3 Amended at Seventy-Seventh Annual Meeting, March 31, 2016.

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 that the Commissioner 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 the State represented by the Commissioner an appropriation of sufficient funds with which to meet the obligations of that State, as provided by the Compact.

(12) MEETING OF COMMISSION /1, /10, /11

The Commission shall meet 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. 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.

/11 Amended at Seventy-Seventh Annual Meeting, March 31, 2016.

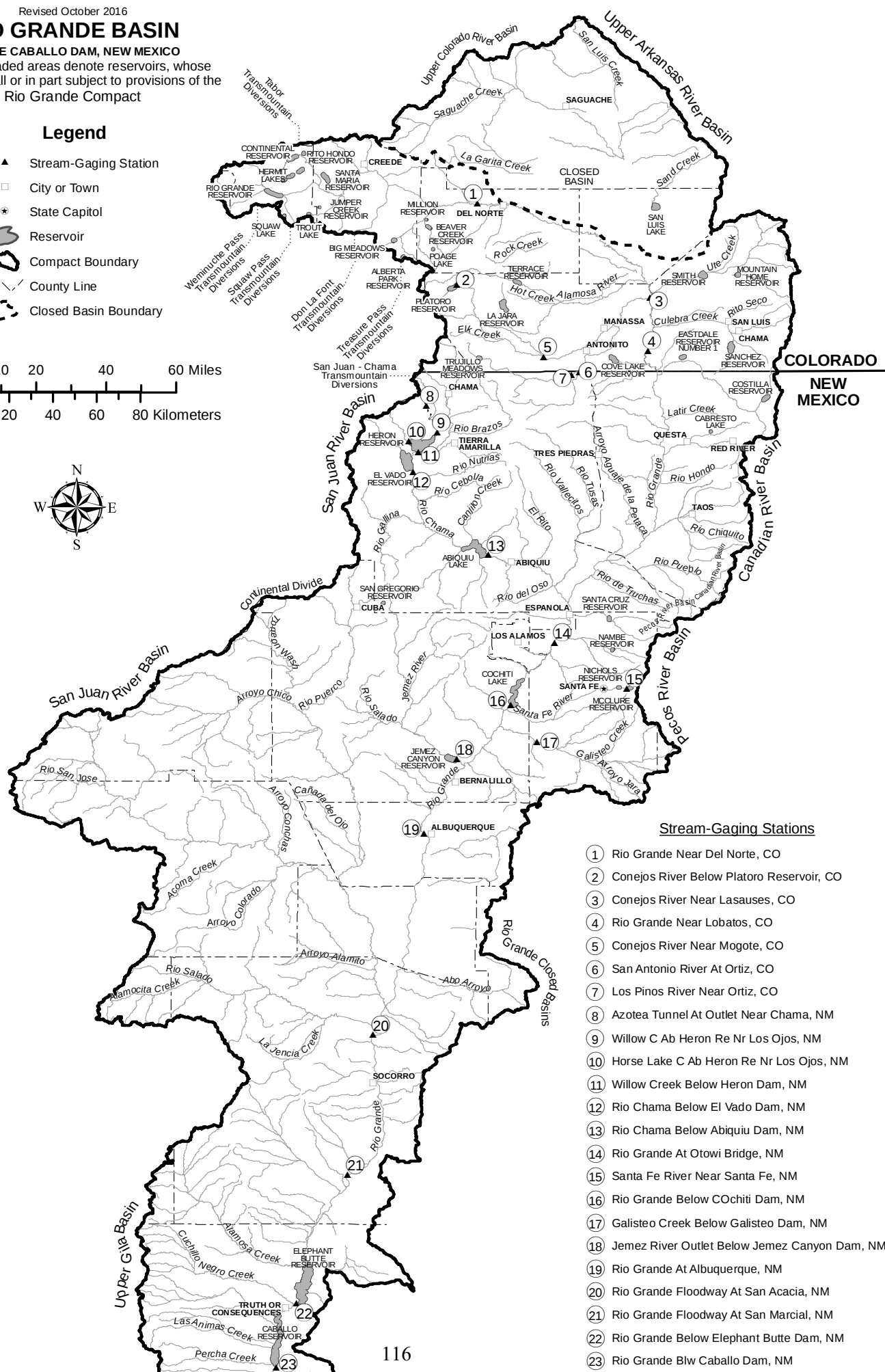
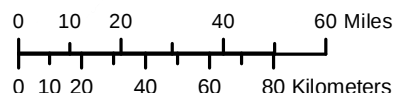
RIO GRANDE BASIN

ABOVE CABALLO DAM, NEW MEXICO

NOTE: Shaded areas denote reservoirs, whose capacity is all or in part subject to provisions of the Rio Grande Compact

Legend

- ▲ Stream-Gaging Station
- City or Town
- * State Capitol
- Reservoir
- Compact Boundary
- County Line
- - - Closed Basin Boundary



Stream-Gaging Stations

- 1 Rio Grande Near Del Norte, CO
- 2 Conejos River Below Platoro Reservoir, CO
- 3 Conejos River Near Lasauces, CO
- 4 Rio Grande Near Lobatos, CO
- 5 Conejos River Near Mogote, CO
- 6 San Antonio River At Ortiz, CO
- 7 Los Pinos River Near Ortiz, CO
- 8 Azotea Tunnel At Outlet Near Chama, NM
- 9 Willow C Ab Heron Re Nr Los Ojos, NM
- 10 Horse Lake C Ab Heron Re Nr Los Ojos, NM
- 11 Willow Creek Below Heron Dam, NM
- 12 Rio Chama Below El Vado Dam, NM
- 13 Rio Chama Below Abiquiu Dam, NM
- 14 Rio Grande At Otowi Bridge, NM
- 15 Santa Fe River Near Santa Fe, NM
- 16 Rio Grande Below COchiti Dam, NM
- 17 Galisteo Creek Below Galisteo Dam, NM
- 18 Jemez River Outlet Below Jemez Canyon Dam, NM
- 19 Rio Grande At Albuquerque, NM
- 20 Rio Grande Floodway At San Acacia, NM
- 21 Rio Grande Floodway At San Marcial, NM
- 22 Rio Grande Below Elephant Butte Dam, NM
- 23 Rio Grande Blw Caballo Dam, NM